



EUROPEAN COMMISSION
DIRECTORATE-GENERAL REGIONAL POLICY

RESOURCE BOOK ON PPP CASE STUDIES

June 2004

Ce *Resource Book* est publié sur le site internet de la Commission européenne :
http://europa.eu.int/comm/regional_policy/sources/docgener/guides/pppguide.htm

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Le *Resource Book* a été rédigé à l'initiative de la *Direction générale de la Politique régionale* en collaboration avec :

DG Affaires économiques et financières
DG Marché intérieur
DG Office de Coopération EUROPEAID
DG Développement
European Investment Bank
European Bank for Reconstruction and Development

et tient compte des résultats de la dissémination sur le territoire de l'Union élargie du Guide for successful Public Private Partnership publié en mars 2003
(http://europa.eu.int/comm/regional_policy/sources/docgener/guides/pppguide.htm)

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Bruxelles, juin 2004



Preface

Avec vingt-cinq Etats membres, l'Europe réunifiée connaît davantage de disparités économiques, sociales et territoriales, au niveau national comme au niveau des régions. Il est nécessaire, par un soutien financier significatif, de renforcer le potentiel de croissance et de compétitivité des régions et des Etats, afin que l'Union soit plus forte pour affronter la compétition mondiale et pour répondre aux attentes de ses citoyens.

Le rôle de la politique de cohésion économique, sociale et territoriale est de relever ce défi, en consacrant notamment des ressources financières substantielles au développement d'infrastructures. Le secteur privé assure une alternative intéressante pour financer et réaliser des infrastructures dans un large éventail de secteurs.

Le partenariat entre le secteur public et le secteur privé permet, outre la mobilisation de ressources additionnelles, l'exploitation de compétences et de savoir faire opérationnels et techniques, maximisant ainsi le bénéfice de ces investissements. La valeur ajoutée des partenariats public-privé et les retombées positives qu'ils procurent aux citoyens européens sont donc réelles.

Fruit du travail accompli ces dernières années par la Commission européenne, les "***Orientations pour les partenariats public-privé réussis***", visent à promouvoir une meilleure compréhension de la valeur et des implications du développement des partenariats public-privé. Conçu comme un outil pratique permettant à l'ensemble des acteurs du développement régional tant publics que privés de mieux comprendre quelques-unes des questions complexes entourant le développement de ces partenariats, notamment quand l'octroi d'un concours communautaire est envisagé.

Ce recueil pratique détaille, à partir de situations réelles au sein des 25 États membres et des pays candidats, les principes de mise en œuvre des partenariats public-privé illustrant les différents montages financiers et contractuels possibles.

Réduire les délais pour concevoir des montages complexes et, le cas échéant, mobiliser plus rapidement les concours communautaires, tels sont les objectifs de ce recueil. Enfin, cet outil se veut également le support au débat initié par la Commission sur les perspectives de croissance dans l'Union.

Je souhaite que ces exemples pratiques conduisent à une meilleure de compréhension et à un recours approprié aux partenariats public-privé.

Jacques Barrot
Commissaire européen responsable de la politique régionale



EUROPEAN COMMISSION
DIRECTORATE-GENERAL REGIONAL POLICY

Brussels, June 2004

Introduction

The application of Public – Private Partnership (PPP) principles has grown over recent years as the advantages of blending private sector resources and skills with the public ones has become evident. It has also become clear the PPP architectures are complex and such projects require a detailed understanding of their design and implementation features.

PPPs have become accepted as a complementary implementation tool. Indeed the European Commission has undertaken many efforts recently to assist in the definition of PPP and to guide their application in the respect of the provisions of the Treaties.

While the European Commission does not advocate the use of any particular implementation method, the substantial need for investment in infrastructure in the Union does require the harnessing of all viable investment methods. In this context the European Commission and in particular the Directorate General for Regional Policy has undertaken an information and awareness raising effort on the values and risks of the PPP approach.

In 2003 the Commission through the Directorate General for Regional Policy published the “*Guidelines for Successful Public-Private-Partnerships*”. This document was designed as a practical tool for PPP practitioners in the public sector faced with the opportunity of structuring a PPP and of integrating or “blending” European Communities grant financing in PPPs. They did not attempt to provide a complete methodology or to define policy but rather to guide practitioners through a set of key issues affecting the development of successful PPP schemes.

To this end, the Guidelines focussed on four key topics:

- ensuring open market access and fair competition, in the respect of State Aid principles when applicable;
- protecting the public interest and maximising value added to citizens;
- defining the optimal level of grant financing both to realize a viable and sustainable project but also to avoid any opportunity for windfall profits (or losses) from grants;
- assessing the most effective type of PPP for a given project with the appropriate parameters: balanced distribution of risks, appropriate duration, clarity of responsibilities within the various regulatory environments.

PPPs are an evolving tool and should, in all cases, be adapted to the individual nature of the project and the parties. As a result their successful implementation requires a very detailed understanding of a myriad of issues.

The dissemination training programme which supported the launch of the Guidelines demonstrated the wide range of concerns and questions. We believe that many of these can be addressed through study of actual projects. As a result we are now pleased to publish this Resource Book of selected cases in Member States and other countries.

The relatively small number of cases does not allow a fully fledged valid statistical analysis but the cases have been purposely selected to demonstrate some of the important issues presented in the

Guidelines and should therefore be seen as a support tool particularly for the concrete questions facing a public official in the structuring of a PPP.

Successes and failures have been presented as valuable lessons can be learnt from both. In particular the cases highlight the need for:

- rigorous preparation and planning to ensure that the PPP approach delivers value for money and is sustainable;
- sustained political and public sector support to the strategic decisions around the PPP;
- a conducive legal, regulatory and financial framework supporting the development and implementation of PPPs;
- a true understanding by the parties of the needs and objectives of each other.

The European Commission has a particular interest in PPPs within the framework of the grants that it provides, both within the context of Cohesion and Structural Funds as well as ISPA but also in other important areas. The use of grants in PPPs imposes constraints on projects, given the over-riding requirement to protect the public interest. As the cases demonstrate, it is possible to successfully manage these constraints and integrate the needs of all parties. Given also other current efforts, by the European Commission, to more closely define PPPs we hope that this Resource Book will allow a reflection on the possibilities of structuring PPPs to meet all objectives.

The upcoming implementation challenges in the period 2004-2006 that will touch on PPP issues must be seen against the strategic challenge of the conception of the next financial perspectives 2007-2013. If used effectively, the PPP instrument will certainly be able to contribute to the achievement of the overall cohesion objectives of the enlarged Union.

I hope that the Resource Book will help in our common efforts to better implement measures under the Cohesion and Structural Funds as well as in present and future pre-accession instruments.

Graham Meadows
Director General
Directorate General for Regional Policy

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Executive Summary

In recognition of the importance attached to financing environmental and transport infrastructure and the developing interest in Public-Private Partnerships (PPP) in the Candidate Countries, DG Regional Policy, in 2003, developed the “*Guidelines for the Development of Successful PPPs*”. The Guidelines aim to present a working tool for the identification, preparation and implementation of PPP projects within the general context of an association of private funds with grant financing and specifically with respect to the use of European Commission grants. The Guidelines also analyse a number of critical issues affecting the development of successful PPP projects. They do not present a fixed or recommended approach, but are conceived as a tool for assisting public sector decision makers in evaluating the opportunity of matching public grants with private funds and funds from International Financial Institutions (IFI) such as the European Investment Bank (EIB) or the European Bank for Reconstruction and Development (EBRD). The Guidelines were presented and discussed among public sector officials and private sector stakeholders during a series of seminars organised by the European Commission in Brussels and the Candidate Countries and have been presented at various international PPP conferences at which the Commission was participating.

The growing interest in the development of PPP's was confirmed by the request, put forward by representatives of Candidate Countries, to complement the Guidelines with examples of actual projects in order to better understand the practical implementation issues. Following this request, the Commission has developed this Resource Book, consisting of a set of case studies of PPPs in both Western and Central Europe and in various sectors including: Water and Wastewater Management, Solid Waste Management and Transport. These sectors are representative of those in which the Commission has provided grant financing. While they are not the only sectors in which PPP principles are being applied, they do provide a balance between sectors with a considerable history of PPP application such as transport and those in which it is relatively new and encountering specific issues.

It has to be noted that the choice of private partners in the PPP Case Studies presented in this Resource Book has not been assessed as to its compatibility with Community public procurement law. The cases are therefore not necessarily examples for the proper choice of private partners in PPP projects under Community law.

General Issues

The examination of case studies enables the confirmation of a number of key principles governing PPP development and application. Foremost it is important to stress that PPP structures come in many forms and are still an evolving concept which must be adapted to the individual needs and characteristics of each sector, project and project partner. Indeed the terminology debate surrounding the definition of PPP categories itself mirrors the evolution of PPP approaches and the evolving regulatory environment defining PPP in many countries. Successful PPPs require an effective legislative and control framework and for each partner to recognize the objectives and needs of the other. Guaranteeing benefit from PPP requires recognition of the relative strengths and weaknesses of each type of structure and the aims and objectives of each party. Of particular importance is the role of the public sector, which may transform itself from a service provider to an overseer of service contracts.

While the benefits of partnering with the private sector in PPPs are clear, such relationships should not be seen as the only possible course of action and are indeed complex to design, implement and operate. Many alternative sources of financing are available, including “public-public” institutional arrangements which should not be discounted in the hope that PPPs offer a

miracle solution. Therefore PPPs need to be carefully assessed in the context of the project, the public benefit and the relative gains to be achieved under various approaches.

General Conclusions

In order to facilitate a common analysis of cases, 6 criteria were selected, including value of investment, contract duration, transfer of responsibility, demand risk, availability risk and contract type. A qualitative cross-sectoral analysis demonstrates a number of variances between the PPP models adopted. The following conclusions are made, based on the 6 criteria:

- *Value of Investment.* The water and transport sectors represented the largest capital investments. This is to be expected given the scale of projects and the investment requirements. The smallest financial consequence was presented by the solid waste sector. However this may be due to the predominance, in the sample, of waste transportation projects as opposed to larger incinerator or major EU compliant landfill projects
- *Contract Duration.* Again the water and transport sectors represented the longest project / contract durations often over 20 years. This is inherent of the relationship between the size of capital invested, degree of private sector involvement and length of time required to ensure investment and profit recovery. Additionally it is also indicative of the fact that most Candidate Countries have yet to develop established long term markets for infrastructure operations (as opposed to simple infrastructure development).
- *Transfer of Responsibility.* The solid waste cases demonstrate the highest degree of transfer of responsibility onto the private party. This is often in relation to the more speculative and commercial nature of investments in solid waste operations, which the private developer is expected to finance and assume market risk (it should be noted however that the selected cases are more focused towards such private sector initiatives).
- *Demand Risk.* As with the previous criteria, the solid waste sector generally has the highest degree of transfer of risk onto the private party. This includes demand risk but this may again be indicative of the type of projects selected, which on the whole are more speculative as opposed to those requiring the building and operation of large infrastructure. On the whole the cases, within the same sector, demonstrate a relatively even distribution of demand risk between the parties. This may indicate an understanding that the public sector is also, in part, responsible for ensuring the financial viability of a project.
- *Availability Risk.* The general pattern suggests that risks under this category are distributed in relation to the characteristics of the project and the parties. This would tend to confirm the principle that risk should be adopted by the party best able to manage it. A number of cases demonstrate ineffective risk distribution and also the consequences resulting from it.
- *Contract Type.* Concessions and joint ventures are the most common forms of structures encountered. However this in part demonstrates the continued lack of standardisation of nomenclature with respect to PPP structures. Within the contracts termed concessions or joint ventures are found elements of BOT, BOO or DBFO structures. The Resource Book adopts the official title of the contracts. The graphs in the following section demonstrate the distribution of contract types.

A number of important lessons can be drawn from the cases. These are presented in the context of assisting practitioners in considering options and possible solutions to individual situations, they are not meant to provide a model approach. Common lessons include:

- Risk transfer lies at the heart of effective PPP design. If a good balance is not achieved it will result in increased costs and the inability of one or both parties to fully realize their potential.
- The cases bear out the general principle that risk should be borne by the party best able to manage it most cost effectively. Several cases demonstrate the additional costs incurred when too much risk is transferred. They also demonstrate that each project is unique and therefore that each project's risk profile must be assessed separately. While there is no standard approach a number of generalities can be identified such as:
 - The greater the financial size of the project the greater the temptation for risk transfer to the private sector. However this must be supported by sound revenue earning potential allowing the private sector to adopt a higher risk profile.
 - Certain risks are better borne by certain parties. For example regulatory risk is more appropriate to the public sector while construction risk and quality standard risks are more suited to the private sector.
- Another key to successful risk transfer is for the public authority to gain a thorough understanding of the objectives it wishes to achieve and therefore the nature of the project. This includes understanding the strengths and limitations of each party. The cases demonstrate the results of not transferring enough risk and responsibility and, conversely, of transferring too much. In each case there is a loss of value for money and an increase in cost.
- The need for sustained political support and commitment is clearly demonstrated particularly for large projects and ones representing a first attempt at developing and implementing a PPP project. The potential disruptive effects of public outcry should also not be underestimated. This is particularly important where PPPs rely on user charges and promises of increased service provision or quality standards as justifications for their use.
- Associated to this is the need to demonstrate clear value for money from the project. Many Member States have adopted a formal assessment approach to justify the use of PPP's, which includes a demonstration that the PPP structure will be more cost effective than the traditional procurement methods and that it will deliver superior value for money. This is important for justifying a PPP approach but also generally for assessing whether the project design is the most effective and where the strengths and weaknesses of the project lie.
- Equally important is the need for an enabling and well defined legislative and regulatory environment. This allows contracts to be determined with certainty and allows the parties to understand the boundaries of their interaction. The consequences of not having this certainty are clearly demonstrated in some of the early cases from the Candidate Countries and generally result in greater risk and cost and the inability to harness the true potential of the project.
- PPP projects cannot exist in isolation. This is particularly true of the planning aspect, ie they must be integrated into development plans allowing them to exist financially and for the specific needs of PPP projects to be addressed.
- Given the complex interactions between service provision and financial viability, it is crucial for all sides to correctly estimate project parameters. Especially on transport projects, there are a multitude of examples of unsuccessful projects which failed due to poor demand or cost forecasting. Rigorous project analysis, undertaken by both parties is therefore essential.

Background & Methodology

Methodology

The objective of this Resource Book is foremost to support the *Guidelines for the Development of Successful PPP*, (the Guidelines) by presenting a series of representative PPP case studies allowing practitioners to draw on experiences and lessons learned. Cases include those benefiting from Commission grants and those not. Equally it will present successful and problematic / unsuccessful cases as valuable lessons can be drawn from each situation.

The Resource Book is structured to present detailed case studies in the following sectors; water / wastewater, solid waste management and transport. These sectors have been selected as representative of those in which the European Commission's Cohesion Fund and ISPA programmes have supplied grant financing to Candidate Countries. It recognises that PPP principles are commonly applied to a much wider range of projects and services but that the Resource Book is foremost a support to the Guidelines. To facilitate comparison the case studies focus on:

- Ø Project background
- Ø Key PPP features, including:
 - A basic description of the project
 - The rationale for choosing the PPP approach
 - Expected and actual benefits and risks
 - Contractual and financial relations between the parties and the degree of risk transfer
- Ø Lessons learned

The number of cases presented is obviously small compared to actual projects realised. Given the restriction on the number of cases that could be included, representation cannot be understood in the statistical sense. Cases have been selected to demonstrate certain structures, issues and problems, which are commonly encountered and the solutions found. Additionally an attempt is made to demonstrate the wider impact of private sector participation, both positive and, in certain cases, negative. It must be stressed therefore that this Resource Book makes no attempt to draw statistically valid conclusions on the representativeness of the samples.

Many of the cases represent on-going projects, which continue to evolve over time. It has been necessary in certain cases to apply a time limit thereby restricting the description of events. As a result some cases may not represent the current situation but are included to provide discussion of the relevant events in relation to the points made.

To allow a common analysis, 6 key criteria have been selected. These are interpreted as follows:

- **Value of Investment** – the capital investment of the project as a stand-alone investment exclusive of the income stream or operational costs.
- **Contract Duration** – the duration of the PPP contractual relationship with respect to the initial investment.
- **Transfer of Responsibility** – the degree to which the private party is involved in the project defined by the contractual model and obligations, ownership of assets or operating rights and the project operational structure.
- **Demand Risk** – the degree to which the risks of variations in market demand, competition or technological obsolescence are passed onto the private party.
- **Availability Risk** – the degree to which the private party's risk of delivering against the contractual specifications, failure to meet standards and quality levels, delivery of services against specifications or failure to meet agreed volumes is passed onto the private party.

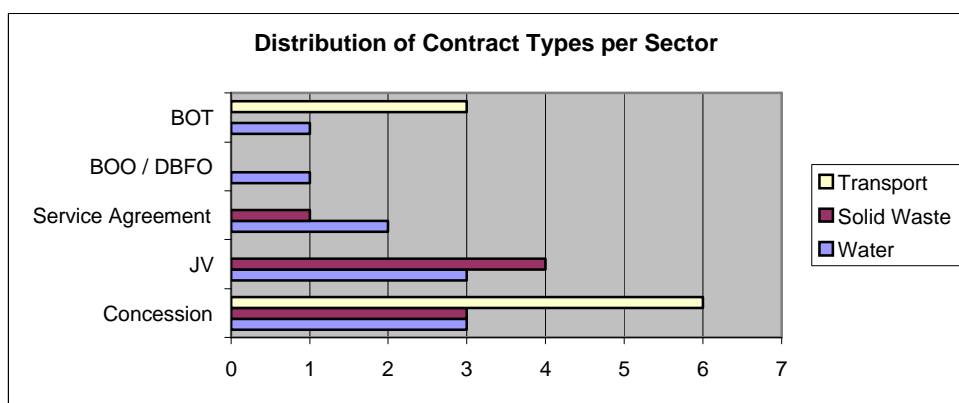
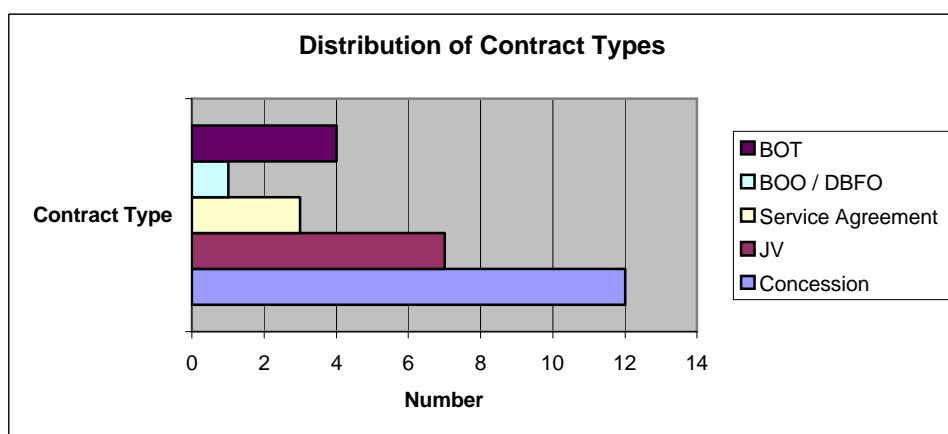
- **Contract Type** – the type of PPP contractual arrangement using the typology of the Guidelines.

The recent Eurostat decision¹ definitions of risk are adopted by the Resource Book in order to facilitate a grouping of risks. This is done merely as a measure of convenience and recognises the wide variety of risks inherent to PPP projects and the possible restrictions imposed by such a grouping.

Comparison of Cases

Data has been collected from a variety of sources including the project financiers, sponsors and beneficiaries.

The following diagrams demonstrate the type and frequency of contracts and structures presented. There is a strong dominance of concession and joint venture structures. This may however be due to the selection of cases and application of terminology rather than a true dominance of such structures. The research of cases found a lack of common terminology and consistency in the use of terms. This is in fact indicative of the evolving nature of PPP concepts and the lack of a commonly accepted set of terms. The Resource Book adopts the nomenclature of the Guidelines with respect to PPP structures.

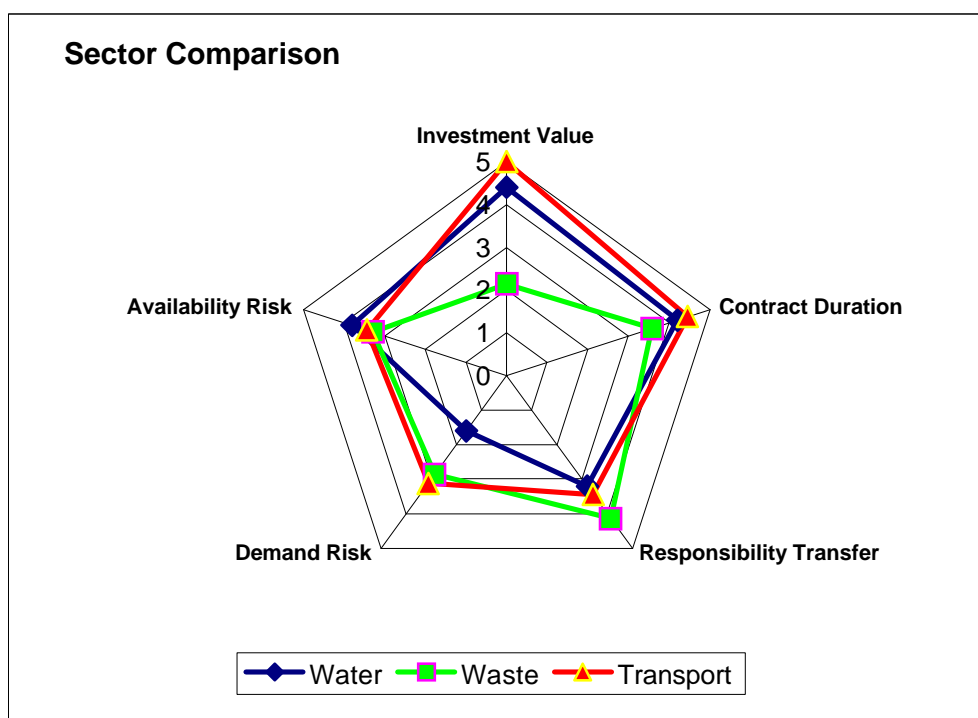


The quantitative variables are represented graphically in the following Radar diagrams. The 1 to 5 scale for each variable is defined as follows:

¹ DN: STAT/04/18 of 11/02/2004

<i>Criteria / Scale</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>5</i>
<i>Investment Value</i>	Under 10 m	10 - 50 m	50 - 100 m	100 - 150 m	Over 150 m
<i>Contract Duration (years)</i>	5	10	15	20	Over 20
<i>Responsibility Transfer</i>	Fully Public	70 / 30	50 / 50	30 / 70	Fully Private
<i>Demand Risk</i>	Under 20%	20 - 49%	50%	51 - 80%	Over 80%
<i>Availability Risk</i>	Under 20%	20 - 49%	50%	51 - 80%	Over 80%

NB: demand and availability risks are measured with respect to the amount of risk transferred to the private party



The comparison of the three sectors' average values shows a relative similarity in contract duration, and transfer of availability risk. Greater variance is seen in the degree of transfer of responsibility onto the private party and the degree of demand risk passed onto the private sector and obviously in the investment values.

Recent Developments

In view of the growing interest and application of PPP principles and since the publication of the Guidelines, the European Commission has undertaken a number of key activities to promote, define and regulate their use. These will bear an influence on how PPPs are designed, developed and implemented and should therefore be mentioned here. Of major importance is the recent publication of a Green Paper on PPPs and Community Law on Public Contracts and Concessions² (the "Green Paper").

The Green Paper analyses³ the application of PPPs with regard to Community law on public procurement and concessions. Under Community law, there is no specific system governing PPPs. PPPs created for contracts that qualify as "public contracts" under the Directives coordinating procedures for the award of public contracts must comply with the detailed provisions of those Directives. However, "works concessions" are covered only by a few

² COM(2004) 327 published on 30.04.2004.

³ This text is reproduced from the DG Internal Market website publishing the Green Paper and seeking comments and consultation. It can be accessed at http://www.europa.eu.int/comm/internal_market/publicprocurement/ppp_en.

provisions of secondary legislation and "service concessions" are not covered by the "public contracts" Directives at all. Nevertheless, all contracts in which a public body awards work involving an economic activity to a third party, whether covered by secondary legislation or not, must be examined in the light of the rules and principles of the EC Treaty, and particularly those on the freedom of establishment and the freedom to supply services (Articles 43 to 49 of the EC Treaty). These principles include in particular the principles of transparency, equal treatment, proportionality and mutual recognition.

The EU rules governing the choice of a private partner have therefore been coordinated in the Community at various levels and to various extents, so that a wide variety of approaches are still possible at national level. The aim of the Green Paper is to launch a wide ranging debate to establish whether the Community needs to intervene to ensure that the economic operators in the Member States have better access to the various forms of public private partnership in a situation of legal certainty and effective competition.

It describes the ways in which the rules and the principles deriving from Community law on public contracts and concessions are applied when a private partner is being selected, and for the subsequent duration of the contract, in the context of different types of PPP. The Green Paper also asks a set of questions intended to find out more about how these rules and principles work in practice, so that the Commission can determine whether they are sufficiently clear and suitable for the requirements and characteristics of PPPs.

The Green Paper thus addresses various topics: the framework for the procedures for selecting a private partner (competitive dialogue procedure for certain PPP operations qualifying as public contracts, minimal framework for secondary legislation, no framework for works and service concessions), privately initiated PPPs, the contractual framework and contract amendments during the life of a PPP, and subcontracting. The Green Paper addresses both PPPs created on the basis of purely contractual links ("contractual PPPs"), and PPPs involving joint participation of a public partner and a private partner in a mixed capital legal entity ("institutional PPPs").

The legal analysis with regard to Community public procurement law applicable to PPPs has been developed by the European Commission in the Green Paper and will therefore not be repeated here. In any case and as outlined before, the choice of private partners in the PPP Case Studies presented in this Resource Book has not been assessed as to its compatibility with Community public procurement law. The cases are therefore not necessarily examples for the proper choice of private partners in PPP projects under Community law.

In addition, Eurostat has published a decision (DN: STAT/04/18) defining the issue of deficit and debt treatment of PPP type investments, in relation to public accounts. The issue of classifying PPP-related debt is important to public authorities because of the potential impact on statutory debt limits. Eurostat concluded that PPPs should be classified as non-government assets and therefore recorded off balance sheet for government if both of the following conditions are met:

- The private party bears the construction risk, and
- The private party bears at least one of either availability or demand risk

The Commission has also undertaken considerable work to more closely define the principles of PPP and to assist in their application. In this regard the Commission has sponsored numerous studies on the application of PPPs.

Although the field of PPPs continues to rapidly evolve considerable differences in the definition and application of terminology remain. Legal definitions developed to assist in the regulation of PPPs may not precisely match the operational characteristics of a specific project. In this context, it should also be noted that this Resource Book follows the PPP nomenclature of the Guidelines and uses operational terminology used in the context of the projects' implementation which may differ from formal legalistic definitions.

PART I

WATER AND WASTE WATER TREATMENT

Water and Waste Water Treatment Sector Analysis

Introduction

PPPs have existed for many years in the international water and waste water sectors. For example, the current system of water concessions in France has been common place for at least 40 years and has contributed to the growth of the large and diversified French private utility companies. In the UK, many municipalities are now experiencing their third generation of PPP type contracts⁴. The European Union Drinking Water Directive and the Urban Waste Water Directive have also resulted in a substantial change in public sector responsibility within the water industry.

In the future a broader application of PPPs is anticipated in this sector. To meet Directive requirements, many Member States will have to undertake substantial investments in upgrading old facilities or building new ones. As a result, countries that have not yet involved the private sector are now considering the potential to make use of its skills and financial resources to implement investment programmes and generate the required quality and efficiency improvements.

The considerations that influence the form and structure of PPP's in the water sector include the project's size, scope, complexity, regulatory and operational requirements, application of user charges and risk allocation.

A full range of PPP structures and traditional procurement arrangements have been applied in the water sector. Water supply and waste water facilities are well suited to BOT, DBFO contracts and Concessions where there is a secured mechanism of user charges. The rising risks associated with operating increasingly complex treatment processes and the need to develop and improve infrastructure networks, particularly in the Candidate Countries, support the growth of PPP opportunities in this sector.

Selected Cases

The selected cases, drawn from both EU Member States and Candidate Countries, are illustrative of a generalised international trend to use PPP models in the water sector. From the wide variety of international examples, a group of cases was selected to demonstrate several PPP models and the impact of Commission co-financing. In particular the cases demonstrate the following:

- The differences between the privatisation process, the development of PPP projects and the development of long term markets for water assets and operating rights.
- The ability of Commission co-financing particularly to improve operational efficiency and fairness of a PPP agreement by promoting a more equitable distribution of the costs and benefits through standards and market regulation mechanisms.
- The ability of PPPs to capture the value of private sector expertise and new technologies in complex projects.
- The ability, through incentives and risk transfer, to generate increased speed of project realisation and to create operational efficiencies.
- The fact that the PPP approach does not need to result in reduced concern for environmental issues, service quality standards or social and employment concerns.

⁴ The first generation introduced private sector investment and operations, the second established a market for concessions while the third is seeing a separation of functions between asset ownership and operations. Each being undertaken by specialized private entities.

Distribution of PPP Structures

<i>Cases</i>	<i>Joint Venture</i>	<i>Concession</i>	<i>Service Agreement</i>	<i>BOT / DBFO</i>
<i>Apa Nova, Romania</i>		X		
<i>Scottish Water, UK</i>	X			
<i>Scottish PPP, UK</i>				X
<i>Berlin Wasser, Germany</i>	X			
<i>Constanta, Romania</i>		X		
<i>Dublin, Ireland</i>				X
<i>Karvina Czech Rep</i>			X	
<i>Trencin, Slovakia</i>			X	
<i>Dwy Cymru UK</i>		X		
<i>Schwerte, Germany</i>	X			

Key Financial and Contractual Conditions

<i>Cases</i>	<i>Guaranteed Minimum Revenue</i>	<i>Risk of Contract Termination</i>	<i>Profit Sharing</i>	<i>Sharing of Management Decisions</i>
<i>Apa Nova Romania</i>	Yes	Low	Yes when profit generated	Board includes public and private parties
<i>Scottish Water, UK</i>	No	Low	Only for private party	Board includes public and private parties – strong regulator
<i>Scottish PPP, UK</i>	No	Low	Only for private party	Board includes public and private parties – strong regulator
<i>Berlin Wasser Germany</i>	Yes	Low	Only for private party	Board includes public and private parties – majority public party
<i>Constanta Romania</i>	Yes	Low	Yes when profit generated	Board includes public and private parties
<i>Dublin Ireland</i>	Yes	Low	No unforeseen profit	Board includes public and private parties – majority public party
<i>Karvina Czech Rep</i>	Yes	Slight	No	Board includes majority public parties
<i>Trencin Slovakia</i>	Yes	Slight	No	Mostly public
<i>Dwy Cymru UK</i>	No	Low	Not for profit organisation	Predominantly public decision maker
<i>Schwerte Germany</i>	Yes	Low	No	Board includes public and private parties

Lessons Learned

On the basis of the project selection criteria the main common lessons learned can be summarised as follows:

- There is a considerable difference between privatisation and PPP principles. This is particularly true in the water sector and in new Member States. It has been common practice, particularly in the Candidate Countries, to firstly privatise assets and then develop and implement a PPP project to attract investment and know-how. This is evident in the Bucharest, Trencin, Karvina and Berlin cases. Of major concern is the method of asset transfer and their accounting in the subsequent PPP project. It is to be expected that the State wishes, at least initially, to maintain a degree of control over public services and thus, may wish to retain control over fixed assets.

However this should not hinder the longer term development of PPPs and in particular regular and equitable investment in assets.

- The degree of risk transfer is a crucial issue to the success of PPP projects. Particularly in environmental projects there is a confluence of standards, liabilities, service and quality provision targets and, in many countries, a need to establish the principle of full user charges for services. This adds to revenue risk and requires a suitable approach to the structuring of the agreement and the commitment of all parties to the sustainability of the project.
- Given the wider issues related to environmental infrastructure, it is even more necessary for the public sector to have effective monitoring, control, payment and penalty systems in place to ensure the project meets expectations and can be corrected effectively in case of problems.

However such systems should also be used to develop incentive schemes to encourage the private party to improve performance and efficiency. This addresses the difference between the public sector's statutory responsibility to guarantee standards and the private sector's desire to enhance revenue. The Karvina project is typical of a project where such schemes have been considered. The development and publishing of uniform performance criteria and operational results, notably in the UK, is another example of how both objectives can be met. In this case the availability of data allows public scrutiny of performance against targets and hence pressure on user charges if performance is not satisfactory. This 'consumer pressure' provides an added incentive to increase the provision of value for money.

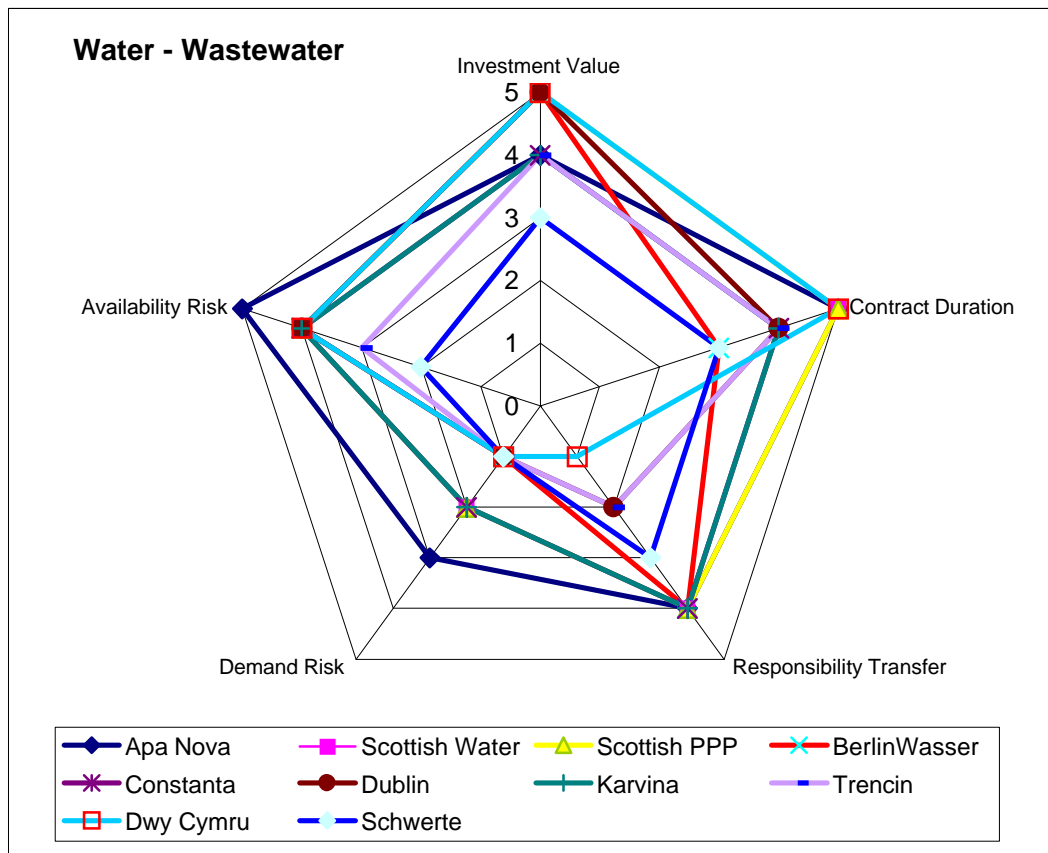
- It has been demonstrated that the Commission's grants can play an important role in achieving an equitable balance between commercial and public interests. The Karvina, Trencin and Constanta projects are good examples of this. While the Commission may not be ideally suited to address the commercial aspects of an investment, it can effectively ensure that quality standards are fully incorporated, ensure that there is no undue benefit flowing to either party and that PPP contracts are developed in an open and transparent manner. The Commission, because of its financial contribution, has been able to enhance the overall socio-economic quality of projects through reviews of contracts or project designs.
- Undertaking realistic and rigorous project preparation particularly on affordability and financial sustainability factors is critical to project success and to correctly determining the appropriate amount of Commission funding.
- The appropriate length of agreements should ideally reflect the amount of investment, commitment of rate tariffs, the expected returns, and other factors. The Constanta project demonstrates how establishing an agreement period balancing financial, investment, grant financing and risk allocation factors can increase private sector interest in the project.
- As the Dublin project demonstrated, as indeed in many of the Candidate Countries, the involvement of private investors and operators is an effective method for accessing expertise and technology. This is expected to become increasingly important as communities strive to conform to EU quality and performance standards.

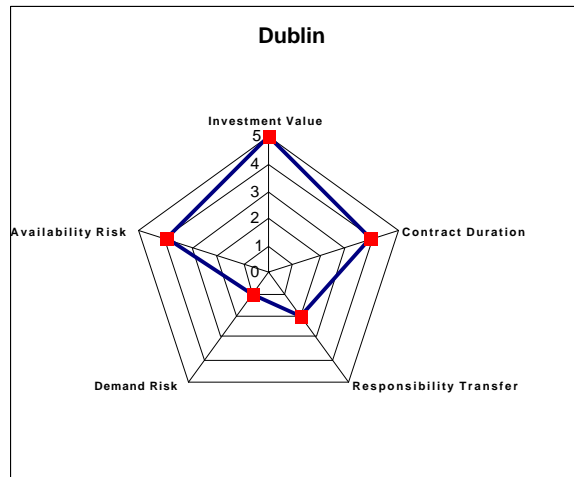
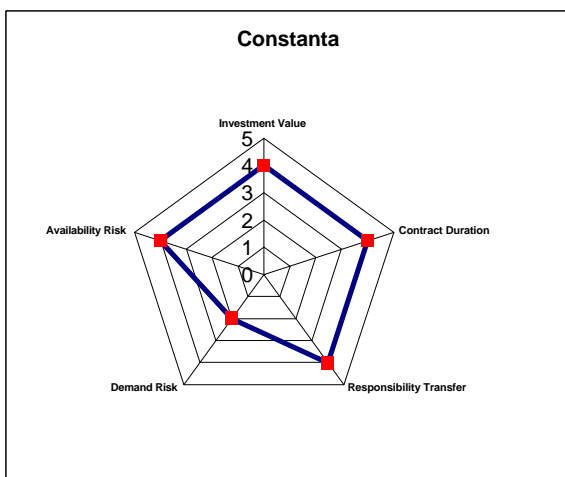
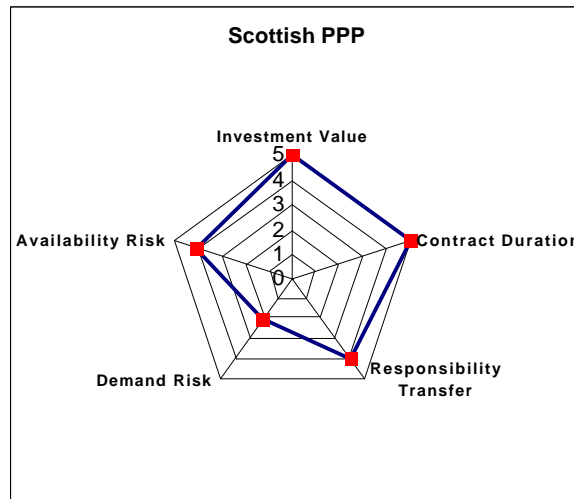
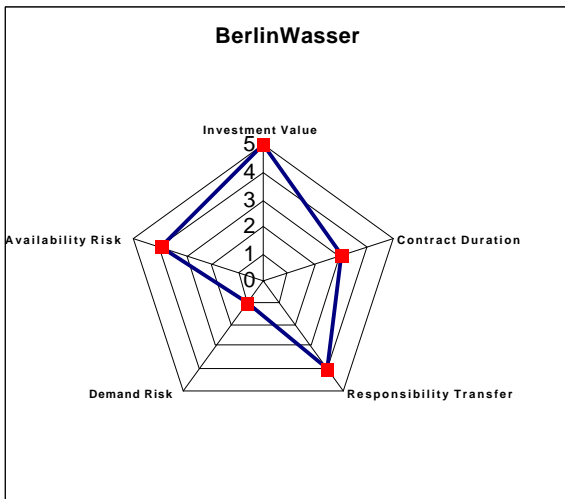
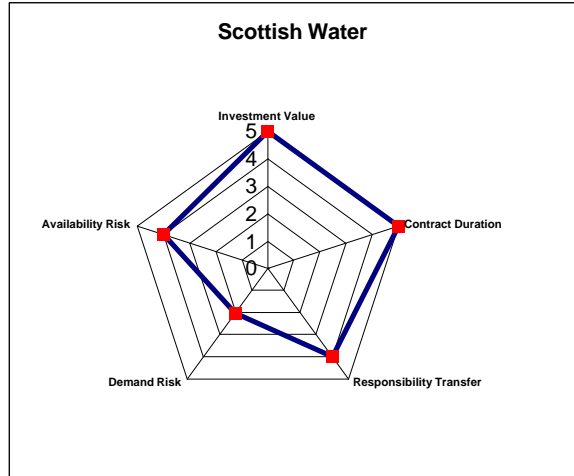
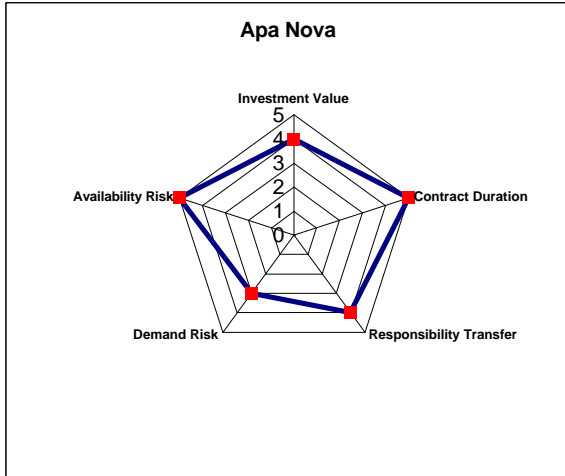
Conclusions

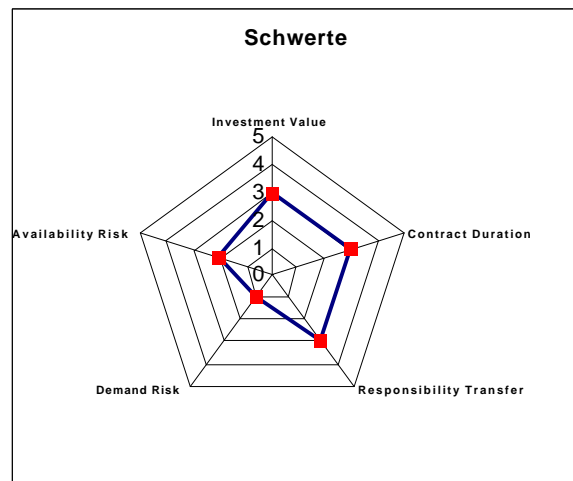
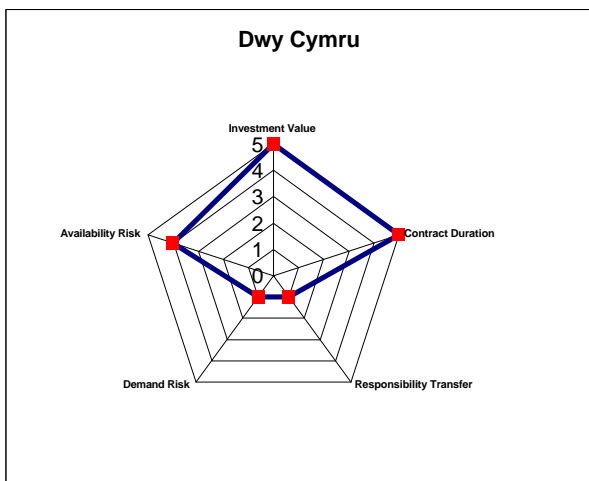
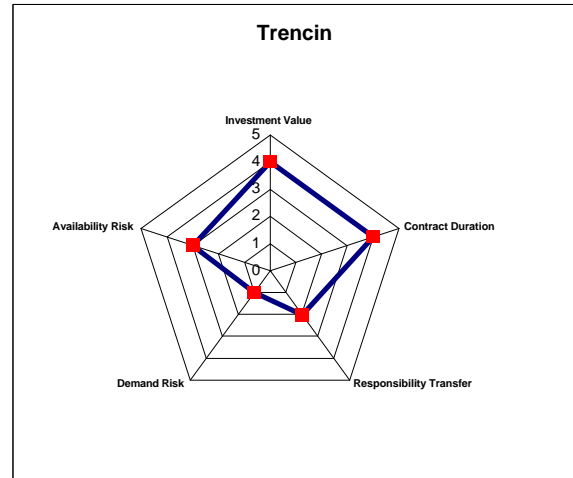
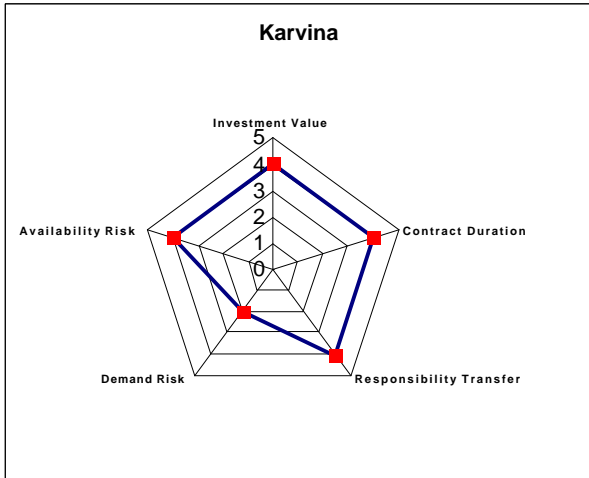
The following 'Radar' diagram highlights the qualitative conclusions of the water and wastewater case studies according to the criteria of:

- Investment Value
- Contract Duration
- Responsibility Transfer

- Demand Risk
- Availability Risk







Case 1. Apa Nova in Romania

Case Study/Country	APA NOVA - Romania
Rationale/Objectives of the PPP	Attract financial resources to upgrade the water system. Introduce international management practices and expertise
PPP Actors	City of Bucharest; Apa Nova; Vivendi
Financial Structure	EBRD loan, tariff financing
E.U. Support?	No
Contract Agreement between Parties	Concession
Risk Allocation	Private operator is bearing most of the risk
Institutional/Managerial Structure	Board between the public and private counterparts
Tariff Setting	Price cap tariff set on PPP contract signature
Strong Points	Improved water system
Weak Points	The private operator is bearing most of the risk

This case illustrates the ability to introduce new capital improvements linked to efficiency gains and operational performance provided by taking advantage of international management practices and expertise through a PPP agreement. The terms and conditions of the agreement are considered to be at a level representing international best practices.

Background

The privatisation process for the Bucharest water system took place in 1996, following World Bank recommendations, and resulted in a concession agreement between Vedia and Bucharest Municipality for the management of the water system. In 2000, Apa Nova, then controlled by the French utility company Vivendi, now restructured under Veolia Environnement, won a tender for the management of the Bucharest water concession including the development of the Crivina Plant. Apa Nova is an enterprise created on an already existing link between Vedia and Bucharest Municipality. The general conditions of the PPP agreement between Apa Nova and Bucharest for the Crivina Plant, are the same as for the 1996 water system PPP agreement with Vedia. In practice, Vedia has been incorporated into Apa Nova.

The rationale for the PPP is as follows :

- *Private sector participation.* The Project supports private participation in the utilities sector in Romania, which has been awarded through international competitive tendering. By giving control of management and investments to a private company and by linking its remuneration to efficiency gains and operational performance, the Municipality expects to maximise the benefits of the private sector involvement, in the form of significant improvements to Apa Nova's capital and operating efficiency and higher standard of service.
- *Transfer of relevant skills.* Through the introduction of international management practices and operational expertise important skills will be transferred to Apa Nova's staff. The lack of adequate skills in Romania is one of the main rationales for inviting a foreign operator. The Sponsors will develop local skills in areas such as operations management, energy efficiency, capital budgeting and financial management.

The management tender was launched by the Municipality to attract financial resources and know – how to improve the water and water treatment system for the city. The project consisted of two main items: (i) the improvement of the water distribution network in Bucharest, and (ii) the completion of the Crivina potable water treatment plant located in the outskirts of Bucharest. The completion of Crivina would increase the capacity for potable water treatment to 259,000 m³/day.

PPP Features

As one of the first PPPs in the local water sector, the private contractor was selected through international competitive tendering. The terms and conditions of the agreement are considered consistent with international best practice. In particular, the concessionaire is paid under a price cap type tariff mechanism. This provides incentives for cost reductions, which are shared with consumers in the form of lower prices and / or higher levels of service quality.

Following an international competitive tender process organised by the Municipality of Bucharest, with the support from the International Finance Corporation, Vivendi Universal was selected as the preferred bidder. The agreement foresees that Apa Nova Bucuresti, owned 85% by Vivendi Universal, operates the Municipality's water and sewerage assets for a period of 25 years. The Concession Contract with the Municipality was signed on 29 March 2000, and became effective on 17 November 2000. Subsequent to the agreement execution, Vivendi Universal transferred its shares in Apa Nova to Compagnie Generale des Eaux S.C.A. following the signing of the Loan Agreement (although Vivendi was initially awarded the contract).

The agreement helped create a source of capital to support an upgrade and extension of the Bucharest water system. The partnership agreement required the private partner to provide financial resources to upgrade the system. Bucharest will contribute the existing infrastructure and own new infrastructure while the private operator obtains the right to manage and maintain the water system.

The water tariff was fixed at the moment of contract signature, with the agreement that it would be regularly adjusted. The decision to change the tariff will be made by the City Council on the basis of an application presented by the private operator. Apa Nova is, according to the agreement, responsible for the collection of tariffs and, when appropriate, pays dividends to all shareholders, including Bucharest.

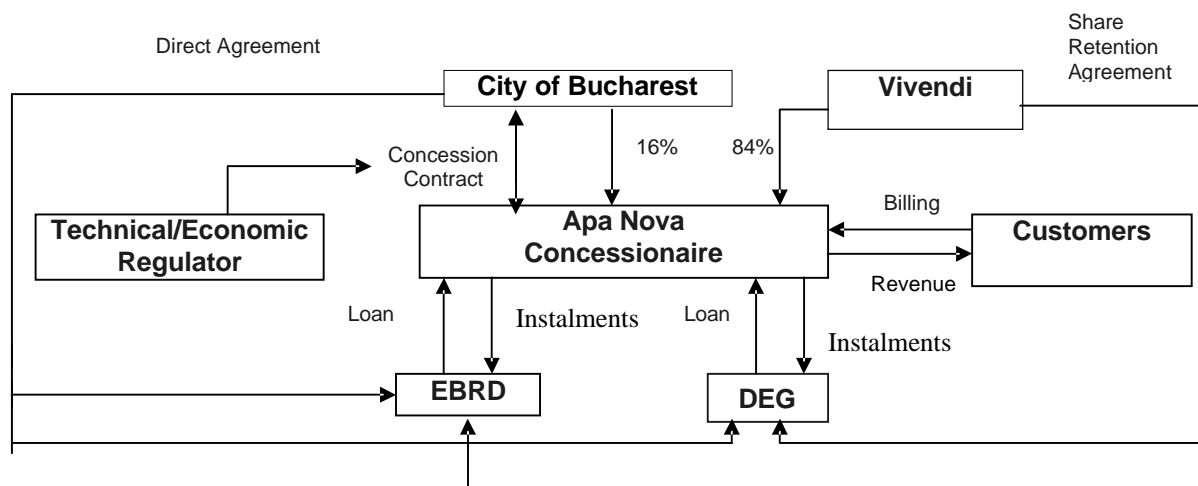
The co-ordination between the two parties – Apa Nova and Bucharest, and the decision-making powers, are regulated by a board, on which the City of Bucharest and Vivendi are represented. In addition a Director General is responsible for the day-by-day management of the operations.

Part of the project included the upgrading of the Crivina plant. The project had already started 10 years earlier but the municipality lacked the financial resources and expertise to complete it.

To finance the project Vivendi and the City of Bucharest applied for an EBRD loan which offered better terms than other commercial sources of capital. The loan terms required Vivendi to intervene if necessary and to assume the responsibility for monitoring and reporting on Apa Nova's performance to the EBRD. Bucharest has the right, as shareholder, to also monitor Apa Nova's operations.

Bucharest looked for a private sector participation in the operation of its water and waste water system for two main reasons: to enable the necessary investment in upgrading the infrastructure and to bring in the needed new technology, know – how, and management methods. For Vivendi Universal the investment in the Romanian water sector and in Bucharest was part of its own strategy to develop new business.

PPP Structure of Apa Nova



Lessons Learned

- The project represents a classic PPP model employed in the European water sector. It foresees a degree of stability and risk / profit sharing. The “tried and tested” nature of the model may have been beneficial to Bucharest given the uncertain PPP environment still reigning in Romania at the time.
- The PPP contract is bringing advantage to both parties. Bucharest is receiving reliable financing for upgrading and improving the quality of its water system. Additionally it is able to access the required expertise and technology and may also look forward to sharing a profitable dividend. The size of the dividend or the ability of the operator to generate profits is directly related to performance and increasing efficiencies due to the price cap mechanism. This provides a degree of consumer protection. The private operator is expecting economic profits, which they are trying to obtain by improving operational efficiency and by ensuring that revenues from the water tariff are effectively collected.
- There is some risk concerning revenue flows as tariff collection is the responsibility of the operator and the contract foresees no tariff changes in the short to medium term. This implies a degree of risk for the operator as operational efficiencies will not have an impact in the short term.

Case 2. Scottish Water Solutions, UK

Case Study/Country	Scottish Water Solutions, Scotland, UK
Rationale/Objectives of the PPP	Achieve operational efficiencies and deliver urgent infrastructure upgrading investments
PPP Actors	Scottish Water Authority, Scottish Executive, Regulators, Scottish Water Solutions, Private Operators
Financial Structure	Debt financing, equity
E.U. Support?	No
Contract Agreement between Parties	Joint Venture
Risk Allocation	Shared
Institutional/Managerial Structure	Board Control
Tariff Setting	Tariffs set by Regulators after review
Strong Points	Strong partnership between SWA and SWS, rapid integration, use of sector expertise
Weak Points	Ability to provide further efficiency increases and incentivise private parties

The case illustrates a response to an inefficient structure, operational inefficiencies and chronic under investment. It demonstrates how public and private sector expertise can be mixed to create a strong operational partnership both through the creation of a special purpose vehicle and the mixing of staff.

Background

The Scottish Water Authority, SWA, was formed in April 2002 from the merger of three former water authorities. SWA provides water and wastewater services to 2.2 million household customers and 130,000 business customers across an area, one third the size of Britain. With a £1 billion turnover, SWA ranks No 16 in Scotland's top 20 businesses and is the 4th largest water and wastewater service provider in the UK.

The introduction of the 2002 Water Act (Scotland) followed a detailed review of how the water industry was positioned to respond to the need for the biggest capital investment programme in recent history. The industry had become significantly less efficient than the private sector in England and Wales. Infrastructure was worn out, customer service was poor and investment was urgently required to meet new European directives aimed at improving water quality and better protecting the environment. The Scottish Executive decided that as a result of economies of scale, a single authority would be better placed than three separate authorities to:

- Deliver the necessary capital investment programme
- Become a more competitive force in the UK water industry
- Harmonise charges across Scotland
- Provide better quality drinking water, a cleaner environment, and improved customer services, at least cost to customers

SWA is a public sector model in the UK water industry. It remains answerable to the Scottish Parliament but is structured and managed like a private company.

SWA has been set the challenge by its economic regulator, the Water Industry Commissioner for Scotland (WICS), of reducing its operating costs by 40% between 2002 and 2006 and of delivering savings of £500 million on its capital investment programme between 2002 and 2006.

New expertise was brought in to join experienced industry personnel in leading the reform of the water industry in Scotland. This expertise was purposely drawn from different sectors including banking, utilities and the private sector.

The first task was to carry out probably the most complex merger that has ever taken place in Scotland as the former regional authorities – East of Scotland Water, West of Scotland Water and North of Scotland Water were merged. As an example, 300 inherited IT systems were reduced to 80.

SWA has responsibility for delivering a capital investment programme covering the period from 2002 to 2006 and amounts to some £1.8 billion. It decided that the best way of making this investment was to create a subsidiary company, Scottish Water Solutions (SWS) to deliver the investment required in the most cost-efficient way.

PPP Features

Scottish Water Solutions, SWS, is a unique joint venture set up to deliver SWA's £1.8 billion capital programme. SWS was formed by SWA and two consortia in one of the largest partnering agreements of its kind and a first for the UK's water industry. Whilst alliances are becoming more common in the water industry they are generally not on such a large scale. SWS is also set apart as there are eight partners with equity in the business – making it a PPP partnership within a company structure.

SWA owns 51% of SWS with the rest split equally between the two consortia: Stirling Water, comprising Thames Water, KBR, Alfred McAlpine and MJ Gleeson and UUGM which is formed by United Utilities, Galliford Try and Morgan Est. Today, SWS brings together some of the most experienced figures in the UK water industry with global experience of asset management, engineering, programme management, construction skills and delivering major capital investment programmes.

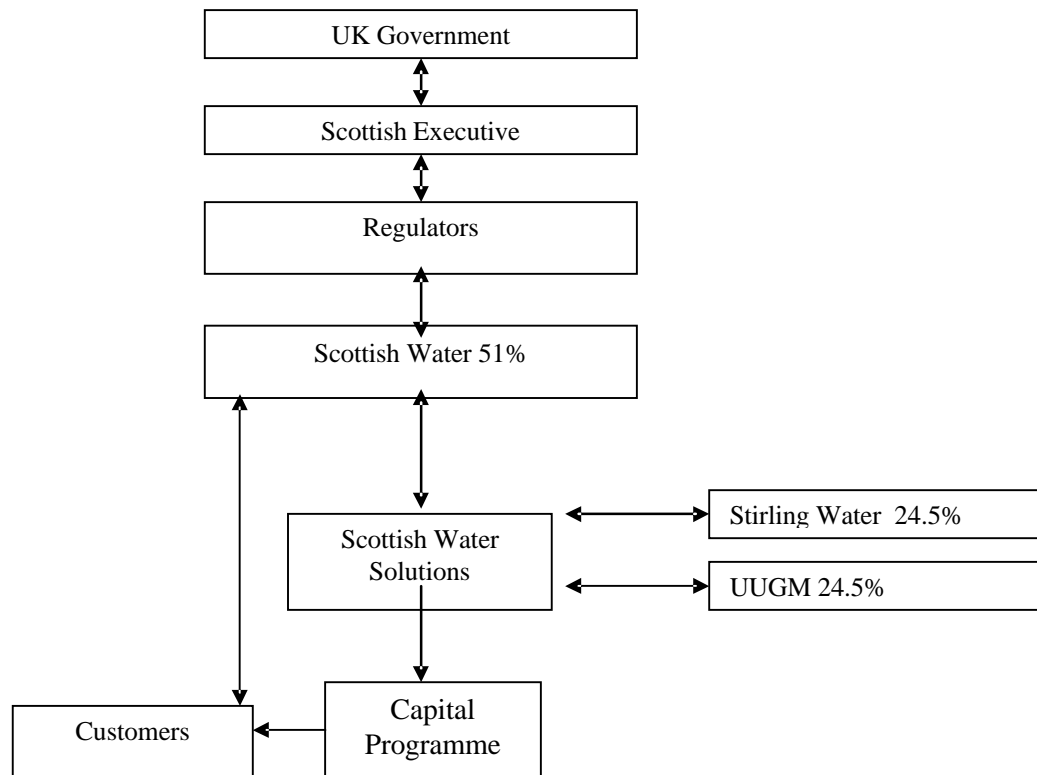
Interest from other parts of the UK and overseas is growing as SWS accelerates work on over 1,200 projects to improve water quality and wastewater treatment processes across Scotland.

SWA is reported as delivering real benefits to the Scottish public only two years after it was created to transform the water industry. SWA is now significantly more efficient, with opex running at around 20% less than it cost two years ago. The quality of drinking water is improved and the delivery of the £1.8 billion investment programme to modernise the infrastructure is now gathering pace, moving towards the implementation of at least £40 million worth of investment every month.

Achievements include:

- Making the industry more efficient by reducing opex by around 20 per cent in only two years.
- Delivery of around 50 transformation projects across the business which have changed ways of working and will deliver savings of around £80 million between 2002 and 2006.
- Completing one of the most complex corporate mergers ever undertaken in Scotland – bringing together East of Scotland Water, West of Scotland Water and North of Scotland Water.
- Successfully merging the terms and conditions of all employees from the three former authorities.
- Launching Scottish Water Solutions, an innovative partnership to deliver efficient investment for Scottish Water and its customers
- Since being formed in April 2002, Scottish Water has invested around £670 million on improvements to water and wastewater.

- Projects delivered include major water treatment works, improvements to wastewater systems, schemes that prevent flooding to homes and work to replace old and leaking pipes.
- Work has now started on the prestigious £100 million Katrine Water Project which will protect Glasgow’s water supply for the next generation.
- Planning to invest £317 million between 2002 and 2006 to improve the quality of drinking water.
- Planning to invest £483 million between 2002 and 2006 to clean up Scotland by improving the environment with cleaner beaches, rivers and coastlines.
- Leading the way in customer service with ‘Promise to Resolution’ - a new way of working which delivered an ongoing annual saving of £18million.



Lessons Learned

- Separate international specialist service providers can be brought together to deliver added value solutions for capital expenditure projects and using experts from alternative sectors can aid innovation.
- SWS JV includes a significant number of SWA managers and staff which has helped in developing an effective partnership and internal expertise.
- Robust sector regulation (Economic, Service, Environment, Quality, H&S) aids contractual negotiation and application.

Case 3. Scottish PPP Water Projects, UK

<i>Case Study/Country</i>	Scottish PPP Water Projects, Scotland, UK
<i>Rationale/Objectives of the PPP</i>	PPP demonstrated better value for money than traditional public sector delivery methods
<i>PPP Actors</i>	Regulators, Water Authority, Private Consortia
<i>Financial Structure</i>	Internal and debt funding
<i>E.U. Support?</i>	No
<i>Contract Agreement between Parties</i>	BOT
<i>Risk Allocation</i>	Majority on Private Party
<i>Institutional/Managerial Structure</i>	Regulatory control
<i>Tariff Setting</i>	Set by Regulator after consultation
<i>Strong Points</i>	Enhanced value for money, faster delivery
<i>Weak Points</i>	Questionable efficiency of risk transfer

The cases illustrate the selection of PPP as a viable option after careful comparison with traditional procurement options. It also demonstrates how private resources can be mobilised to more rapidly deliver infrastructure investment and realisation under a controlled regulatory environment.

Background

Given the levels of infrastructure investment required, prior to the formation of the single Scottish Water Authority in 2002 (see case 2), the three former water authorities used Public Private Partnerships (PPP) and Private Finance Initiatives (PFI) to finance their large scale investment projects. It was also possible to tie several smaller projects together under one finance package. The water authorities entered into contracts with a total value in excess of some £600m. The financial framework within which the Water Authorities operated was determined by meeting the following key financial objectives:

- Meeting the statutory rate of return set by Scottish Ministers
- Setting charges at a rate which were sufficient to meet the expenditure requirements of Authorities
- Containing borrowing within the limits set by Scottish Ministers (External Finance Limits)

Their sources of income included:

- Revenue from consumer charges
- Scottish Executive authorised borrowing (External Finance Limits)
- Funding from EU Structural Funds
- Public - private partnerships

After an extensive consultation process, competitive tenders were invited. These were compared to traditional public sector options and, taking into consideration risk transfer, the PPP option offered the best value. With the development of PPP / PFI projects in Scotland, across many sectors, a Private Finance Unit was established with the aim of providing guidance and support to both the public and private sectors on PPP in Scotland. It is a 'first stop' source of advice and data on PPP in relation to programmes managed directly by the Scottish Executive, its agencies and other public bodies, and on the use of PPP in local authorities. In addition to providing advice and guidance, the PFU produces regular updates on progress / issues in relation to PPP/PFI projects in Scotland.

PPP Features

Given the size and range of the investment programme a number of typical projects are presented.

Almond Valley, Seafield and Esk - Stirling Water, Scotland

Following Stirling Water taking over five wastewater treatment plants (WWTP) from East of Scotland Water, in West Lothian and Edinburgh, some £100M was invested in upgrading the works. Stirling Water is a consortium, which includes three private companies:

- Thames Water (49%)
- M J Gleeson (41%)
- Montgomery Watson (10%)

Stirling Water is responsible for designing, building; operating and maintaining improved treatment facilities. The consortium arranged the financing of the scheme and won the Project Finance Award for 'European Water Deal of 1999'.

A key aim was to ensure compliance with new European Union Directives on the quality of wastewater facilities, and initial works have already enabled the ending of the disposal of sewage sludge in the North Sea. Treated sludge from the works is now being recycled for use in agriculture and, as a result of the investment, radical improvements have been made to the quality of discharged wastewater.

The completed works have been successfully handed over to the operator, Thames Water International, who will operate the works for a 30-year concession period.

The Almond Valley and Seafield project was the biggest Private Finance Initiative (PFI) contract awarded in the UK water and wastewater industry at the time. The project serves a population of 585,000 (rising to 685,000), an operating duration of 30 years and a value of £105 million.

The project includes:

- Primary and secondary treatment of sludge
- Digestion and thermal drying of sludge
- Improved odour control
- Effluent disinfection using UV light

All in accordance with EU Urban Wastewater Directive, North Sea Directive, and Scottish Environmental Protection Agency (SEPA) consents.

Levenmouth

A joint venture between Northumbrian Water and Scottish Power was successful in winning the £45 million Private Finance Initiative (PFI) to construct and operate a wastewater treatment plant (population equivalent 500,000) on behalf of East of Scotland Water (now Scottish Water) for a period of 40 years.

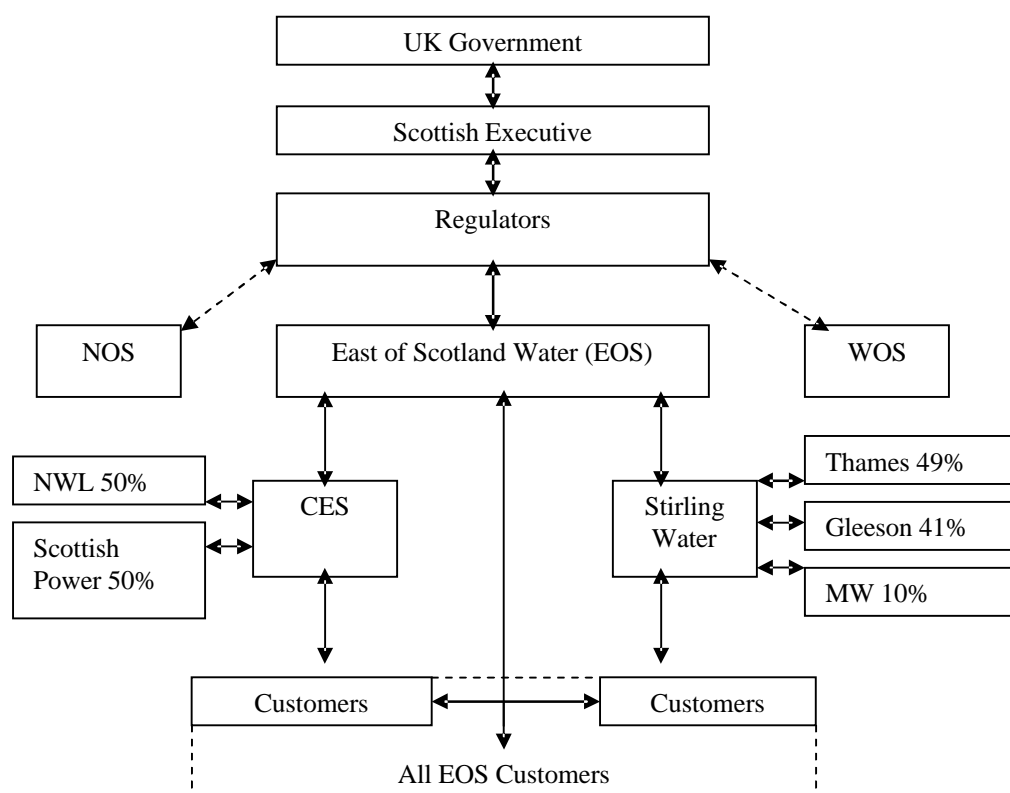
Caledonian Environmental Services, CES, a 50/50 joint venture, was named as preferred bidder for the Levenmouth purification scheme, to provide wastewater and sludge treatment facilities for 500,000 along the coast of Fife.

The aim of the 40-year contract is to improve the quality of the Firth of Forth and bathing water quality between Kelty and Leven, in line with the requirements of the EU Urban Wastewater Treatment Directive, UWWTD.

Subsequently, Northumbrian Water, issued £65 million-worth of credit wrapped insurance bonds of a 38-year duration to fund its Levenmouth joint venture project in Scotland.

At the time of the award, East of Scotland Water said they wanted a scheme which was 'flexible' and provided 'genuine value for money'.

Caledonian Environmental Services (CES) and East of Scotland Water (ESW) signed the Levenmouth Service Contract in October 2000. Prior to this date, CES carried out construction works under a direct Enabling Works Contract with ESW, the scope of this work was ultimately subsumed into the Service Contract.



Lessons Learned

- Access to 'central' PPP expert guidance and an advisory unit can minimise potential for problems by providing the opportunity to learn from the experiences of others.
- Risk can be transferred with PPP, but it is important to understand the risk and to allocate it to the most appropriate party. The risk / reward balance needs to be understood and recognised in the contract.
- PPP can help ensure that a Water Authority will comply with its environmental obligations and improve service to customers while at the same time balancing its financial obligations.
- When compared with the public sector, with a process of competitive tendering, the PPP route can help deliver good value solutions for customers, taking into consideration risk transfer.

Case 4. BerlinWasser, Germany

<i>Case Study/Country</i>	BerlinWasser - Germany
<i>Rationale/Objectives of the PPP</i>	Increase efficiency; transfer of technology and expertise; introduce new financial resources
<i>PPP Actors</i>	International consortium; public authorities
<i>Financial Structure</i>	Joint venture
<i>E.U. Support?</i>	EIB loan
<i>Contract Agreement between Parties</i>	Joint venture + operation concession agreement
<i>Risk Allocation</i>	Mostly on the private operator
<i>Institutional/Managerial Structure</i>	Board
<i>Tariff Setting</i>	Fixed at the beginning of the contract
<i>Strong Points</i>	Transfer of technology and know-how
<i>Weak Points</i>	Constraints on tariff adjustment and cost control measures

This case illustrates a joint venture PPP with an operational concession in the water sector. It is an attempt to reconcile lack of financial resources and social problems facing transition economies.

Background

BerlinWasser Holding is at present one of the largest water companies in Europe, serving over three million water and wastewater customers in Berlin and its surrounding areas.

After national reunification in 1992, the German government implemented a privatisation programme to increase the overall performance of most large state owned companies inherited from the socialist era. Since the privatisation process took place under time constraints, it was not possible to include a large PPP component in the programme. However, a number of enterprises were able to attract the interest of private companies. This is the case of the Berlin Wasserbetriebe, former public water body of the Berlin State.

The Berlin Wasserbetriebe was privatised through a European wide tendering process, which resulted in the constitution of a PPP in the form of a joint venture between an international consortium and Berlin City. The international consortium comprises RWE Aqua GmbH, Allianz Capital Partners GmbH, both German companies and Veolia Deutschland GmbH (formerly Vivendi of France). The newly created company is the BerlinWasser Holding AG.

At present BerlinWasser operates 11 water works for water supply and 7 wastewater treatment plants, all complying with regulatory standards for drinking water quality and effluent discharges.

PPP Features

The agreement reached between Berlin and the consortium provides that Berlin maintains control of the company with a 50.1% stake. The minority 49.9% stake is retained by three private enterprises, RWE Aqua GmbH, Allianz Capital Partners GmbH, Veolia Deutschland, in equal shares.

The PPP agreement aimed to achieve two main objectives: restructure and reorganise the company to introduce new management methods and expertise to the water and waste water system; and to bring in new investment. At present the PPP agreement foresees:

- A Euro 250 million investment, up to 2009.
- Upgrading and improvement of the economic, environmental and technical standards of the system.
- A fixed tariff up to the end of 2003, tending to its reduction in the long term.
- No staff redundancies until 2014.
- Transfer of know – how.
- An annual concession fee of Euro 68 million.

The private partner, selected through a European-wide tender, was judged to offer the best response to the selection criteria in a transparent, and competitive way.

The PPP contract is structured as a joint venture agreement with the private partners assuming most of the risks. In addition, a loan of 420m Euros was granted by EIB to support the investment needs of the company.

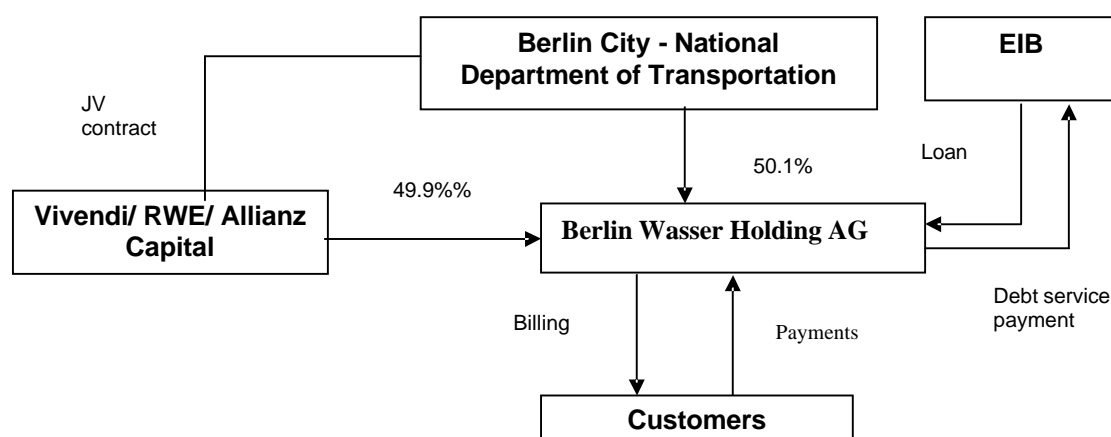
Since its establishment in 1999, BerlinWasser has been able to expand its activities in other countries including Croatia, Hungary, Poland, Russia, and China.

Unfortunately Berlin Wasser experienced a liquidity crisis due to the large amount of new investments required, a 9% interest rate on contracted debts and the weight of the concession fee. This was resolved through an agreement between the Berlin State and the company for a debt guarantee of €361 million, shared in equal part between the public and the private counterpart.

BerlinWasser introduced a new management toll and rotation system and time schedules for employees. This allowed labour cost reductions without layoffs, increasing efficiency and consolidating the company financial assets. In addition, as further cost reductions were hard to implement, the State of Berlin and BerlinWasser agreed on a 30% increase of the water tariff for the year 2004.

A set of new measures to improve the long-term liquidity problem and to increase economic efficiency has been under discussion in the last two years, including the sale of a portion of Berlin's share in the company, refocusing the company on the water business, and simplification of the management board. These measures are intended to increase the financial viability of BerlinWasser, while keeping the water tariff at a reasonable level.

PPP Structure of Berlinwasser



Lessons Learned

- The PPP contract consists of two parts: A joint-venture agreement between an international consortium and the public body as far as the asset ownership is concerned; and a concession agreement to operate the water system, under a €68 million fee. This type of agreement presents a number of advantages. First it is proven by experience in other sectors, in transition economies, that joint ventures facilitate the transformation of state owned companies to privatised one as both parties have a direct interest in the success of the venture.
- The joint venture had a series of conditions which, in principle, should have protected both the end consumers, as the tariff was to be kept constant and then reduced; and the employees as layoffs were not allowed.
- The contract foresaw an annual constant rate of investment for several years, which ensured the capital inflow necessary to update the existing water system.
- However, as attractive as the contract provisions appear in the context of the needs of a transition economy, the operator faced unmanageable conditions. This included the fact that BerlinWasser had to pay a rent to the public authorities for the concession to operate the water system and may have been over burdened by the social considerations.
- While it appears that the contract was partially unbalanced, as the private operator took most financial risks, once the liquidity crises manifested itself, the public counterpart showed willingness to assist the private operator and ease the contract in its favour, allowing both an increase in the tariff and the laying off of employees to reduce cost and increase efficiency.

Case 5. Constanta Water and Wastewater Project, Romania

Case Study/Country	Constanta Water and Wastewater Project - Romania
Rationale/Objectives of the PPP	Extension of water and waste water coverage; improve efficiency; rehabilitation or replacement of pipelines, pumping stations and sewage treatment plants
PPP Actors	RAJAC; EBRD, EC; County Council
Financial Structure	IFI's Grants and Loans
E.U. Support	ISPA
Contract Agreement between Parties	JV and Concession contract
Risk Allocation	Substantial commercial risk assumed by private party
Institutional/Managerial Structure	Contractual relationship between country and JV
Tariff Setting	National Regulator - County
Strong Points	Reconciliation between performance and financial conditions and Transparent public procurement procedures
Weak Points	Project development process affected by changes in legal framework and political complications such as election timing.

This case highlights the issues arising when an IFI funded investment project on behalf of a public sector borrower is subsequently integrated with a PPP. It also provides an approach to specifying bid criteria for PPPs that reconciles the achievement of investment targets and operational performance standards with significant constraints relating on one hand to the transparency required for Public Procurement and on the other to affordability (tariff levels) and to the financial rates of return required to attract private sector investors

Background

The County of Constanta has identified the need to undertake a major investment programme exceeding Eur 200 million over 20 years. Key targets of this program are increased water and waste water coverage, reduced unaccounted water losses (currently 66% of gross water input), increased metering, reduced operating costs, compliance with EU environmental standards, and rehabilitation or replacement of pipelines and pumping stations and four sewage treatment plants.

The current operating entity is RAJAC, Regia Autonoma Judeteana Apa Constanta, an inter-municipal company wholly owned by Constanta County Council. RAJAC undertakes water catchment management, water treatment, the supply and distribution of water and the collection and treatment of waste water for the City of Constanta and six neighbouring municipalities with a population of 747,000, increasing to over 1 million during the tourist season in June-September.

PPP Features

RAJAC is at present conducting a two stage tender for the private partner of the NEW CO Concessionaire for water and sewerage project with the active participation of the European Commission and the EBRD. Five international water utilities have been pre-qualified. The local law required only a single stage tender but a two stage tender that involved a technical review bases on a pass/fail basis and a financial review based on the lowest tariff for the same level of services was

developed to increase transparency in the selection process through the use of objective, output-based criteria.

The PPP project will be established by setting up a Special Purpose Company, New Co., to be financed with equity from the selected international utility investor and with recourse to long term debt, likely to include the EBRD.

The project plan has been developed with the following sources of financing:

- **A EUR 72.4 million ISPA grant** to the Government of Romania with RAJAC as financial beneficiary representing 75% of the cost of an investment programme for the rehabilitation of sewerage waste-water treatment systems and technical assistance intended to bring RAJAC into full compliance with EU waste water effluent standards.
- **A USD 75 million loan from the EBRD's** Municipal Utilities Development Programme, Phase II to the Government of Romania secured by a sovereign guarantee, and on lent under a subsidiary agreement between the Ministry of Finance, the County Council of Constanta and RAJAC.
- **A EUR 20 million loan from the EBRD's** Municipal Environmental Loan Facility for the refurbishment and modernisation of sewerage system.
- A foreseen private component for investment between 20 to 50 M€

Advisers to RAJAC and the County Council were appointed in 2002 by the EBRD using EU PHARE technical assistance funds amounting to approximately EUR 600,000. In consultation with the European Commission and EBRD the consultants evaluated options for commercial structures and risk sharing between the public and private sectors, organised meetings to promote investor awareness, set bid criteria and formulated the bidding process consistent with the requirements of the Commission and the IFIs.

RAJAC and its consultants (appointed separately with own resources) considered a number of different arrangements for engaging the private sector, including the outright privatisation of RAJAC. A new company was the preferred option because this allowed existing assets and liabilities to be transferred smoothly. The contribution of existing assets (net asset value EUR 7.6 million) will provide the County Council with an estimated 28.8% share in New Co. This shareholding is regarded as important for achieving wider public acceptance for a PPP solution while providing the County Council with an opportunity to share in the long-term profits of New Co. Operating and maintenance responsibilities (including billing and revenue collection) in respect of all existing water and sewerage services will be transferred to New Co., which will also have responsibilities for all extension and rehabilitation investments.

The European Commission has stated that it has no objections of principle to the proposed restructuring of RAJAC, and the introduction of PPP, including the transfer of RAJAC assets to New Co., provided the concession contract and the manner in which it is awarded complies with the principles of non-discrimination, equality of treatment, transparency, mutual recognition and proportionality.

The evolving nature of the regulatory environment for utilities (private and public) requires that the agreement be enforceable and provide for sufficient performance monitoring rights to ensure compliance with terms and conditions of the agreement. The agreement provides for a dual role for the County as a shareholder in New.Co whilst at the same time being responsible for enforcing regulations pending the establishment of a national regulatory capacity. This aspect will have to be closely monitored.

Significant evaluation occurred regarding the appropriate duration of the agreement. Duration must consider the balancing of many factors including expected investment programme, tariff structure and

forecasts, and investor rates of return. Too short a period would leave the investor with an inadequate rate of return on equity invested or excessive tariff increases, whereas a too-long period may weaken compliance with the need for competition to play its appropriate role in time.

The County has negotiated a concession fee to be paid at closing of deal and a smaller annual concession fees. The upfront concession fee will be financed by the capital funding sources as part of eligible project costs upon agreement of the financial institutions and the Commission. Annual fees will be paid through annual cash flow from tariffs.

- **Bid Criteria Employed**

Bidders are required to comply with milestone targets specified for each five year period of the twenty year agreement for the following:

- Percent of households provided with water and waste water connections
- Proportion of connections metered
- Compliance with drinking water and effluent discharge quality
- Reduction of unaccounted water losses
- Achieving mandatory investment expenditures.

The principal criteria of award, subject to the commitment to the achievement of the above performance criteria, will be the level of tariff, or more precisely the average annual rate of growth in tariffs required by the bidder. The lower the average rate of increase required, the higher the bid will be ranked. In order to address affordability issues a two-part tariff structure has been utilised, as follows:

- *Tariff A* relates to metered units (corresponding to an average household) for the first 300 litres per day of consumption. Increases in *Tariff A* are capped at 4% per annum in real terms.
- *Tariff B* relates to consumption in excess of 300 litres.

The focus on an output based specification is consistent with the PPP Guidelines and will potentially increase the value for money aspect of the project and reduce the tariff levels for customers.

Lessons Learned

- Affordability constraints require that an imaginative approach is taken to tariff-setting and reliable economic and customer information to allow options for tariff structures to be evaluated, using financial modelling.
- PPP agreement lengths must balance financial returns to investors, customer tariffs, investment programmes, and risk allocation factors.
- Legislation and election cycles should be considered early in project planning.
- Local authorities may have to be prepared to support legislation enabling PPP solutions.
- Selection and award criteria must be clearly formulated and emphasize desired outputs.
- Commission funded investments in the public sector are capable of being converted into PPP programmes provided the Commission is included at an early stage and its funding criteria are adequately addressed.
- Where there is no complete regulatory framework and the concession is regulated by contract, there is an inherent risk that political imperatives, for instance price pressures, conflict with the principles of good regulation founded on proper process.
- The dual role of the public partner (County) as shareholder in New Co and as public authority signing the contract with the concessionaire must be carefully monitored.

Case 6. Dublin Region Waste Water Scheme, Ireland

<i>Case Study/Country</i>	Dublin Region Waste Water Scheme (Treatment plant) – Ireland
<i>Rationale/Objectives of the PPP</i>	Attract the best technology/expertise available in the market; increase economic and environmental efficiency; better protect capital investment
<i>PPP Actors</i>	Dublin Municipality; Water Authority; Private International Consortium
<i>Financial Structure</i>	The investment is financed by public money (Irish Government and E.U. Grant); Assets are publicly owned
<i>E.U. Support?</i>	Cohesion Fund financed 50 percent of the costs
<i>Contract Agreement between Parties</i>	DBO contract
<i>Risk Allocation</i>	The risk is principally borne by the private operators, which cover maintenance and operating costs.
<i>Institutional/Managerial Structure</i>	None
<i>Tariff Setting</i>	Municipality sets tariffs to cover both capital and operating costs
<i>Strong Points</i>	Attracted latest technology. The PPP agreement is set to protect the capital investment and ensure project sustainability.
<i>Weak Points</i>	Project is dependent on government funds to finance the gap between the rent paid to the operating consortium and the collected consumers revenues.

This case illustrates how a PPP can be used by the Public Sector to attract innovative technology and expertise available on the market to increase economic and environmental efficiency.

Background

The Government of the Republic of Ireland has encouraged private sector involvement in the upgrade of its public utilities and infrastructure through PPPs. In most cases PPPs have been implemented either through ‘design-build-operate’ (“DBO”) contracts, or ‘design-build-finance-operate’ (“DBFO”) contracts, in which the private sector had also contributed to finance the assets.

In the case of the water and wastewater sector the Government has launched a Water Services Investment Programme (2000 –2006), which has a large PPP component. This includes pilot water projects at Ballymore Eustace, (serving Dublin), Clareville (serving Limerick) and Lee Road (serving Cork).

The recently opened Dublin Bay Waste Water Treatment Plant was also developed through a PPP. This operates as a DBO project and is part funded by the E.U. Cohesion Fund, the Department of the Environment, Heritage and Local Government and Dublin City Council, and non-domestic users.

The treatment plant is responsible for treating wastewater arising from consumers, both domestic and commercial, in the Greater Dublin Area, which includes Dublin City, Fingal, South Dublin, and Dun Laoghaire-Rathdown. The plant uses modern technologies for secondary and tertiary wastewater and sludge treatment. The wastewater treatment uses Sequencing Batch Reactors, in a 2-story configuration, with UV disinfection of the final effluent to ensure bathing water standards in Dublin

Bay. Waste sludge generated by the process is further treated by a combination of Thermal Hydrolysis, Anaerobic digestion and Thermal Drying. The dried sludge by-product of the process is turned into pellets to be used as fertiliser for farming. The Ringsend plant is the only facility in the world to use this combination of treatments.

Biogas produced by the sludge processing is used to generate up to 60% of the electrical energy requirements of the plant.

The plant was chosen as it required a relatively small area and could be constructed on the existing site. In fact, if a different technology were to be used, this would have required a larger site and involved land reclamation works.

PPP Features

The PPP of the Dublin Region Waste Water Scheme is represented by the plant itself, which is operated as a DBO project. The main objectives of the PPP are to enhance the quality and the efficiency of the services to the public by attracting the best technology and expertise available on the market. Additionally the project aims to create a structure which better protects the capital investment.

The contract has been awarded through a public bid to an international consortium, which is formed by Ascon (IRE), Black & Veatch (UK) and Anglia Water (UK). The operational phase of the contract for the treatment plant has been awarded for 20 years. It requires the operators to manage the performance of the treatment works on a basis, complying with the relevant provisions of the Urban Waste Water Treatment Directive as regards effluent and sludge quality standards.

The contractor is paid for the operation of the plant. The Municipality sets the tariffs and collects the revenues from non-domestic consumers only, since domestic consumers do not pay for water treatment in Ireland. Non-domestic consumers pay a tariff, which takes into account the amount of untreated discharges. In fact, according to the E.U. directives, non-domestic consumers are meant to pre-treat their discharges to an acceptable standard before release into the municipal sewers.

The tariff is set at a level sufficient to cover both capital and operating costs. No profit sharing is envisaged. The assets remain publicly owned. The costs sustained by the local authorities to operate the plant are covered by the revenue collected from the non-domestic consumers and by a local fund allocated by the National Government.

The private operators have the legal obligation of maintaining the treatment plant and to cover its operating costs. In this way the international consortium has an incentive to increase efficiency to reduce both operating and maintenance costs, and increase profit.

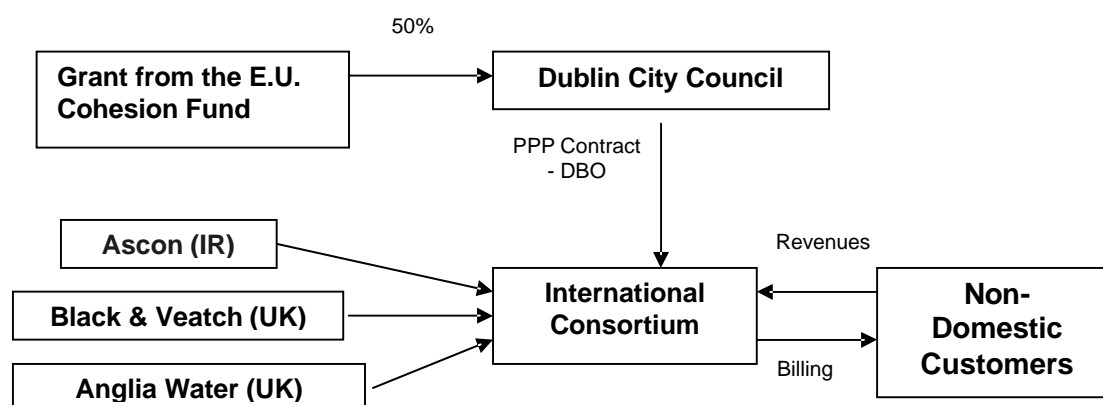
E.U. Support - Cohesion Fund

The European Union (E.U.) Cohesion Fund has supported this project, considering it as a very good example of sustainable regional development, which has also allowed Dublin to meet the requirements of the Urban Wastewater Treatment Directive. The overall cost of the project amounted to €265 million, of which €133 million was provided under the Cohesion Fund as a Grant.

The Government did not provide any guarantee to the private operators, since it financed the other half of the investment. The international consortium did not take any equity.

The financial support provided by the Cohesion fund made possible the construction of the new Waste Water treatment Plant and investment in some of the most innovative technology for updating an old treatment site, without reclaiming land from the sea.

PPP Structure of Dublin Waste Water Scheme



Lessons Learned

- Dublin City Council recognised the need for a new treatment plant under the pressure of the E.U. Urban Waste Water Treatment Directive, which required improving the quality of seawater in the Dublin Bay. It decided to procure the treatment plant using the DBO method to ensure the best value over the whole life of the project. At the same time, building the plant on the restricted site available at Ringsend required using the most up-to-date technology, thus more expensive than others. The Cohesion fund enabled the financing of the gap needed to attract the private company detaining the needed expertise and technology.
- The capital and operation costs are recovered through the level of the tariff, which is paid only by non- domestic operators.
- The consortium holding the DBO agreement receives a rent to cover their maintenance and operating costs.
- By using this scheme and a local fund to cover the total operating costs, the Government indirectly subsidizes the domestic consumers, as they are not paying for the treated water. A recent attempt to introduce water fees for the domestic consumers has encountered much resistance and thus failed.
- The PPP agreement aims to protect the capital investment and to ensure the sustainability of the project. The operator has a direct incentive to maintain the assets and enhance operational efficiency

Case 7. Karvina Sewerage, Czech Republic

<i>Case Study/Country</i>	Karvina Sewerage - Czech Republic
<i>Rationale/Objectives of the PPP</i>	Extend the waste system; attract financial resources for the new investment
<i>PPP Actors</i>	Municipality; Private operator
<i>Financial Structure</i>	Local funding, EU grant, private financing
<i>E.U. Support?</i>	ISPA Grant
<i>Contract Agreement between Parties</i>	Lease and operation
<i>Risk Allocation</i>	On the private operator
<i>Institutional/Managerial Structure</i>	Board of the Water Company
<i>Tariff Setting</i>	A board of Municipality, Private operator and the Water Association
<i>Strong Points</i>	Transparent and competitive privatisation process fairly balanced PPP contract
<i>Weak Points</i>	Lack of performance monitoring

This case study illustrates a PPP in which an EU ISPA grant intervened after the privatisation had taken place in order to expand the water system

Background

SMVaK was originally a state owned enterprise responsible for the North Moravia Region in the Czech Republic, which includes Karvina. In May 1991, SMVaK was privatised together with similar enterprises in the other regions. The privatisation process consisted in SMVaK being converted into a stock company, whose shares were distributed free of charge among the cities and municipalities of the region according to number of inhabitants.

Approximately 92% of the shares were transferred in this way and the remaining 8% went to individuals and privatisation funds. The value of the share was based on the book value of the company assets.

In early 1999, nearly all municipalities sold their shares to private companies and investors. The sale of shares by municipalities to private investors during 1999 took place through normal channels over the stock exchange, where SMVaK is quoted. Following this sale of shares most of the company stock is held by British and French water companies.

The transfer of ownership of the assets belonging to the former state enterprise therefore apparently followed normal procedures. No specific measures were undertaken to ensure transparency and competition other than those used for other public stock firms. Today SMVaK is the second biggest company of its kind in the Czech Republic.

PPP Features

The PPP agreement existing since October 2000 on drinking water supply and sewage discharge is a service contract, with Karvina Municipality in the traditional role as customer, and with no risk sharing or efficiency incentives. The infrastructure and the operations are in the hands of SMVaK.

A board has been established to facilitate the co-ordination and the decision making process among the cities and municipalities served by SMVaK. These all have seats in the leading bodies of SMVaK:

municipalities are represented with 5 out of the 9 members in the managing board and 6 out of the 9 member of the supervisory board. The representation is based on the decision of the main shareholders of SMVaK.

In addition, a forum, including the Northern Moravia Water Association was established, to discuss further investment and price strategy. Increases in water charges are discussed and mutually agreed after the Municipalities have proposed the underlying calculations.

A pre-contract agreement regulates the operation of a water main of Karvina (Karvina-Louky). The water main (650 m of pipe) is financed and owned by Karvina Municipality and the pre-contract does not foresee any payment of lease on the part of SMVaK. The contract contains very general provisions regarding cost distribution, technical documentation to be submitted by SMVaK and the right for SMVaK to bill consumers.

EU - ISPA Component

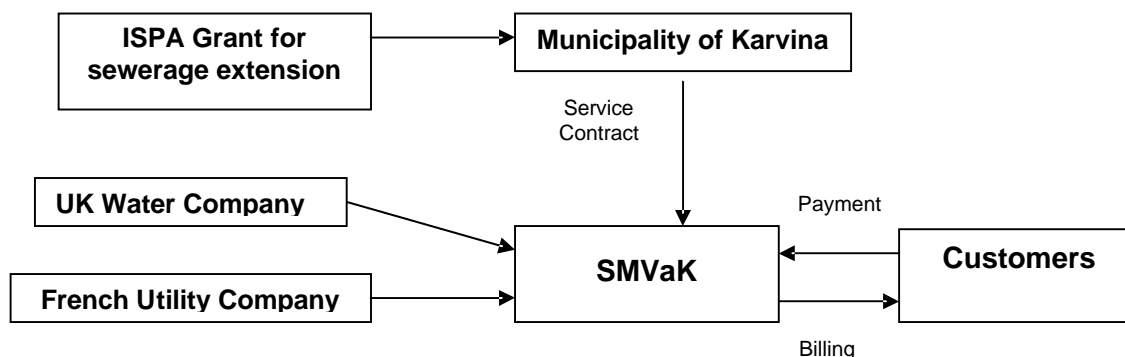
This is a case in which an EU ISPA grant was considered after the privatisation took place. The PPP considers a lease/operation contract, which combines elements of lease and concession. The grant was requested to extend the sewerage network system by the Karvina Municipality. The ISPA financed assets are to be owned by the Municipality, and to be leased to SMVaK, which will also operate them. SMVaK will pay an annual rent for the assets, calculated as the difference between revenues from customer charges and cost related to the water connection. In case of revenue exceeding costs, the result is considered profit.

The municipality cannot sell the assets without consulting SMVaK, and can use the revenue only to invest in the infrastructure. SMVaK takes the risk of the assets being in compliance with prevailing regulation and technical standards, as well of maintenance. Karvina Municipality is responsible for costs beyond the scope of normal repairs and maintenance. SMVaK sets charges/tariffs and procedure for billing costumers.

This contract is supposed to enter into force once the sewage extension have been constructed and delivered.

The contract does not envisage any performance monitoring of the operating activities of SMVaK. It is quite normal in PPP relationships and is seen as an important guarantee for the public partner that the public services work properly. This includes not only supervision of output but also of preparatory activities of the operator, such as repairs etc. However, there is no indication that the contract will contain any specification of quality targets, performance criteria (such provisions are not found in the above SMVaK standard contract either). Consequently, there are no rules envisaged laying down procedures for monitoring of performance. Additionally the Municipality does not have in-house technical staff for such tasks.

PPP Structure of Karvina Sewerage



Lessons Learned

- The lease/operation contract requires well-designed monitoring and performance measurement systems, payment mechanisms and sanctions to encourage and even reward improved operational efficiency. The public partner is, in the normal situation, outsourcing the operational activities but retains the statutory responsibility. The public partner must therefore on a permanent basis have the necessary information and means to ensure that satisfactory operation is maintained and that remedial steps can be taken in case of deficiencies.
- The key difference between public private partnerships and conventional public procurement is the transfer of appropriate risk to the private partner. It is therefore important that this risk aspect is reflected in the contractual mechanisms.
- The chance of extra undue benefits as result of an ISPA grant is reduced through an appropriate treatment of risk transfer and operating efficiency gains in the contract.

In conclusion, from the perspective of prevailing PPP practice, it can be assumed that a fully-fledged lease/operation contract will not provide sufficient checks and balances between the parties. It is particularly unfavourable towards the Municipality, who will have virtually no influence over the performance of SMVaK.

Case 8. Trencin Water System, Slovak Republic

<i>Case Study/Country</i>	Trencin Water System – Slovak Republic
<i>Rationale/Objectives of the PPP</i>	Increase efficiency without privatisation of assets
<i>PPP Actors</i>	Municipality, Slovak investors, French Water Company, TVS
<i>Financial Structure</i>	The municipality owns the assets through TVK. The private operator TVS is owned by two former government officials and a foreign water company
<i>E.U. Support?</i>	ISPA Grant financed 50% of total investment cost for the new WWTP
<i>Contract Agreement between Parties</i>	Lease and operation contract
<i>Risk Allocation</i>	To end-consumers
<i>Institutional/Managerial Structure</i>	A strict collaboration between TVK and TVS was requested by the contract, but no institutional arrangements were put in place.
<i>Tariff Setting</i>	The tariff is set by TVK, after having consulted TVS. It is calculated on the basis of rental and operating cost recovery
<i>Strong Points</i>	Private company economically sound; Re-negotiation of the contract to balance cost and benefit
<i>Weak Points</i>	The first contract was asymmetric, compromising the sustainability of the ISPA Investment

The case illustrates a PPP originally built on an asymmetric contractual agreement. EU - ISPA involvement in the project allowed re-negotiation of the contract and improving the terms of the PPP agreement.

Background

The Law No. 92, of 1991, has regulated the privatisation of public owned enterprises in the Slovak Republic. Accordingly the transfer of ownership needs to involve the Ministry for Privatisation, the National Property Fund and the government body administering the state property. The procedure usually requires that the government body administering the assets submits a project to the Ministry of Privatisation, which, after having evaluated it, decides on the best way to privatise it. In the case of direct sale, the privatisation has to be approved by the Government. The National Property Fund executes the transfer of property.

The transfer of assets from State to Municipal level is usually free of charge; therefore it does not require a tender procedure. However, in the case of the water and wastewater sector, the Government, because of its large scale and natural monopoly, has set some special criteria and specified a general approach for the transformation of assets.

In the case of Trencin, which is to be considered a special pilot project, the transformation took place according to a set of rules issued by Government and Parliament during the period 1995-1997, which state that: the assets of one municipality which serves several municipalities can be transferred free of charge to a jointly owned company, once all municipalities have agreed; and the operational assets can be sold to the municipal companies for a “balanced price”.

Thus, the Trencin water system was transformed by transferring free of charge the assets from the State to the municipality level, and in a parallel privatisation: the operating assets were sold in 1998 to TVS, a privately owned company.

TVS was chosen through a public tender on the basis of its qualifications to operate the assets and its good business plan. In addition TVS was the only firm interested in the acquisition

As a result two companies are at present responsible for the water system: TVK - the Trencin municipality owned company - and TVS - a privately owned company whose ownership is split between national shareholders and a foreign water company (Lyonnais des Eaux of France)

The PPP agreement between TVK and TVS was concluded in 1999, after the privatisation was completed.

Features of the PPP

During the transfer of property from the state to the municipal level, the operating assets were privatised in view of increasing the operational efficiency without transferring the ownership to the private sector.

The PPP agreement was established in 1999, between TVK and TVS. The private operating company for the concession was selected by a commission of the Department of Control and Transition of State Owned Property of the Slovak Republic of Slovakia from a list of applicants. In the case of Trencin TVS was the only buyer.

The TVK/TVS contract concerned a lease and operation contract combined with a financing agreement. This kind of PPP scheme is widely used and is considered to be the most appropriate when there is scope for big increase in operating efficiency, but small new investment, which is not the case of the Trencin water system.

The contract gave TVS a 20 year exclusive right to operate the infrastructure assets owned by TVK against the payment of a rent.

In addition the contract fixed:

- A profit margin of 15% based on its operational costs for TVS.
- The rent and tariffs are decided by TVK after consultation with TVS.
- That the rent and the operational costs are to be covered by the tariff.
- That TVS bills and collects the revenues from the tariffs.

The contract also required close co-ordination between the parties regarding major repairs and new investment. TVS is responsible for routine maintenance on a costs plus fee basis, which is included in the tariffs. As part of the contract TVS provides a loan up to 1 Million € to TVK. The loan and the main part of the rent were to be used for major repairs and new investment of the water infrastructure.

As far as liability, TVS was not responsible for sufficient supply of raw water of good quality or for the current/future state of the infrastructure.

The structure of the PPP contract foresaw little risk for the private company – TVS – which in principle would have been able to recover all costs through the tariff and to have a fixed 15 percent profit margin. In addition, the company was not hold responsible for coverage or quality of the service.

TVK applied for an EU - ISPA grant at a 75% rate to finance a new Waste Water Treatment Plant (WWTP), eventually to be operated by TVS.

The European Commission was interested in the project, as it appeared to be a sound investment that could eventually benefit the final consumer. However, after having carefully scrutinised the agreement, the Commission decided that the ISPA grant would need to be conditional on a renegotiation of the contract. In fact the analysis brought to light that the contract was unbalanced to the benefit of the private operator. The agreement foresaw considerable advantages for TVS, among which a 15% fixed profit margin on the total cost recovery. This latter would have in the long run affected the sustainability and affordability of the investment. In addition it could have increased the profit to the point of becoming unfair in relation to the expected benefit of the local population.

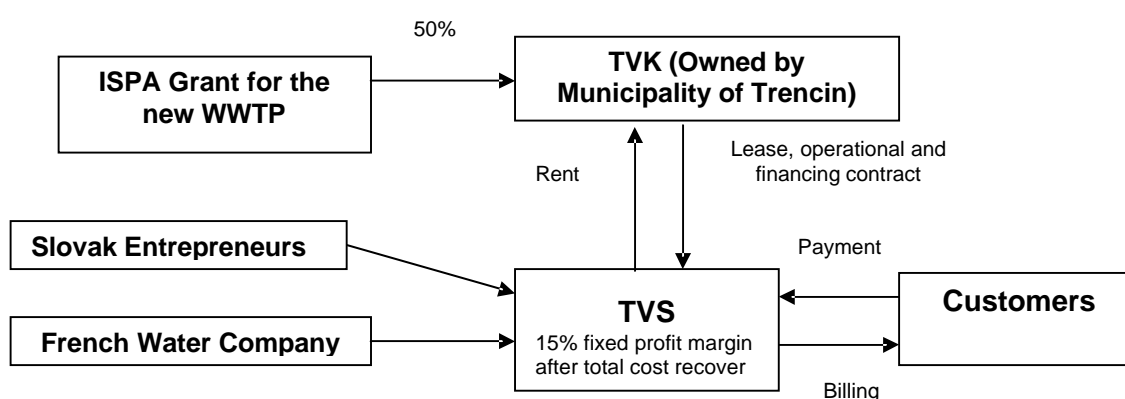
Through the re-negotiation of the contract, it was possible to balance the agreement cost and the benefits to the advantage of the final consumer, which is one of the main Commission objectives.

After the re-negotiation the Commission granted a 50% financial support, while the Government provided for the 25% gap.

This is a case in which the information asymmetry brought one contractual party to use their information and experience at the expense of the other contractual part. In this case the private operator was able to structure a deal which gave it, among other advantages, an unfair 15% fixed profit margin which would have been passed onto the consumer through the tariff. If maintained, the agreement could have negatively affected the sustainability of the ISPA investment.

The new PPP contract, which was negotiated with Commission assistance, resulted in the abandon of the criticised fixed profit rate, the introduction of a new procedure to set the tariff (by decisions of a newly created Institute for Regulation of Network Industries) and a system of sanctions and monitoring, to control the quality of the service.

PPP Structure of Trencin Water System



Lessons Learned

- The PPP agreement came into place only after the property transfer was completed. The contract was designed in an unbalanced way, giving to the private operator several advantages, among which a 15% fixed profit margin and the absence of liability for water and service quality. The water tariff to be paid by the end consumer was set in consultation between the Municipality owned company and TVS, to a level, which covered the rent and the operational cost.
- The Trencin Municipality put forward an application for ISPA funding to finance a new Waste Water Treatment plant. The Commission after having thoroughly analysed the contract, decided

to give the grant under the condition of a contract re-negotiation. In fact the asymmetry between the two counterparts of the agreement could have seriously compromised the sustainability of investment, and eventually produce an undue profit to the detriment of the consumer benefit.

- The contribution of the Commission in the Trencin case, can be measured not only in terms of the ISPA funding which allowed the municipality to finance the new WWTP, but also in terms of increased long term benefit for the end consumer.
- By forcing the two companies to re-negotiate the PPP agreement, and find a more balance contract between the parties, the Commission has reduced the risk of failure, better protected the new investment, and set more equitable tariffs for the end consumers.

Case 9. Dwr Cymru, Welsh Water Not for Profit Model, UK

<i>Case Study/Country</i>	Glas Cymru not for profit model, Wales, UK
<i>Rationale/Objectives of the PPP</i>	Achieve efficiency gains, secure investments and separate ownership from operations
<i>PPP Actors</i>	Glas Cymru, DCWW, private operators
<i>Financial Structure</i>	Bond issues and debt financing
<i>E.U. Support?</i>	-
<i>Contract Agreement between Parties</i>	Regulatory obligations, company articles and service contracts.
<i>Risk Allocation</i>	Operational risk with operations company
<i>Institutional/Managerial Structure</i>	Various management boards and regulatory oversight
<i>Tariff Setting</i>	Agreed with water regulator
<i>Strong Points</i>	Equitable model for consumers, current strong financial rating
<i>Weak Points</i>	Potential exposure to debt, ability to provide further incentives for continued efficiency gains

The case illustrates an innovative approach to attempts at further efficiency gains and cost reductions. It also attempts to reconcile the objectives of social service provision with high quality standards and financial efficiency. The separation of ownership and operational structures appears a natural consequence of functional specialisation. The integration of the many partners is a unique example of mobilising the required resources

Background

Glas Cymru, a 'not-for-profit' entity, acquired Welsh Water's assets from Western Power Distribution, WPD, in 2001, after securing investment grade credit ratings for a bonds issue. This was seen at the time as a major step forward for companies considering debt-financed asset spin-offs, particularly as previous similar proposals had been rejected by the UK water regulator Ofwat.

Ofwat approved the take-over, separating ownership and operations, the latter continuing to be undertaken by Dwr Cymru, Welsh Water (DCWW). Glas Cymru is set up as a Company Limited by Guarantee without share capital, i.e. a normal company but with members rather than shareholders. It can be described as a not-for-profit company but not as a customer-owned mutual. The regulator was convinced by the likelihood of a reduction of the weighted average cost of capital compared to other water companies. Glas Cymru also offered better safeguards for customers and stakeholders, albeit falling short of ownership or control, it also claims to keep control of the water service in Wales. Other key factors for Ofwat support include the backing of the National Assembly for Wales, the wish of the private owner to leave the water sector and the significant discount offered by the private owner on the purchase price and the independence between purchaser and seller.

The Glas Cymru solution has certain strengths. It brings the advantage of ring-fencing the core water services activities in Wales and for Wales. It also demonstrates how capital investment can be accessed at a lower cost than through equity financing by a company that combines explicit social objectives – a sustainable high quality of service in Wales – with economic objectives. £2bn was readily raised on the British and Continental Bond Markets, thus reducing the cost of capital by just over 4% in real terms. Customers are due to benefit from annual savings of about £11m - £12m a year from 2004, equivalent to £10 off the average bill in the first year. Despite customer benefits in the medium-term, it leaves ownership and control in the hands of a private company, whose members

are to be recruited in Wales on the strength of their knowledge and expertise, not as representatives of any particular stakeholder group. They are to elect a Board that consists of highly qualified and credit worthy individuals.

The approval by Ofwat of the Glas Cymru proposals has also given rise to comments about the openness of the regulator to alternative solutions, to a framework of privatisation that has not been entirely successful in the UK.

Dwr Cymru Financing, a special purpose vehicle, issued £2 billion of bonds for Welsh Water in ten tranches. The innovative package included fixed, floating and index-linked rates, and provided for lender step-in rights and controls to remedy underperformance. The bonds attracted three ratings categories, from AAA/Aaa through to BBB/Baa2, with those benefiting from the AAA/Aaa ratings - valued at £1 billion – being ‘credit wrapped’ by the Municipal Bond Insurance Association. Some financial commentators speculated at the time that Glas would not attain the ratings it wanted because of its unusual and untested structure. At the time it was felt by many that water companies restructuring into debt-financed asset owning entities could face credit rating downgrades because of their exposure to regulatory risk and uncertainty over allowed rates of return.

In order to meet Ofwat’s conditions Glas Cymru agreed to limit itself to:

- Quantifying potential rebates to customers and setting a time-scale for their payment; subject to the need first to establish adequate reserves;
- Publishing the remuneration scheme for directors, focused on performance;
- Limiting Glas Cymru to the single purpose of providing water and sewerage services;
- Publishing and using best practice criteria for the appointment of members of Glas Cymru;
- Ensuring that the rights proposed for bondholders do not impede the Director's duties under the Water Industry Act 1991
- Consent to Ofwat’s licence modifications

Glas Cymru indicated their intention to provide further benefits to customers through additional investment, subject to prior agreement from Ofwat that such investment will be included in the Regulatory Asset Value of the company at the next Price Review, with DCWW continuing to bear all the licence obligations of a water and sewerage undertaker and regulated in the same way as the other UK water companies.

PPP Features

Over the course of the five years to March 2005 DCWW targeted a 15% reduction in running costs. However, even these substantial savings are insufficient to cover the rising cost of financing DCWW’s £1.2 billion capital investment programme over the same period. Additionally Ofwat set price limits for DCWW such that bills can rise in real terms by on average 1% only in each of the next four years.

In 2003, DCWW’s investment programme cost £208 million and, at almost half their revenues, means they spent more than receipts from customers. The cash shortfall was covered by new borrowings. When Ofwat set price limits for DCWW for the five-year period to March 2005 it projected a total cash shortfall over the period of over £300m, which would have to be financed by new capital raised from investors. However, at its first Annual General Meeting, Glas Cymru, announced that its new “not for profit” structure would still allow the Company to target customer bill rebates worth £11 million in 2003/04 and £12 million in 2004/05.

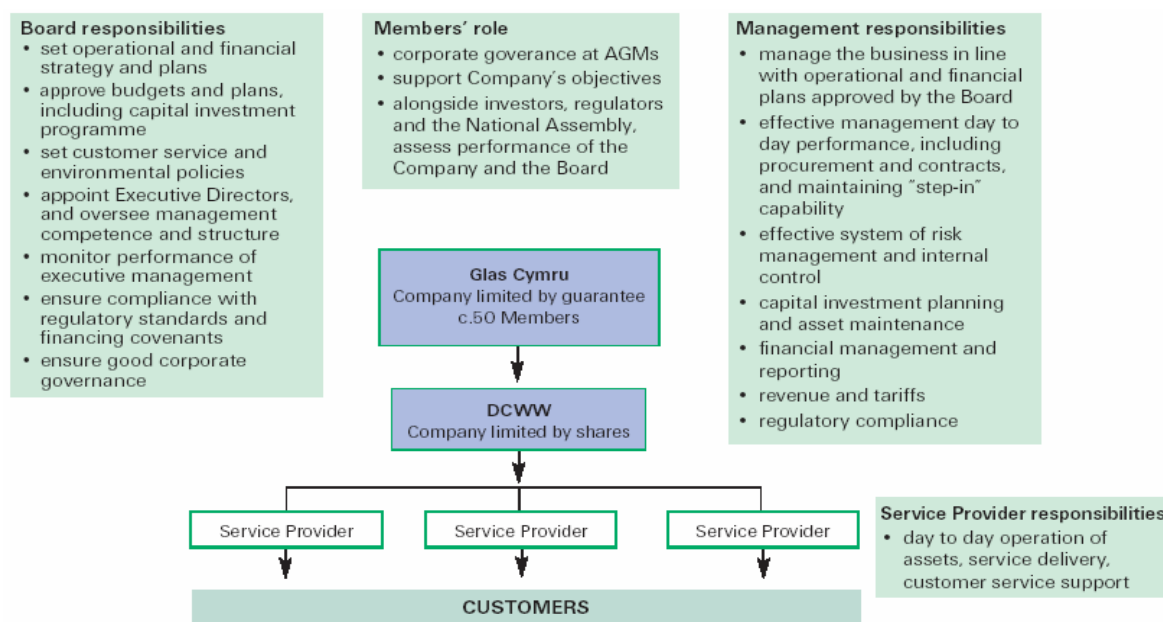
Glas, via DCWW, has outsourced all operating and customer contact responsibilities to United Utilities and Thames Water respectively. These outsourcing contracts, which were won in a competitive tendering process, are initially only for 4 or 5 years. Whilst these are relatively short

timescales for such contracts, there was tough competition from all the major operators to win them. The initial contracts are coming to the end of the contracted period and Glas are now looking to agree different outsourcing contracts for extended periods.

At the time of the Glas proposal being given the go-ahead the government asserted its faith in the equity model and added a number of notes of caution for Glas and other utilities considering a similar move. Government ministers issued a studied warning to the English water industry not to view the Glas proposals as a precedent, which will automatically be applicable outside Wales. They stressed that any restructuring schemes would be considered on their merits and in light of ‘customers’ interests, public health and the environment’.

They said that the Government would consider whether the splitting of assets from operations would lead to problems in managing the business safely and effectively; and whether any additional financial risks were transferred to customers. It was also indicated that if further non-profit company models were proposed, the Government would additionally be looking at the incentives for efficiency, at the same time stressing that despite shortcomings, the equity model was delivering ‘very considerable’ efficiency gains.

The following chart summarises the main organisational structure:



It is the responsibility of Executive Management to ensure that policy is delivered in such a way that the Company meets all its legal and regulatory obligations and outputs and delivers the highest possible standard of service to the customers of DCWW.

Day to day responsibility for policy delivery lies with the designated managers who maintain close contact and communication with the service providers. Performance is monitored against agreed Key Performance Indicators and reported by Contract Managers on a routine and on an exception basis. An Executive Management Report which reports on all aspects of the performance of the business, and identifies key policy and performance related issues as well as contract management generally, is considered by the Board each month.

The risks associated with the business of DCWW are evaluated by Executive Management and assessed by a Risk Management Group (“RMG”), chaired by the Managing Director, under a risk management framework approved by the Board.

DCWW's performance has improved significantly since privatisation: overall compliance with drinking water quality and bacteriological standards has improved, all customer service measures have improved significantly, and significant improvements in cost efficiency have helped to keep down the burden on customers.

Lessons Learned

- DCWW has attracted sufficient high level expertise, even with a short-term contract (4 years). However efficiency levels are increased if capital expenditure requirements are sufficiently large to allow adequate 'efficiencies' to be achieved.
- Contract incentives are effective if there is real potential for the contractor to achieve key performance indicators and remain incentivised.
- DCWW has managed a number of major out-sourcing projects simultaneously but retains overall responsibility for the delivery of the capital expenditure programme.
- Robust management and control and clearly defined responsibilities have assisted DCWW in monitoring and reporting performance.
- DCWW has only retained high level contract management resources.

Case 10. Stadtentwässerung Schwerte GmbH, Germany

<i>Case Study/Country</i>	Stadtentwässerung Schwerte GmbH – Germany
<i>Rationale/Objectives of the PPP</i>	Overcome funding shortfall, achieve operational efficiencies
<i>PPP Actors</i>	Municipality, private consortium
<i>Financial Structure</i>	Bank loans no grants
<i>E.U. Support?</i>	No
<i>Contract Agreement between Parties</i>	Joint venture
<i>Risk Allocation</i>	Distributed according to shares but few detailed risk allocation tools used
<i>Institutional/Managerial Structure</i>	Special purpose vehicle and municipal oversight
<i>Tariff Setting</i>	Fixed rate of increase capped by regional average
<i>Strong Points</i>	Fast implementation, proven savings and impact
<i>Weak Points</i>	Little further incentives and no detailed risk allocation tools used

The case shows how private capital and know-how for urgent investment in municipal wastewater management can be successfully mobilized through a PPP without public grants without changes in tariff levels. It also outlines that public-private joint ventures with experienced and committed private partners can not only achieve state-of-the-art technical and environmental standards faster and more cost-effective than public bodies but are able to improve management, quality and ecological standards as well.

Background

The “Stadtentwässerung Schwerte GmbH” in the German state North Rhine-Westphalia (NRW) was founded as a company in 1993. It was the first public-private joint venture in the sector in Germany. The most important reasons for developing the “Schwerter Model” were growing problems in ensuring technical, quality and environmental standards. The question of environmental standards was in Schwerte crucial since the city (52.800 inhabitants) is almost completely (97%) part of a water protection zone. 700.000 customers in NRW are supplied with water from the municipal ground of Schwerte. A demand for €65.5 million short term investment in the maintenance of the technical infrastructure had been identified.

Due to high budget deficits the state of NRW, which is responsible for municipal budget supervision, blocked further investments. The construction department as the responsible institution in Schwerte could not solve these economical and ecological problems without financial and political support. To avoid further increases in tariffs the help of private capital and management know how in a PPP joint venture appeared as a possible solution. After a European wide tendering process, prequalification, due diligence and two years of negotiations the “Schwerter Model” was completed. Hochtief Projektentwicklung GmbH, Philipp Holzmann AG and Heitkamp Umweltechnik GmbH as enterprises with international experience signed a “memorandum of understanding” (framework contract) with the municipal waste water managers and the city treasury.

52% of the shares of the new joint venture would belong to the city (partnership agreement). The private partners accepted the public majority in the hope of buying further shares and at least part of the technical waste water infrastructure network after having proven their ability to rise the management and environmental standards. There was no contractual agreement in this direction but political signals sounded positive.

A leasing contract between the company and the City Schwerte and a framework contract with a detailed task specification to transfer all municipal waste water duties to SEG were completed. Due to this contract the company is not subject to sales tax. All infrastructure should remain in municipal ownership as a special budget item (“Sondervermögen”).

The company should be completely responsible for all economic and environmental risks. Special tools for the risk management like service level agreements or duties of additional investment in certain cases were not arranged.

Different private and public banks, the “Initiativkreis Ruhrgebiet”, a municipal service organization and cooperation network in NRW, representatives of employees and environmental initiatives participated in the negotiations. The role of the banks was to specify the lending rates and financing conditions for the leasing contract. In 2002 road and water construction/maintenance were also transferred to the company as additional tasks. The shares of Hochtief Projektentwicklung GmbH and Philipp Holzmann have been transferred to RWE Umwelt Aqua GmbH because of changing financial relations between the three private partners.

PPP Features

The objectives of the public-privates company can be summarised as follows:

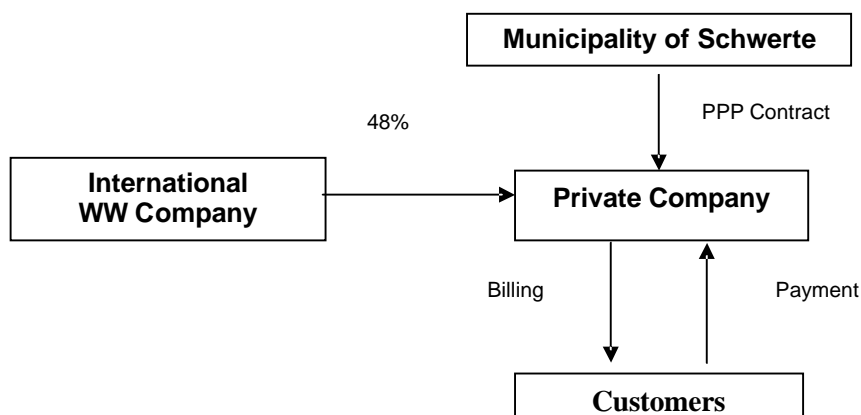
- the modernization of the MWWM infrastructure and organization according to state of the art technical, economical, environmental and quality standards in 15 years while in the same period of time tariffs should not rise more than on an average of NRW cities

The expected benefit through PPP was realized in the year 2003 faster and better than initially planned. The investment costs, based on different bank loans, are 12% below the average of German cities. The management and productivity improvement due to the transfer of private business and technical knowledge was even slightly higher than calculated in 1993.

The case shows that a PPP can be economically and environmentally beneficial. As 48% shareholders of the joint venture the participating private parties had to share full responsibility for all environmental standards. Furthermore they provided new technical know how and the most important single environmental benefit of the PPP is the successful certification due to DIN EN ISO 9002 and 14001 at international Lloyd’s Register Quality Assurance (LRQA). Another important benefit is that the tariffs did not rise more than in the average of NRW cities in spite of substantial investments.

A further positive experience with the “Schwerter Model” concerning the political relations is that no new additional formalized structures have been established. To avoid an unnecessary complex project management the private partner(s) and new employees were integrated into former public bodies.

PPP Structure of Stadtentwässerung Schwerte GmbH



Lessons Learned

- Private-public capital and knowledge transfer with the help of experienced and committed private partners can lead to lower investment costs, state of the art quality and environmental standards in a faster process than a public solution.
- Existing structures can be used to integrate public and private parties provided that there is sufficient flexibility to allow each to operate effectively.
- Future developments and intentions of the parties should be clearly elaborated in order to avoid misunderstandings affecting investment strategies. Political statements are not sufficient to provide sufficient confidence.
- An extensive “memorandum of understanding” is a helpful framework in the preliminary stage of public-private negotiations after the tendering process. This helps to define the boundaries of a project and each party’s responsibilities. However it should maintain sufficient flexibility to allow negotiations and adaptations.
- Changing political considerations restricting further private investment, which may reduce further accrual of benefits.

PART II

SOLID WASTE MANAGEMENT

Solid Waste Management Sector Analysis

Introduction

The modernization of Municipal Solid Waste Management (MSWM) has four interrelated elements: (1) the modernization of vehicles and equipment, (2) the construction of sanitary landfills to European Union standards, (3) the adoption of integrated and holistic MSWM strategies and (4) the regionalization of collection and transport services centred around regional facilities. The interdependence between these elements is crucial. For example, it is prohibitively expensive to transport un-compacted waste over long distances to a new regional landfill with traditional low capacity trucks. This interdependence is sometimes forgotten when, for example, new landfills are built at public expense but communities continue to use their obsolete vehicles to deliver waste because they lack the resources to replace their vehicle fleets. In other cases modernization is confined to big towns without reaching into the regions around them.

In the Candidate Countries, and particularly in the Czech and Slovak Republics and Hungary, private enterprise has been in the forefront of modernizing waste management along the four interrelated dimensions through PPPs. This mirrors developments in Member States where the MSWM sector has been increasingly opened to private participation.

In traditional MSWM each settlement has its own disposal facility and the local municipal service provider carries the waste in up to eight or ten trips per day using low capacity / non compacting transport vehicles. The evolution to the present systems of waste management, which use high capacity compactor trucks that make at most two trips a day to a central regional landfill, took a long time to evolve. MSWM in transition economies is now required to catch up with this evolution, in part due to market forces, and in part due to European Union regulations stipulating, amongst other measures higher standards of landfill construction that are unaffordable at the local level thereby reinforcing the economies of scale in MSWM.

The rationale for PPPs is not difficult to establish in MSWM. Municipalities generally faced a deteriorating financial situation which, in MSWM, meant growing obsolescence of equipment, spiralling maintenance costs, and deteriorating services. Further, in spite of the financial constraints, municipal service provision often remained a place of political patronage, with bloated staff and poor management practices. The need to meet increasingly stringent environmental standards, rising waste profiles, address public health issues, rising costs and waste taxes and private sector interest in service provision and investment, opened the sector in both Member States and Candidate Countries.

Selected Cases

The cases attempt to particularly illustrate the application of PPP principles in situations of unfavourable legal and business environments and demonstrate generally how uncertainty can be addressed. The case studies in this sector include

- A comparative case study of two joint ventures between foreign investors and Hungarian municipalities, by Rethman in Szolnok, and ASA in Debrecen. These cases describe different paths to successful modernization of MSWM through foreign strategic investors.
- A case of a strategic investor's attempt to establish a dominant market share in two Bulgarian towns – Rousse and Varna - in an unpredictable business and legal environment.
- A case of a privately operated landfill in Nessebar, Bulgaria, which makes its profits from recycling but is struggling for its survival in an uncertain market.

- A large scale MSWM PPP in the UK demonstrating a municipality's attempt to find an optimal long term strategy and devolving control to the private sector.
- A case of a privatisation of MSWM in the Romanian town of Targoviste where a private company faces a potentially uneven playing field in competition with public enterprise.
- The first instance of privatised MSWM in Macedonia, a concession established against odds in an unfavourable legal environment for private participation in municipal service provision.
- A case of a PPP approach in Mulheim Germany encountering difficulties as it tried to circumvent using public procurement for the selection of the private party.

While all PPP's generally aim to improve service compared to levels achievable under public schemes, many of these cases illustrate variations in the depth of the change, in terms of ownership and control, risk sharing, and investment commitments, that affect the degree of success in achieving this objective.

The form and stability of the contracts is presented in the following table.

Distribution of PPP Structures

<i>Cases</i>	<i>Service Contract</i>	<i>Concession</i>	<i>Joint Venture</i>
<i>Prescom, Romania</i>	Short term, Unstable		
<i>Delva, Macedonia</i>		Yearly contract, To be extended	
<i>RWE, Rousse, Bulgaria</i>		Long term, Stable	
<i>RWE Varna, Bulgaria</i>			Short term, Unstable
<i>Rethmann, Hungary</i>			Long term, Stable
<i>ASA, Hungary</i>			Long term, Stable
<i>GoldenBug, Bulgaria</i>		Unstable	
<i>Kirklees, UK</i>			Long term, Stable
<i>Mulheimer, Germany</i>			Long term, Stable

The three prevalent types of PPP contracts are service contracts, concessions, and joint ventures. A wider survey of PPPs would bear out the hypothesis that joint ventures tend to be associated with long term contracts between the municipality and the company, and are also the most stable contracts. Rethmann's case in Hungary and Kirklees in the UK are examples of a stable relationship resting on a thoroughly prepared and transparent contractual relationship.

RWE's partnership with Varna is a joint venture in name, as the municipality is a passive partner and does not participate in the management of the JV. Further, RWE's Varna JV is one of five companies competing in the market for the yearly changing budget allocation. This case could also be categorized as a service contract as the company is subject to the vagaries that normally characterize short term service contracts in a risky environment. It is however considered as an unstable joint venture.

Prescom's case illustrates utter uncertainty in a changing legal environment fraught with conflict. Where the legal and business environment poses high risks, service contracts tend to be short term and

risky. However it should not be concluded that service contracts are inherently short term and risky. In a positive legal environment service contracts can be stable and long term, where the enabling environment permits it.

In between is the less well defined area of concession contracts. Concessions are a relatively new structure in transition economies, and their definition changes unpredictably in time and place. Golden Bug's arrangement with the Municipality of Nessebar seems to be a concession in name only, as it does not appear to have concrete and legally enforceable provisions of a concession. RWE's concession in Rousse is a more structured arrangement, bolstered by active municipality participation in the Company's operation for almost a decade now.

Some elements of the financial and contractual arrangements are summarised below.

Key Financial and Contractual Conditions

<i>Cases</i>	<i>Guaranteed Minimum Revenue</i>	<i>Risk of Contract Termination</i>	<i>Profit Sharing</i>	<i>Sharing of Management Decisions</i>
<i>Prescom, Romania</i>	No	High	None, 100% Company	None, 100% Company
<i>Delva, Macedonia</i>	No	Unknown as yet	None, 100% Company	Mostly Company
<i>RWE, Rousse</i>	Yes	Low	None, 100% Company	Mostly Company
<i>RWE, Varna</i>	Yes	Middling	JV 65:35	Mostly Company
<i>Rethman, Hungary</i>	No	Minimal	JV 51:49	Shared
<i>ASA, Hungary</i>	Yes	Minimal	JV 51:49	Shared
<i>GoldenBug Bulgaria</i>	No	High	None, 100% Company	Mostly Company
<i>Kirklees, UK</i>	Yes based on minimum quantities	Low	None	Mostly Company but strong municipal interest
<i>Mulheimer, Germany</i>	Yes based on minimum quantities	Low	None	Mostly Municipal

The risk profile is often closely related to the ownership structure. Wholly owned private companies tend to face more commercial risk than joint ventures. Prescom is an extreme case of risk exposure by a wholly private company, as the municipality offers no support arrangements for the collection of fees. Delva in Macedonia also assumes the entire commercial risk, but at least has an exclusivity agreement with the host municipality. Golden Bug is another case where the private company faces the entire risk of its landfill operations, which depend on the changing market for recyclable wastes as on the vagaries of local politics.

In the rest of the cases, the Municipality collects fees from the population and reimburses the Company under a separate contractual formula, which determines revenues in advance. This arrangement *prima facie* reduces the Private Party's risk; however in reality when the structure of the contract is flawed (as was the case in Debrecen) or where municipal finance is unpredictable (as it is in Varna), risks remains high.

Risk tends to be reduced when the Private Party can count on the active support and participation of the Municipality in Company management. In general this is more characteristic of joint ventures, where the municipality has a stake in profits. In addition to profit sharing, direct participation in management is also a positive factor. In the two Hungarian joint ventures the Municipality reserves

the right to appoint the financial director of the Company, which goes for strong partnership in management decision and in ensuring transparency. No such arrangements are found in Bulgarian joint ventures.

Lessons Learned

The cases provide two instances of pre-ISPA Commission support, under the PHARE programme. Unfortunately both cases are instances of insensitiveness to the needs and apprehensions of the private sector. In Hungary, PHARE's support of a landfill in the potential service area of a recently installed private regional landfill became a *cause celebre* and prompted vocal protests from ASA against the government policy of subsidizing competing landfills with grant financing. Indeed the Hungarian policies of the late nineties, which resulted in a large number of subsidized landfills, made for an uneven playing field between public and private landfills, with private landfill construction essentially coming to a halt. The PHARE supported Mako landfill was just one instance of that process.

In the Targoviste case PHARE supported the establishment of a municipal waste management service which started to compete for market share with a duly privatised company. As the case study details, at this stage the private company fears for its survival in the face of perceived uneven competition.

ISPA and Structural Funds

The example of Targoviste brings to the fore issues facing the European Commission with grant financing and in its stated objective to foster private participation in waste management. ISPA, with its extensive program for supporting regional landfills in several Candidate Countries, poses a challenge for finding ways of reconciling subsidized development with private sector development. These issues face local decision makers as well as the Commission's attempts to enlist private participation in ISPA supported projects.

The first issue that needs examination is that of affordability, or, as articulated in Commission documentation, the population's ability and willingness to pay. The Szolnok/Rethmann case is a clear example of a privately controlled joint venture that is able to generate profits without subsidies, collecting fees directly from the population. The Debrecen/ASA case is different, since here the municipality pays the joint venture directly, and under a changing tariff regime the population has been sporadically subsidized. Nevertheless in the end Debrecen was able to pay, not only for the collection and transport service, but also for the construction of an EU-conform landfill, from its own resources. In Targoviste Romania, Prescom runs a profitable business in a direct business relationship with customers: it sends monthly bills and collects directly from households without any support arrangements from the Municipality. But perhaps the clearest evidence comes from the Slovak and Czech Republics, which have, through the policies described below, managed to transfer much of the cost, as far as landfill construction is concerned, onto the private sector, which runs waste management as a normal and generally profitable business. This would tend to suggest that the use of grant financing needs to be carefully adapted to the local situation and the ability to pay. This leads to the crucial balance which needs to be achieved in assessing the need for and best use of grant financing.

The other aspect of grant financing that needs consideration is the high costs of the projects, as compared with privately financed MSWM investments of the early 90s. These are related to a number of factors. One is the general tendency to over-design engineering solutions that have no financial or social justification. This has been documented plentifully and is not subject of this paper, except in noting that when money is free the recipient may not apply the same financial viability criteria as otherwise. These excesses are gradually being realized and combated.

A more important factor is the high cost of compliance with EU directives embedded in the project design. The main aspects are (1) compliance with the policy to reduce the proportion of biodegradable waste over time, which in practice means composting; and (2) compliance with EU targets for the

selective treatment of recyclable waste streams. These activities will generally lead to high financial losses in transition economies under foreseeable market conditions. The evidence is in, from a number of project and sector analyses, that project design which aims to satisfy EU targets may result in more than doubling capital and operational costs in MSWM. In micro terms at the project level, this has important implications on cost recovery policies, and on the subject at hand: private participation in waste management.

This is not unique to Candidate Countries, as most complete recycling activities are either subsidised or are run as non profit making organisations. Private business naturally shies away from loss making activities. The private sector is involved in selective recycling activities where it is profitable: the car battery subsector offers examples, as well as the paper industry, for example in Macedonia. To involve the private sector in loss making activities will require mechanisms for clear, transparent, and enforceable means of compensating the losses. This will be a challenge to project design as the Commission engages in efforts at PPP promotion but may prove to be an effective application of grants.

The issue of private sector participation in ISPA / Structural Fund projects will be relevant to the future of the Szolnok and Debrecen cases, as both these municipalities (or rather agglomerations of municipalities centred on them) are recipients of major ISPA projects. Therefore the transfer of assets financed by ISPA to the joint venture operator in these cities. The terms and conditions of such transfers will be important.

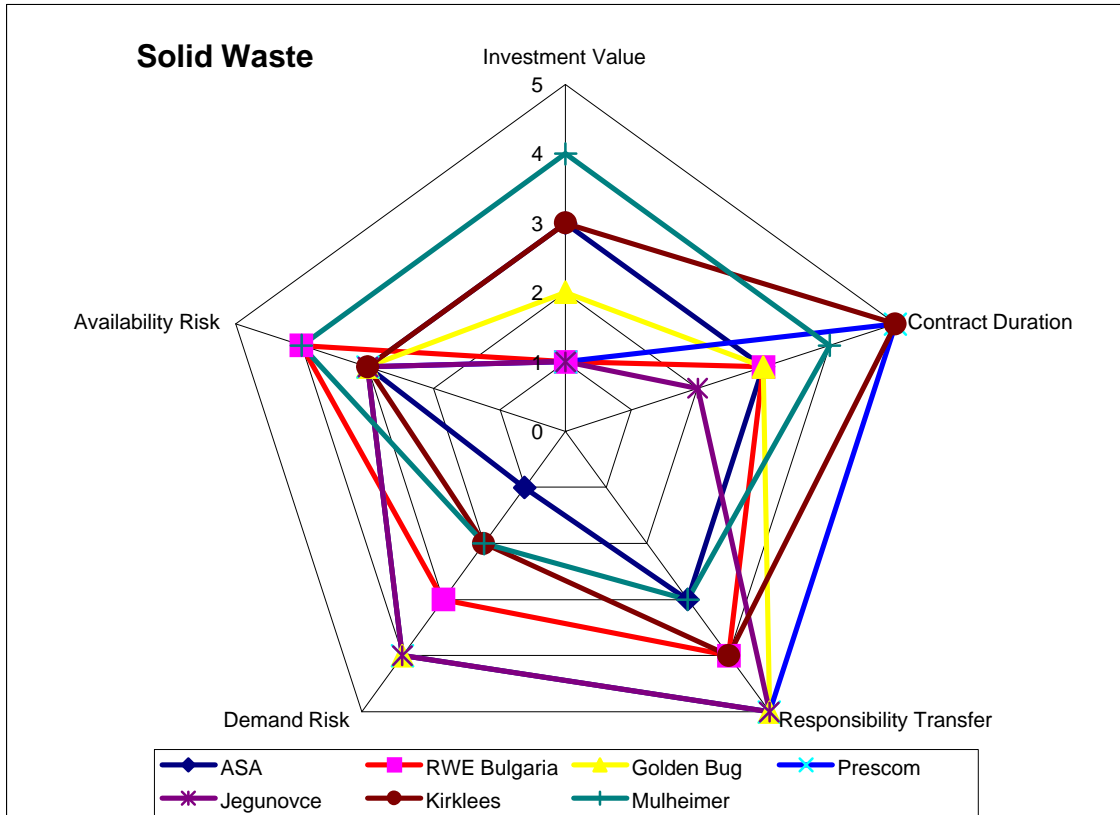
There are many instances, including in major Bulgarian and Hungarian towns where the Commission intends to finance parallel operations, or where the public sector operates a landfill but the private sector manages part or whole of the collection and transport of waste. However, the recipient of the vehicles and equipment, under Commission rules, has to be a public sector entity, i.e. the recipient municipality or group of municipalities. In such cases, “engineering” a PPP solution whereby the vehicles are transferred to the operation of private service providers is an issue. It would appear that renting or leasing the vehicles could be a viable option. Leasing would have the advantage of providing incentives for the proper maintenance of the equipment. It would also infuse equity funding by private service providers into the project, not up front but nevertheless significant. Such mechanisms are still to be elaborated under Commission projects, and the local sponsors of these projects will need to exercise initiative to propose ways to deploy Commission resources for the development of existing PPP relationships.

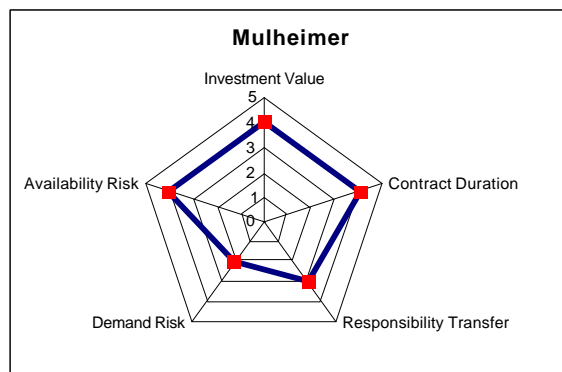
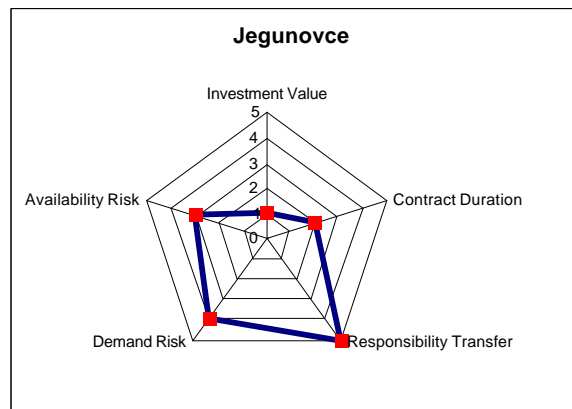
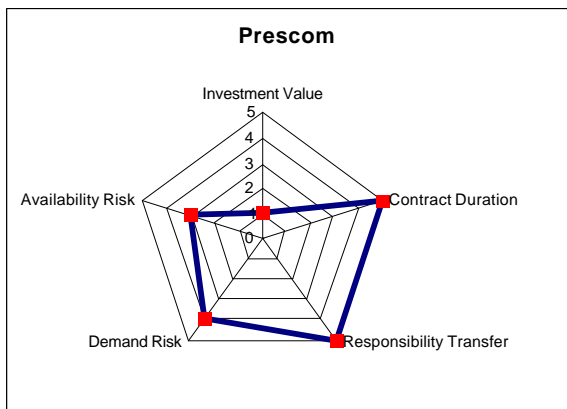
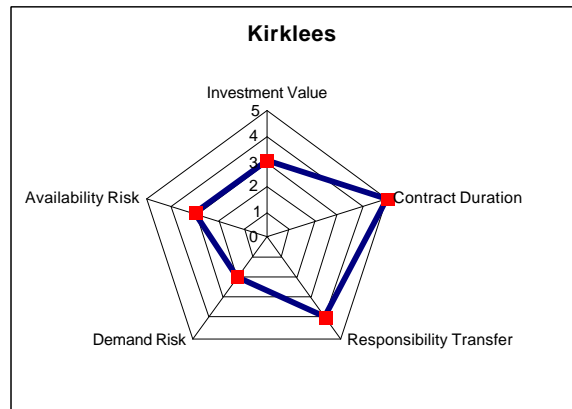
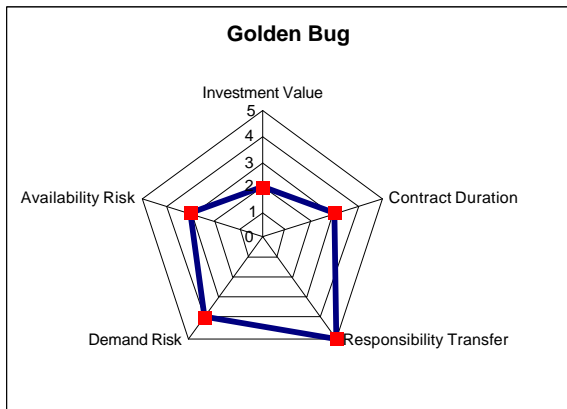
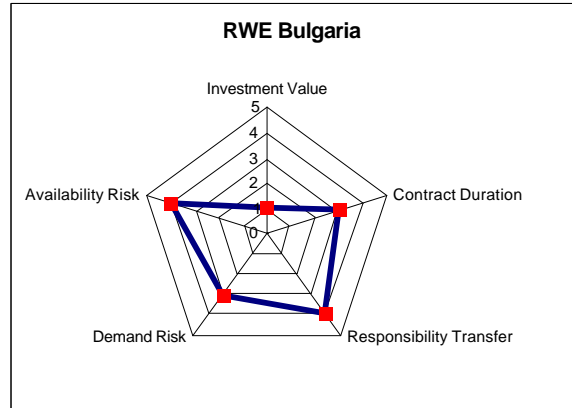
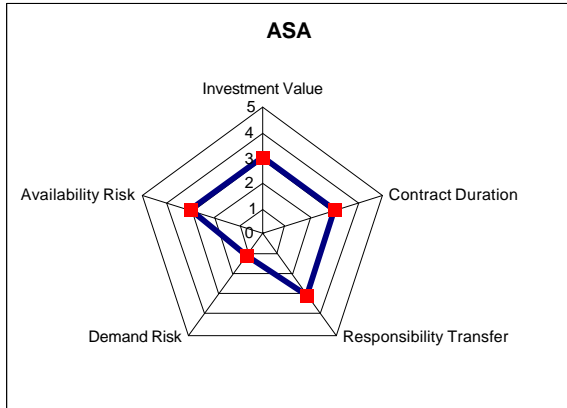
The Constanta case in the water sector may point towards a structure that could be transferable to MSWM financing. As described in that case, a private consortium is bidding to take over the operation of assets financed by ISPA, against an up front fee and a periodic concession fee payable to the beneficiary. Similar mechanisms may find application in the transfer of ISPA funded landfills to private concessions; though there is no actual example of such a project. Also, private investors have so far not featured as co financiers of landfills supported by ISPA grants.

Conclusions

The following ‘Radar’ diagram highlights the qualitative conclusions of the solid waste case studies according to the criteria of:

- Investment Value
- Contract Duration
- Responsibility Transfer
- Demand Risk
- Availability Risk





Case 11. ASA and Rethmann, Hungary

<i>Case Study/Country</i>	MSWM Companies: ASA and Rethmann - Hungary
<i>Rationale/Objectives of the PPP</i>	Mobilize private capital for the replacement of vehicles and for landfill construction
<i>PPP Actors</i>	ASA and Debrecen Municipality. Rethmann and Szolnok and neighbouring settlements
<i>Financial Structure</i>	Investment financed by strategic investor, which holds the control share; and in kind contributions by municipality
<i>E.U. Support?</i>	Not at the early stage
<i>Contract Agreement between Parties</i>	Joint Ventures with majority control by the foreign investor
<i>Risk Allocation</i>	Risk shared by JV partners
<i>Institutional/Managerial Structure</i>	Municipal Council Approval; Controlled by strategic investor
<i>Tariff Setting</i>	By Municipal Council, in consultation with the company
<i>Strong Points</i>	Municipality participation in management decisions; effective conflict resolution mechanisms in the case of ASA
<i>Weak Points</i>	Unrealistic initial assumptions on affordability and income growth

The case describes different paths to successful modernization of MSWM without any initial E.U. or central government support, but through creation of joint ventures with foreign strategic investors. The two companies fulfilled a pioneering role in modernizing municipal waste management in Hungary through private investment and management.

Background

The market penetration of strategic investors in the Hungarian MSWM market took place in the first half of the 1990's. The second half was characterised by large public grants for landfill construction. By mid decade about a dozen foreign waste management companies had established footholds in one or more Hungarian municipalities. A.S.A., an Austrian controlled waste management company (later acquired by Vivendi) and the prominent German waste management company Rethmann were the earliest and biggest entrants to the market.

Debrecen is Hungary's second largest city, with a population of about 250,000 in north-eastern Hungary. In 1991, ASA and the city of Debrecen formed a joint venture (AKSD) for waste management. The foreign partner committed itself to the replacement of the vehicle fleet and to the construction of a landfill compliant to E.U. standards. The municipality contributed facilities in kind. After taking over the collection and transport service, AKSD decided to sell out the fleet of some 40 vehicles inherited from the municipality, and replaced them with a fleet of nine new high capacity compactor vehicles imported from Germany. The landfill was entirely financed by the foreign partner and was commissioned in 1994. It was the first landfill in Hungary designed to meet E.U. standards.

Szolnok is a middle-sized town of about 80,000 inhabitants in the Central Plains Region of Hungary. In the early 90s the Municipality embarked on an aggressive strategy of privatizing its public services, which included the construction and operation of a municipal waste water treatment plant through a private consortium. As in the case of ASA in Debrecen, Rethmann committed itself to the replacement of the vehicle fleet and associated containers, and to the construction of the landfill. The former was accomplished shortly after the formation of the joint venture. However, no fixed date was set for the construction of a new landfill.

The motivation of the municipal governments to invite private investors to take over the MSWM functions was fundamentally the same. They both operated the service with an overly large number of obsolete and deteriorating equipment, with excessive maintenance costs and a bloated staff. Both municipalities lacked the financial resources for the modernization of equipment. Further, their old landfills were nearing the exhaustion of their capacity and they were aware of the need to introduce higher E.U. conform standards of landfill construction, for which they equally lacked the funds. At the same time, foreign strategic investors were present and interested.

PPP Structure

As of 1991, the City of Debrecen and ASA embarked on a joint venture with the foreign partner holding a 51% controlling share, and the Municipality holding a 49% share.

As of 1996, most municipal services in Szolnok, including waste management, were privately operated. The town attracted a total investment of about Euro 20M through public and private enterprises. Rethmann was awarded the contract for MSWM in Szolnok in 1995, and hence becoming majority shareholder (51%) of the joint venture. The Municipality of Szolnok retained a 45% share and remaining 4% were shared between the County and a regional association of municipalities.

Competitive Tendering in Szolnok vs. Direct Contracting in Debrecen

Debrecen founded its joint venture with ASA through direct negotiation. Szolnok's approach to privatisation is an outstanding example of an award after competitive bidding, which is described below.

Step 1: Awareness Building. The vehicle fleet was obsolete, maintenance costs were rising, staff was bloated, and the service constituted a perpetual drain on the city's budget. The existing landfill space had a capacity of a few years left; and a new landfill would need to comply with new regulations.

Step 2: Strategy Formulation. The City Council mandated a series of strategic papers:

- A preliminary concept for the transformation of the Public Utility Company of Szolnok
- Valuation of the Company's assets
- Development of alternative business plans, under a number of scenarios
- A transformation plan of the Company, featuring alternative privatisation concepts.

The business plans confirmed that neither internal resources, nor increases in fees could provide sufficient funds to meet urgent investment requirements. The Municipal Council reached the decision to establish a separate municipal corporation for MSWM, SZOLKOM Rt., and to subsequently offer shares in the corporation to an investor who would undertake the required investments. This strategy had the advantage that after the asset valuation and the separation of accounts, the financial situation of MSWM in Szolnok became transparent to interested investors under their due diligence.

Step 3: Tender Documentation. With outside legal advice, documentation was prepared to solicit offers from investors. This documentation was quite specific about the Municipality's expectations but allowed sufficient flexibility in submitting offers. Important items the bidder was to specify included:

- The intended ownership stake of the bidder, which could not be less than 51% or more than 74% of the company. It was decided during the strategy phase that it was necessary to offer a majority stake to attract a serious foreign investor, but at the same time retain the requisite minority share to safeguard the Municipality's interest on vital matters (26% under Hungarian law).
- The vehicles and equipment it intended to provide to meet service standards specified in the documentation.
- The phasing of investment for a new landfill to cater to the needs of Szolnok and surroundings for at least 50 years.
- A plan for introducing selective collection and recycling of reusable wastes, and the selective treatment of hazardous household waste, and to specify the respective investments it proposed for the purpose.
- Proposals for tariffs and a method for collection, of indexation for inflation and other changes
- A 5-year business plan for the joint venture

Step 4: Tendering and Bid Evaluation. A number of offers were evaluated by *ad hoc* Committee, which made its recommendation to the Municipal Council. The Municipal Council had the exclusive right for the final decision on the tenders, including the right to reject all the tenders. In the event the tender was awarded to Rethmann.

Szolnok thus adopted a transparent and professional tendering process, one of the first municipalities to do so for an MSWM contract award in Hungary. Main advantages of such a process are transparency and competition. Also, as the contract is an open covenant of the Municipal Council, it implicitly reflects a consensual approach for problem resolution. The partnership between Szolnok and Rethman, now in its 9th year, can be regarded as a positive case of consensual decision making between the partners.

Most early MSWM service contracts and joint ventures (including in Debrecen) were concluded in direct negotiations, with the Mayor in the chair. One advantage of direct contracting is the short time needed to conclude the contract. The Szolnok procedure took three years, most of which spent in building consensus. However, in the absence of a consensus-building phase, a direct contract is prone to be assailed by political and business opponents. In fact, Debrecen paid a higher price later.

Tariffs Fees and their Collection

The fact that the two joint ventures have remained financially viable concerns to date, with high standards of service, and in the case of Debrecen, with a high standard landfill disposal, demonstrates that private investment can be mobilized to modernize the service, thus contributing to meeting the needs of higher service levels and environmental sustainability, and, in the process, contribute significantly to meeting the costs of compliance to EU Directives.

While the basic rationale and strategy of ASA and Rethmann in Hungary are similar, there are also important differences in the structure and operation of the two PPPs, as noted in the table below:

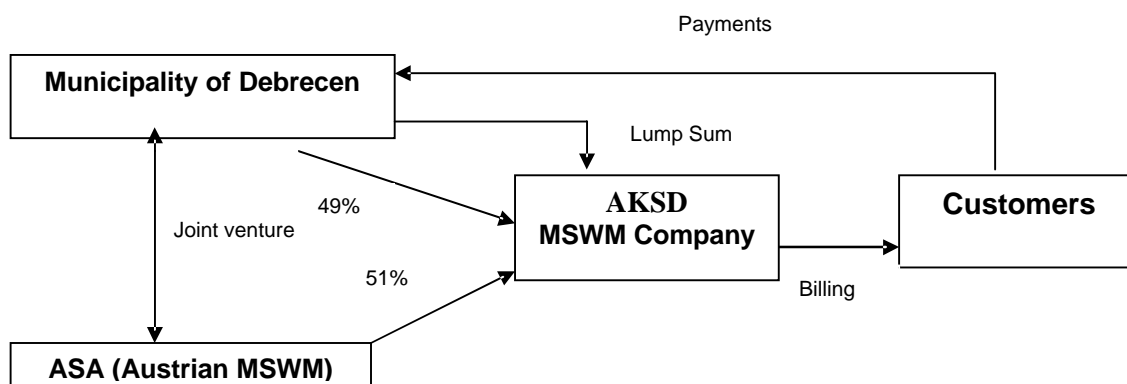
	ASA	Rethmann
<i>Form of PPP</i>	Joint Venture with majority control by the foreign investor	
<i>Method of Contract Award</i>	Direct Negotiation	Competitive Tender
<i>Investment by Strategic Investor</i>	Investment in vehicles, equipment and in landfills	Investment in vehicles and equipment only
<i>Revenue Base of the JV</i>	Municipality pays to the company a lump sum based on predetermined formula	The company directly collects fees from the population and other subcontracts
<i>Tariff setting</i>	By the Municipality, independently of the JV	Jointly by the Municipality and the JV

In Szolnok, the company earns its entire revenues from tariffs and fees, which are directly collected. The joint venture contract explicitly mandated the company to collect the fees from households. This was at the time an exceptional arrangement in Hungary. In most other PPPs, the municipality determines the fees, and the households pay to the municipality, while the municipality pays the service company on some other basis, e.g. a formula related to the number of inhabitants served. Further, in most municipalities, the service remains subsidized. Thus Rethman's case demonstrates that it is possible to operate MSWM in a financially viable and self-financing manner based on direct client relationship with the customers⁵.

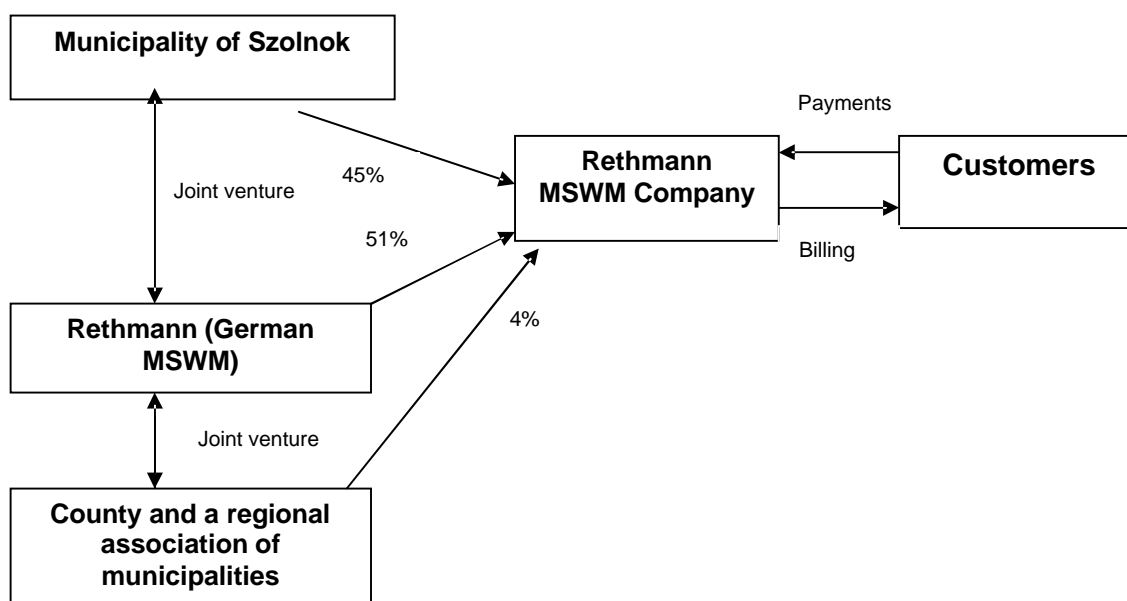
ASA's experience in Debrecen has been altogether different encountering the difficulties of risk sharing in an uncertain environment. AKSD's initial contract with Debrecen is the case of a risk sharing structure based on expectations that turned out to be wrong. The contract was based on the principle of guaranteeing that yearly annual revenues, fixed in advance, would cover investment and a return on capital over the five-year period (1991-1996). Over this period, AKSD was to receive escalating lump sum fees for the core service of collection, transport, and disposal of household waste. The notion behind this structure related to the population's limited capacity to pay at the start, coupled with expectations of a rapid increase in both the municipality's revenues and the population's capacity to pay. According to the agreed formula, the lump-sum fee in the last year was to be five-fold the fee in the first year. The expectations of rising incomes and revenues did not materialize. In the event, after considerable acrimony, AKSD reduced its fee for the last years of the original contract, and starting in 1997, the parties agreed to adjust the lump-sum fee annually, for inflation and other factors, according to a complex formula. While the formula for fee determination proved to be inappropriate, the case still demonstrates positive conflict resolution. What eased the conflict was that the Municipality had a stake in the financial survival and viability of AKSD, having a 49% stake in the venture. It was also fully informed of the Company's financial difficulties, as the Finance Director of the company, according to the original contract, was a nominee of the Municipality.

⁵ In addition to revenues from households, the company has direct contracts with industry, and specific subcontracts with the municipality for special services (e.g. snow removal, maintenance of sidewalks and bus stops, maintenance and operation of pay-parking lots, and another dozen activities).

PPP Structure of Debrecen MSWM



PPP Structure of Szolnok MSWM



Lessons Learned

- Joint venture deals in MSWM can be financially viable and sustainable, without central government support, and can effectively contribute in MSWM regionalization;
- Direct negotiations and competitive tendering can both result in a positive outcome, but a professionally conducted competitive tendering process has major advantages, including possible long term cost savings;
- Pricing and risk sharing can be resolved in different ways, but it is risky to base contracts on loosely founded expectations regarding income growth.

Case 12. RWE Entsorgung, Bulgaria

<i>Case Study/Country</i>	RWE Entsorgung - Bulgaria
<i>Rationale/Objectives of the PPP</i>	Modernization of Vehicle Fleet
<i>PPP Actors</i>	RWE and Rousse Municipality RWE and Varna Municipality
<i>Financial Structure</i>	Private Partner finances equipment
<i>E.U. Support?</i>	No
<i>Contract Agreement between Parties</i>	Concession in Rousse; Joint Venture with annual service contract in Varna
<i>Risk Allocation</i>	Contract fixes service related reimbursement in Rousse; Municipal Council fixes the joint venture's yearly budget allocation
<i>Institutional/Managerial Structure</i>	Municipal Council Support; Private Partner controlled in Rousse; Nominal joint decision making in Varna.
<i>Tariff Setting</i>	By municipality
<i>Strong Points</i>	Satisfactory service at reasonable price
<i>Weak Points</i>	No incentive for landfill construction or regionalization; poor contractual arrangements as a constraint to long-term investment; and uncertainty of financial prospect in Varna

The case illustrates how in a uncertain and difficult market, the municipalities can sell off the transport and collection of waste to private companies, which can not only operate in a cost effective manner and charge a reasonable cost to the costumers but can even modernize the service

Background

RWE Entsorgung (RWE) is a multinational company headquartered in Essen, Germany. It is one of the major international players in the energy sector and active in several Central European MSWM markets. Since 1994, RWE pursued a strategy of establishing a dominant market position in most large Bulgarian cities. RWE set up a wholly owned company RWE Bulgaria that acts as a holding company. RWE Bulgaria first concentrated on all the major cities of Bulgaria: Sofia, Plovdiv, Varna, Bourgas, and Rousse. In a later stage it started operations in medium sized towns including Dobrich, Pleven and Lovech, and Yambol.

The Bulgarian authorities have approved three approaches to establishing partnerships with private investors: (i) establishing a joint venture company usually 50:50 (as in Rousse and Bourgas). This is the minimum for RWE to consider Bulgarian JVs as daughter companies and to provide them with preference in taking company's credits. This "barrier" was overcome in Varna and a JV 65:35 was established; (ii) establishing local branches in middle-sized towns (e.g. Dobrich, Lovech Pleven) and entering in service contracts with the municipality for waste collection and transport; (iii) renting equipment and containers for waste collection and transport to the municipal waste management companies (as in Plovdiv, Veliko Tarnovo, Razgrad)

The Case of Rousse

Rousse is the fifth largest Bulgarian city situated in the northern Danube region, with a population of about 200,000. RWE's concluded its first partnership in Bulgaria with Rousse, in 1994, with the establishment of a joint venture with the municipal waste management company "Chistota". The joint venture was registered in 1995 as "Rousse - REB Ecoservice" Ltd., with a 50:50 ownership split. The Company was responsible for all MSWM activities, including: transport and collection of waste, street cleaning, snow removal and landfill operations. RWE's financial contribution was the modernization of the fleet with some half a dozen new compactor vehicles, ranging in capacity from 10 to 20m³ volume capacity, and the associated containers. The Municipality contributed its old vehicle fleet as well as its infrastructure facilities. In 1999 RWE opted to apply for a concession where the Municipality is no longer a partner. However, the joint venture is still active and is responsible for street-cleaning and snow removal.

PPP Structure

The "Rousse-REB Ecoservice" charged the Municipality based on preagreed rates essentially related to vehicle trips. The contract for waste management service was for 8 years, and it stipulated that prices would be adjusted if inflation, fuel and labor expenses increase by 10% or more. The Municipality was to pay for services on the basis of bills for vehicle use once every month. This arrangement lasted until 1998. For RWE, irregular and late payments by the Municipality were the biggest problem. For the period between 1995-1998, "Rousse-REB Ecoservice" paid regularly the dividends and in general the financial result of the venture were positive.

Following the "Waste Law" adopted in 1997, which fixes concession as the only method for privatising the service, the Municipality issued a call for bids for a concession. By then, RWE was also pushing to operate the service on the basis of a long term contract rather than a joint venture, because its main interest was waste collection and transport rather than the other ancillary services. The Municipality's call for bids was limited to collection and transport of household waste. The Waste Law provides for at least three bidders. Interestingly, both RWE Bulgaria and Rousse-REB Ecoservice submitted a bid, and the concession was eventually awarded to RWE Bulgaria. RWE Bulgaria bought the trucks and the containers from "Rousse-REB Ecoservice" and started using them under a concession contract. While under the Concession contract, RWE Bulgaria is exclusively responsible for the collection and transport service, "Rousse-REB Ecoservice" remains in operation and is responsible mainly for the management of Rousse's landfill, street-cleaning and snow-removal. Also, Rousse-REB Ecoservice carries out the collection and transport service from a few outlying villages. (The Manager of RWE Bulgaria in Rousse also serves as the Manager of Rousse-REB Ecoservice).

The Concession contract is a rather short and concise document. It awards the service for 15 years to RWE Bulgaria. It stipulates an investment of DM 3 million to invest over a period of five years. However the nature of this investment is not specified, though the objective of selective collection and recycling is stated in the contract, with the presumption that the investment will mainly be spent on this. Under the concession contract, prices are set on the basis of vehicle use, calculated separately for each route and each type of vehicle in use, related to the capacity of the vehicle.

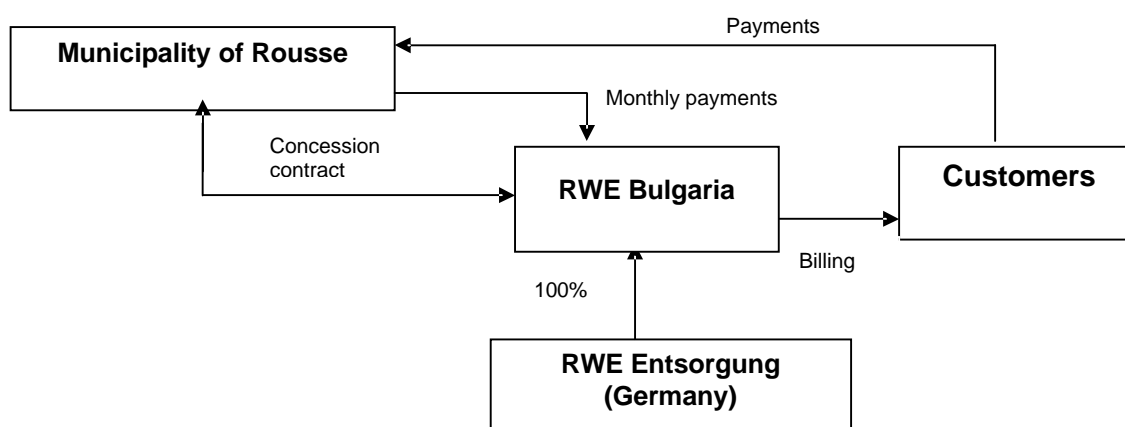
RWE cites delays in municipal payments as its main problem. Monthly payments are often some 30% short of billings. The difference is made up with great delays, normally at the beginning of the next financial year or when fees are collected, when the process starts all over again.

Rousse's landfill is operated under contract by "Rousse-REB Ecoservice". It is nearly full, and for the last several years, Rousse is planning to construct a new landfill with ISPA support. RWE Bulgaria has no plans to participate financially in the construction of the new landfill.

In 2000, RWE decided to close its MSWM business in Bulgaria, selling most of its interest to another German company, Schele International. The main reason cited is the mounting indebtedness of municipal companies, which reached about EUR 6.0 million in 2000.

In conclusion it can be said that the PPP structures gave insufficient incentives for the strategic investor to expand their business, the company led in the modernization of collection and transport of waste, which enabled a significant portion of urban waste services in Bulgaria to be sold off from public sector ownership and control, and led to reasonable levels of service at an affordable cost.

PPP Structure of Rouse MSWM



The Case of Varna

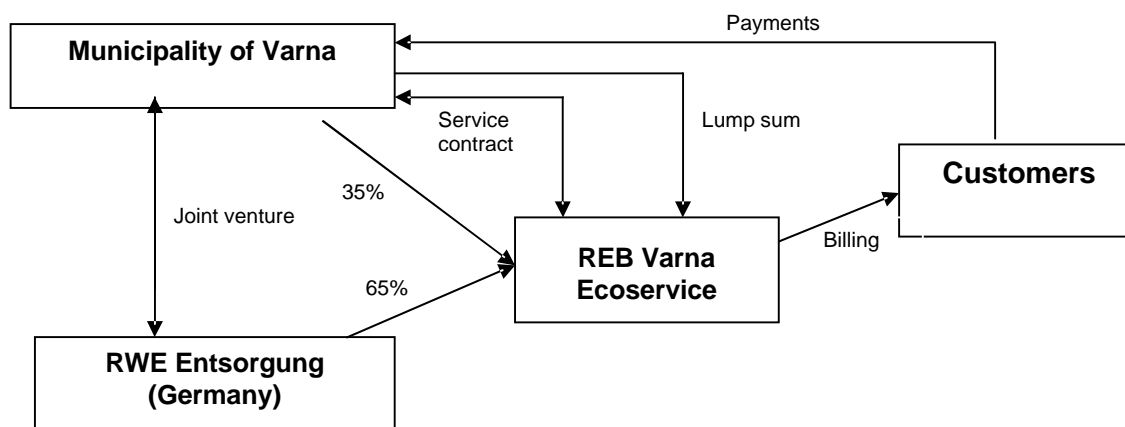
Varna is Bulgaria's third largest city with a population of about 350,000 inhabitants. In Varna, the MSWM operators serve six districts of the city and some surrounding settlements. The largest one is RWE's joint venture company with the Municipality, REB Varna Ecoservice, which serves two central regions of the city.

Varna's City Council provides an annual budget for MSWM. The yearly budget is then divided between the districts. The proportion received by each of them has tended to remain constant from year to year. Bids have been called from time to time, but the maximum revenue allotted to each district (as based on the approved budget for the year ahead) is declared in advance. Bidders are asked to compete in terms of qualifications and quality of service offered. In practice, there are few outside bidders, and the incumbents tend to "win" the district contracts year after year.

During 1998, the Municipality made elaborate calculations on the cost of MSWM service by calculating "container miles" as the basic unit for the service performed by the contractors. This is of course an unduly static approach, as the size and position of the container changes depending on the techniques of collections and the kind of vehicles deployed, and also because routing can change depending on the equipment used, the frequency of service, and the management decisions of the companies. The relationship between this calculation and the real level of the service and its cost is fairly spurious. However, in the absence of real competition to determine the price, it is understandable that the Municipality reverted to a "planned" cost basis reminiscent of the planned economy. Based on these calculations, the Municipality raised the budget for MSWM substantially (by some as 20%) in 1999, to 4.8 M levs, to the general satisfaction of the contractors. However, the budget allocation has declined steadily since, to 4.2 M lev in 2001. As the share of the regions was kept fixed for a number of years, each contractor got proportionately less revenue. In addition, in 2002, the Municipal Council, behind closed doors, made reallocations of the shares of the companies as well, which appeared to be a non transparent and arbitrary procedure. Further, the city is

chronically several months behind in its dues to the contractors. Thus contractors are insecure about their revenues, and tend to reduce the level of their service in response.

PPP Structure of Varna MSWM



Lessons Learned

There are a number of problems perceived as main constraints to collaboration between municipalities and private business in the local waste management sector:

- The unstable financial situation of Bulgarian municipalities, which results in late payments or outright failures to pay. Municipal debts to the companies often amount to a substantial portion of the annual invoice. As a response, companies curtail the service to minimum standards which then results in poor service and complaints from the population;
- The legal environment is uncertain, and contractual arrangements are short term and unsatisfactory;
- Determination of the fee often becomes a political question in Municipal Council debates. Usually the fee approved is not enough to cover the expenses, and companies face uncertainty as to their future revenues.

A survey of contracts in Bulgaria between major municipalities and MSWM service providers reveals the following features:

- Prices for transport and collection are set administratively, and price competition among bidders appears to be limited. The usual procedure is for the Municipal Council to come up with the budget allocation for MSWM, and then apportion a part of this budget allocation to one or more contractors. Some sort of competition is held, but the bidders know in advance the revenue they will earn.
- The contracts are short term, usually for a year. Notwithstanding elaborated cost calculations, the revenues are really based on the yearly budget allocation, and can only be forecast for one year ahead at most. In the absence of a long-term agreement on the revenue base for private operators, either parties feels free to cancel, even in cases where the agreement is loosely called a joint venture. Since there is no projection of future income, there is also no estimate of losses in the event of cancellation, and no legal basis for claiming damages by either parties.
- Investment by the contractor is not part of the offer. The contractor specifies the equipment he will use, but does not commit itself to any investments. The containers are usually provided by the city, so that the contracts do not have to do with the modernization of equipment but just with carrying out the transport service in the traditional way.

- The contracts are limited to the collection and transport of waste and sometimes they include street cleaning and washing, and snow removal as well. With a couple of exceptions, landfill operations remain with the Municipality. In some joint ventures such as in Rousse the private partner co-manages the landfill operation, without however investing in it and modernizing the operation.
- The concession contracts and joint ventures are limited to local services only exceptionally does one company serve another municipality or surrounding settlements.
- The contracts do not provide the necessary security for the private investor for incurring long term investment for modernizing equipment and even less for landfills, where the financial horizon is much longer.

Case 13. Nessebar “Golden Bug” Landfill, Bulgaria

<i>Case Study/Country</i>	Nessebar “Golden Bug” Landfill - Bulgaria
<i>Rationale/Objectives of the PPP</i>	Recycling as a profit generation opportunity
<i>PPP Actors</i>	Municipality of Nessebar
<i>Financial Structure</i>	All investment made by private operator
<i>E.U. Support?</i>	No
<i>Contract Agreement between Parties</i>	Concession
<i>Risk Allocation</i>	All born by private investor
<i>Institutional/Managerial Structure</i>	100% owner controlled and operated
<i>Tariff Setting</i>	By the private operator
<i>Strong Points</i>	Good marketing for recyclable waste streams
<i>Weak Points</i>	Unenforceable contract, conflicts with municipality

The case shows how very simple rudimentary technology can be used to recycling waste streams by a private landfill operator and can turn out to be a commercially viable activity.

Background

Nessebar, an exceptionally well-preserved medieval town on the Black Sea, is one of Bulgaria’s prime tourist attractions. Its tourist industry has grown considerably since the transition, and a mile long shore with new luxury hotels has sprung up on the site of the old state-owned hotel blocks. Nessebar is a very prosperous municipality and invests some of its revenue, most of which derives from the tourism, in further developing tourist amenities.

A well-run waste management service is important in a tourist area. Nessebar runs its own transport and collection service and has made substantial investments in the modernization of its vehicle fleet and containers. While a municipal company operates the transport and collection service, Nessebar’s landfill is operated through a concession. The “Golden Bug” company, a local family concern, operates the landfill since 1994. Golden Bug has developed the site with its own resources. Water, sewage, and electricity have been installed, as well as storage buildings and simple equipment for shredding, compacting and baling recyclable materials. The landfill is equipped with earth moving equipment and a facility for disinfecting trucks and containers. Recently, new administrative offices were built, together with a weighing station.

The company carries out selective sorting and treatment at the landfill. Golden Bug makes its profits from the sale of recycled materials, mainly plastic (PET) bottles, other plastic material, metal cans and paper, whereas glass is at present not saleable. The bulk of the recyclable materials is collected during the three month tourist season. About 20 *Rom* families engaged on the site carry out the physical work of selection. The technology and the management of the work force is very simple.

Golden Bug sells the materials to reprocessors. In some cases the clients come and fetch the materials, in others Golden Bug transports to the client. For metal cans, there are two Bulgarian reprocessors, but some of the material is exported. For paper, a manufacturer specializing in hygienic papers is the main client. There is one main Bulgarian client for plastic reprocessing; shredded PET bottles are frequently exported.

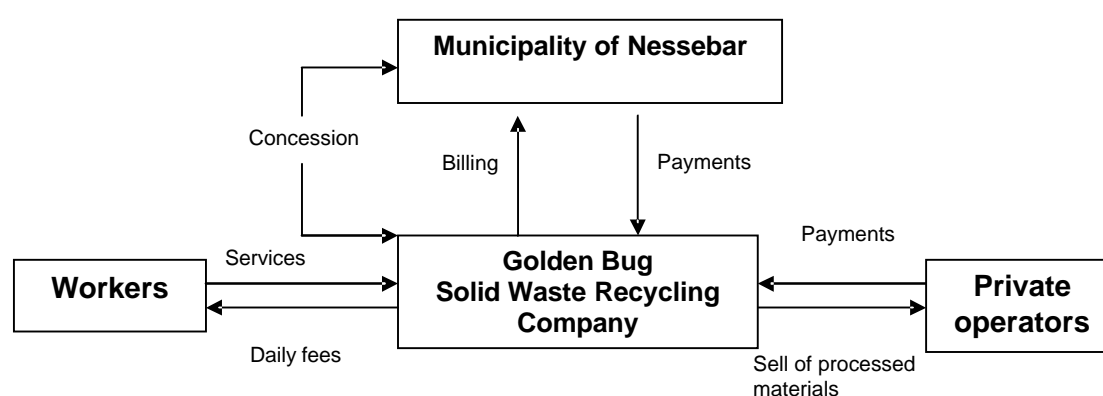
PPP Features

In the beginning Golden Bug operated under a service contract, which was later converted into a 15-year concession from the Municipality. At present, the Company operates with minimal financial support from the Municipality and is commercially viable only on account of the sale of recyclable wastes. The permanent work force during the off-peak season is 6 employees. The other engaged staff do not receive fixed wages but piece rates; they are paid by the amount of recyclable materials, which are weighted and paid for by Golden Bug at the end of each working day. This has proven to be an effective arrangement.

The concession contract, as most contracts of the time, is vague in its provisions and enforceability on either side. A main point of contention has been the payment of fees for land filling. Golden Bug invoices the Municipality for land filling based on its actual costs, supported by its own documentation of bills. However the Municipality has in recent years only paid a small fraction of the bills. Further, Golden Bug does not appear to be in a position to make sure that its invoices to the Municipality are paid. The Court procedures appear to have been proven to be an ineffective and a time consuming way to resolve such disputes.

Golden Bug has also recurrent problems regularizing the status of its concession. In fact the site is agricultural land, and although the landfill has been in operation for about a decade, the Ministry of Agriculture has not yet authorized the transformation of land use. The Nesebar landfill operation is a case of uneven risk sharing. Golden Bug appears to share all of the risks of the operation, without any counterpart assurances or support arrangements from the Municipality. Golden Bug has undertaken all investments in the landfill at its own expense, without any support from the Municipality or from the Central Environmental Fund (which in principle can provide the type of investment that Golden Bug has made.) This is quite a risk, since if Golden Bug loses its concession it stands to lose at the very least the fixed assets in which it has invested. A main risk hanging over Golden Bug is the withdrawal of its concession, in case the already hostile relationship with the Municipality deteriorates further. Given the vague and contentious contractual relationship between the parties and the nature of court proceedings in Bulgaria, it is unlikely that Golden Bug would get any compensation for future losses if somehow the Municipality decided to deprive the Company of its right to operate the landfill.

PPP Structure of the Nessebar Golden Bug Landfill



Lessons Learned

- The selective treatment of waste materials on landfills can be commercially viable with low cost / low tech methods.
- In certain markets, capital-intensive technologies are likely to be financially non-viable solutions needing some form of subsidy.
- While the operations can be regarded as a success story from the point of view of the commercially viable recycling and labour creation, the situation of the Company is precarious on

account of chronic feuding with the Municipality, which at times threatens the survival of the Company.

- Poor contractual relationships that do not allow damages in the event of breach of contract, and ineffectiveness of legal procedures to resolve disputes.
- Poor legal environment as a constraint to market entry.

Case 14. Kirklees Metropolitan Solid Waste Project, UK

<i>Case Study/Country</i>	Kirklees – UK
<i>Rationale/Objectives of the PPP</i>	Best application of integrated waste management strategy
<i>PPP Actors</i>	Kirklees Council, United Waste Services Ltd
<i>Financial Structure</i>	Loan from National Government
<i>E.U. Support?</i>	No
<i>Contract Agreement between Parties</i>	Joint Venture
<i>Risk Allocation</i>	Predominantly on private party
<i>Institutional/Managerial Structure</i>	Joint Venture implemented through SPV – Kirklees has minority voting rights on board
<i>Tariff Setting</i>	Fixed tariffs
<i>Strong Points</i>	Good technology transfer and strong partnership
<i>Weak Points</i>	Potentially overly costly risk transfer

The case illustrates how a public body faced with the need to undertake a major overhaul of its current waste management system, can harness the potential of the private sector to assist in designing and delivering a cost effective solution. It also demonstrates the need of the parties to obtain a thorough understanding of each other and that if a large degree of control is devolved to the private sector then the public party must have a clear understanding of what it is trying to achieve

Background

The Kirklees Metropolitan Council faced a deteriorating solid waste management situation, a rapidly diminishing landfill capacity and the prospect of strengthened environmental legislation and cost of landfilling. In 1995 it launched a comprehensive review, including consultation with the private sector, to identify the preferred long-term waste management strategy. This included all options from ‘do nothing’ to exclusive reliance on landfilling to a fully integrated solution based on a holistic management approach. The latter was adopted as the preferred option together with a ‘business model’ based on a joint venture arrangement with the private sector.

In 1998 Kirklees signed a 25-year joint venture agreement with United Waste Services Limited to deliver the integrated waste solution. The contract involves new capital investment of approximately £41 million, incorporates re-use, recycling and recovery principles and decreases dependency on landfilling. The capital infrastructure will include a new waste to energy plant, a multi-materials recycling centre, a transfer loading station, 2 composting plants and 2 household waste recycling centres. £33 million of the total was provided by a Government credit scheme.

PPP Features

Kirklees decided that a joint venture model would be the most effective solution after substantial consultation which included the private sector. This resulted in the creation of a special purpose vehicle called Kirklees Waste Service Limited in which Kirklees has a 19% minority voting interest. Kirklees transferred assets into the company in return for voting rights and equity shares which were in turn transferred to the service provider in return for reduced gate fees. The provider is responsible for delivering a waste management solution guaranteed to divert a minimum of 60% of waste from landfilling through a combination of re-use, recycling and energy recovery schemes.

A unitary fee is charged over the contract life which is adjusted based on volumes received and achievement of landfill diversion targets.

The current system was selected through a comprehensive strategic planning exercise. This included predicting the point at which alternative treatment methods would become cheaper than the landfill tax which was expected to rise and the cost of increasing landfill capacity which is in any case in short supply. A key consideration for selecting the PPP method was a comparison of life cycle costs of the alternative procurement methods.

The planning / research included consultation with the private sector (before publishing a tender in the OJEC), this included asking:

- Whether Kirklees approach was in line with that of the potential service provider
- Whether there were alternative options
- What could Kirklees afford

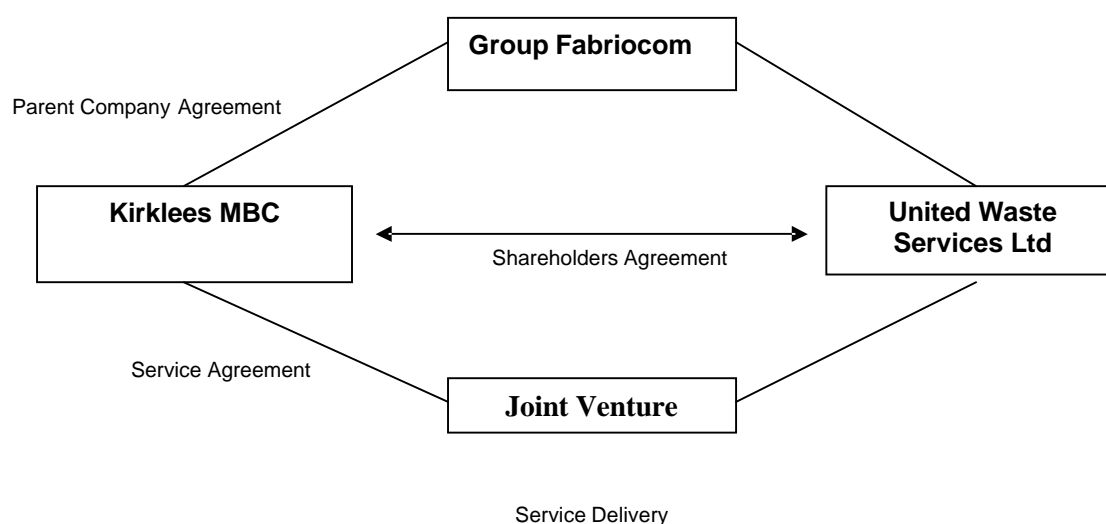
Selection of the joint venture model, as opposed to a classical contractual model or BOT / DBFO, was determined by the fact that Kirklees had positive experience of using the JV model and that this was the preferred approach of the private sector. These reasons were considered more relevant than any consideration of favourable risk transfer through other models.

Procurement should have followed the EU conform negotiated procedure (according to the Public Procurement Directives), however this was difficult to reconcile with the tendering requirements of the 1990 Environmental Protection Act. As a result a restricted procedure was followed in which Kirklees issued a complete set of tendering documentation including project and shareholders agreements and output specifications. This also implied that post tender negotiations were not possible but an extended process of clarifications was provided for.

The JV provides Kirklees with a 19% voting only shareholding and a representation on the board. It maintains certain other intervention rights but these are limited. The payment mechanism has been designed to provide incentives for increased waste diversion. The period up to 2002, during which the facilities were being completed, provided a gradually increasing fee rate, fixed and variable tonnage charge and low recycling rates. From 2002 there is a guaranteed minimum tonnage, a fixed gate fee per ton, a guaranteed diversion (of 60%) and a deduction in fees based on the percent of recycling not met. The unitary payment made by Kirklees covers all costs related to service provision.

The provisions for risk sharing / transfer are such that Kirklees assumes only the risk of increases in landfill taxes and the major financial impact of new legislation (subject to a review of impact on cost of services). Additionally the risk of residual value and major changes in waste volumes are shared subject to review agreements.

PPP Structure of Kirklees SWM System



Lessons Learned

- Public authorities need to take a very realistic approach to what can be achieved. This includes recognising the needs and constraints of the private party. Additionally the requirements of external financiers need to be integrated at an early stage so as to reduce time delay and cost at later stages. These points highlight the need for a partnership based on mutual understanding and a certain amount of trust or each other's objectives.
- The public party benefits greatly from having a small and consistent core project team with the necessary skills, budget and ability to take decisions.
- The cost and required time of procurement should not be underestimated. This includes selecting the correct procurement procedure for the project and which meets relevant procurement regulations. Should derogations be necessary, these should be sought at an early stage to provide clarity to the procurement process.
- This project was complicated by parallel efforts to disband existing arrangements. Given the complicated nature of PPP projects, they should, ideally, be planned and implemented on a stand-alone basis in an already determined supporting framework.
- The joint venture model with a minority publicly-owned company proved to be the best delivery model for this situation. While this model also helps in the development of an effective partnership, they are not the only method and special purpose vehicles wholly or majority owned by the public or private sector are alternatives depending on the circumstances.
- A critical element of any PPP project is the degree of risk transfer. The public body must be realistic about what level of risk transfer represents the best value for money but also provides the optimal operating structure for the project and the parties.

Case 15. Prescom in Targoviste, Romania

Case Study/Country	Prescom, Targoviste - Romania
Rationale/Objectives of the PPP	Devolution of public service to private enterprise
PPP Actors	The Municipality of Targoviste; Salubrita and Prescom
Financial Structure	Own financial resources
E.U. Support?	ISPA grant and EIB involvement potentially envisaged
Contract Agreement between Parties	Implicit service contract, but not legally binding
Risk Allocation	All risk born by the private company
Institutional/Managerial Structure	A private company totally owner controlled and operated; and a Municipal-owned company
Tariff Setting	Private company sets its tariff in competition with the Municipal-owned company
Strong Points	Well managed private company, capable of collecting tariffs without any support resulting in a low bad debt ratio
Weak Points	Uncertain legal environment leading to litigation; uneven competition from public enterprise

The case highlights the problems arising in an uneven playing field in MSWM, particularly when the private enterprises face different market entry conditions than public ones.

Background

Targoviste is a town of round 100,000 inhabitants situated 70 km north of Bucharest. Targoviste is the county seat of Dambovita, which has a population over half a million, about one third urban (180,000) and two thirds (380,000) rural. Targoviste is by far the largest town in Dambovita County and the combined population of the next five largest towns is less than 100,000.

There are currently two service providers in Targoviste: a private company “Prescom” and a municipal department “Salubrita”. Prescom operates the municipal service since 1994 when it was privatised. The core service is provided with five 12m³ compactor trucks. In addition Prescom has some half a dozen old trucks, which carry the standard 4m³ bins one at a time. These are used mainly for transporting bulk waste from industrial clients. Prescom services about 80% of Targoviste’s population and five nearby communes, thus its clientele is near to 100,000 people. In Targoviste they charge households on the basis of 14,000 lei (0.45 Euro) per month per person. In the communes the charge is less than 25,000 lei per household. About 80% of the clients pay their bills on time. Billings are collected and administered by a small staff, and the accounting is computerized. Collections are entirely in the hands of Prescom, without any intervention or support from the Municipality. Prescom is profitable with an annual revenue of about 20 billion lei (about 650,000 Euro), of which three fourths come from household billings and one fourth from industry. The gross profit margin is about 20%. Prescom has recently purchased two new 12m³ vehicles, which are to be put in service shortly. The trucks were bought against a 20% down payment and a four-year lease through a private bank.

Salubrita is a department of the municipal government and has only recently (in 2001) entered the waste management business, when it obtained two 18m³ MAN vehicles, together with 100 “Eurobins”

and another 100, 240 litre plastic bins with EU PHARE support. The original intention of the PHARE grant was meant to provide Targoviste Municipality with equipment for servicing its own municipal facilities: schools, hospitals, and public buildings. Initially, Salubrita wanted to sell most of the bins for which it had no use, however a PHARE condition that the equipment could not be sold before a certain period, prevented the sale. Thus Salubrita started to build up a household clientele, mainly in the large blockhouses, many of which are municipal property. At present Salubrita services about one fifth of Targoviste's population. It charges a fee of 12,000 lei per person, thus somewhat lower than Prescom. In addition it receives fees from the Municipality for its services. Salubrita is self-financing and has a positive cashflow. As a municipal department it is obliged to reinvest its profits. The management of Salubrita plans to invest profits into more equipment so as to increase its market share in Targoviste. Asked about the business strategy, the management said that it opts for privatisation *via* a management buyout of Salubrita.

PPP Features

There is no PPP structure in place yet. The two service providers, one private the other public, compete for market share in Targoviste. However their operations are not comparable. While Prescom is carrying out the service at its own risk and invests its own money, Salubrita's operation owes a good deal to an initial PHARE grant.

Under Romanian Law, Municipalities may directly engage in carrying out waste management services and many municipalities have a department for MSWM and related services. However, if the service is contracted out, it must be tendered, which is also in compliance with EU Directives. Until 2002 there was no such requirement, and companies were free to engage in municipal waste services with the direct authorization of the Municipality without tendering. In addition, there is now a legal requirement in place for service providers to be licensed by a national agency. Prescom neither has a license to operate, nor has there been a tender for service provision. Thus Prescom operates informally, without legal sanction and authority, though it does have some formal contracts with communes it serves outside Targoviste. Prescom faces the uncertainty implicit to operating without being in full compliance with the law. On the other hand Salubrita operates as a municipal department with the Municipality's implicit authorization.

Prescom is apprehensive about a planned EU ISPA Project. It fears that the transport equipment will be granted to the municipality (or the county) and, will in effect displace its operation. From Prescom's point of view such an apprehension is not unreasonable, given the precedent of the PHARE grant of vehicles and equipment being used by Salubrita to enter the local waste management market. This apprehension has prompted a legal challenge which is still unresolved.

In March 2002, Prescom formally petitioned the Municipality of Targoviste to issue a call for a competitive tender for the transport and collection service, as such a tender is now legally required. Municipal authorities conducted an internal investigation and decided, on April 30, 2002, to go ahead with a competitive tender. However, this act was countered by an intervention of the Prefecture, i.e. the representative of the Central Government, which declared the municipal decision void. This was based on the grounds that the Ministry for European Integration would withdraw its application for ISPA support for the project "Rehabilitation of the Collection, Transport and Disposal of Solid Household Waste in the County of Dambovita" if the financing of this project could be done under private operator control.

The proposed ISPA project now appears as a serious threat to the survival of Prescom, which fears that if a new outside contractor is awarded the concession for the entire county (as now proposed), they will be out of business. However it should also be noted that Prescom is in a strong position to win any future tender for services. Indeed, if it is found that the collection and transport of waste is carried out in a reasonably cost effective manner, managed by local enterprises (some of which private companies who are able and willing to invest in the modernization of the equipment), the wholesale replacement of vehicles and containers *via* an ISPA grant may be an unnecessary.

Though Prescom has a good chance to be the winner of a single countywide concession, as members of a consortium or as subcontractors to the concessionaire, the management regards this eventuality with some scepticism, and would rather maintain their independent operations in Targoviste by expanding its service to nearby communes where profits can be made.

Lesson Learned

- This case demonstrates the possible mixed signals that may be created by conflicting objectives in uncertain legal environments. While the present Prescom concession is by no means perfect, it is a working example of a viable undertaking. Grant financing may not result in an optimal solution if other viable alternatives exist in the market, which should be duly considered and analysed before nascent private sector participation and development is negatively affected.
- The need for a coherent legal environment is clear and essential to support the development of effective PPPs. This should also be coordinated with a policy / strategic approach to PPP development and overall financing of infrastructure and service provision.

Case 16. The Jegunovce Concession, Macedonia

<i>Case Study/Country</i>	The Jegunovce Concession - Macedonia
<i>Rationale/Objectives of the PPP</i>	Establish organized MSWM service, selling it off from municipal Government services
<i>PPP Actors</i>	Municipal Council of Jegunovce; Delva Company
<i>Financial Structure</i>	Financed by Private Partner
<i>E.U. Support?</i>	No
<i>Contract Agreement between Parties</i>	Concession
<i>Risk Allocation</i>	All risk born by private partner
<i>Institutional/Managerial Structure</i>	Municipal Council approval; private owner operated
<i>Tariff Setting</i>	Private partner sets price with municipal council approval
<i>Strong Points</i>	Robust simple concession contract
<i>Weak Points</i>	Poor legal and business environment makes replication problematic

The case shows that despite the constraints that a hostile environment imposed on PPP creation, there is always ground for private involvement in municipal waste management.

Background

The Jegunovce privatisation of waste management owes its existence to a forward-looking entrepreneur (Delva company) who gained knowledge of waste management as an importer of vehicles for municipal public service companies, and also as a representative of foreign suppliers of equipment to municipalities (park lighting, funerary vehicles, equipment for playgrounds, etc.). From importing he graduated into purchasing compactor trucks and renting them to a number of municipalities. After a number of unsuccessful offers to directly manage some municipal waste management operations, he finally succeeded in Jegunovce.

Jegunovce is a town of about 25,000 inhabitants 60 km west of the capital Skopje. YugoChrome, the largest manufacturer of metals and paints recently privatised, with its landfill that could be considered as the worst environmental “hotspot” of Macedonia, pollutes the source of Skopje’s drinking water with toxic wastes. This landfill has also been the “informal” landfill serving the municipality. This is relevant to the case in so far as Delva cannot use this landfill and has to transport the waste to Skopje’s “Drisla” landfill, the only professionally managed landfill in the country. Jegunovce, like most Macedonian municipalities, has its own public services company, which has sporadically engaged in waste management. However no regularly organized waste collection was in place. People disposed of waste on their own, using YugoChrome’s landfill or just unauthorized dumps.

PPP Features

The contract gives Delva the exclusive right to collect household waste in the town and allows it to make contracts with industries and institutions. In return, Delva pays a fee of 8% of its revenues. Delva contracts directly the industries and households. However the service is not compulsory on the population, and the municipality has no support arrangements for Delva in fee collection. Thus Delva operates entirely at its own risk.

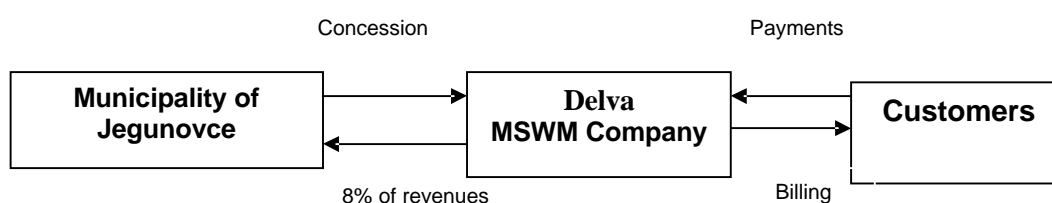
After its short half-year existence, the Company services about 10% of the population. It provides free standardized plastic bins (80liters, 120 litres, and 240 litres) to households and collects once a week. It charges household a flat fee of 150 denars per month (60 denars = 1 Euro). This contrasts with the practice of most Macedonian municipalities where the waste fee is levied on the area of the residence; thus the waste fee is a regressive tax that is proportional to the size of the residence and is unrelated to the quantity of waste generated. It affects disproportionately industries with a large plant size.

At present Delva earns most of its revenues from industry and institutions, including schools, the police, and the post offices. Institutions are generally served with 1.1m³ metal containers and are charged 1500 denars for one service. Industries are serviced by 5 to 7 m³ containers and are also charged on a per service basis. Delva transports the waste to the Drisla landfill, where it pays 650 denars per ton.

Delva manages the operation with a few container trucks which are mobilized on demand, and two 8m³ capacity compactor trucks for household waste.

So far the relations between the Municipality and the Company are cordial and the privatisation of the service promises to be a success that could serve as a model to other municipalities. However before this happens on a significant scale the business and legal environment needs to be made more favourable for PPPs in municipal service provision.

PPP Structure of Jegunovce MSWM



The Business and Legal Environment as a Constraint to Municipal PPPs

Macedonian law on public administration retain many features of the command economy. As a poignant example, Article 18 of the Waste Law (1998) states, that “the disposal of the communal solid and industrial waste in the territories of two or more municipalities shall be performed by a public enterprise to be established by the Government“

Modern waste management calls for regionalization, and would necessarily entail the joining of local services, particularly for Macedonia’s smaller municipalities. A law mandating central government enterprises to take over such joint services will abort any interest by strategic investors who are naturally interested in regionalized operations. Article 18 may also be responsible for the lack of municipal cooperation, as municipalities prefer to keep the service themselves than to hand it over to the Government. Macedonia has 123 municipalities, most of them much too small for a cost effective organization of the service, and this extreme fragmentation leads to extreme inefficiencies.

The Central government interferes in other ways with local autonomy. It appoints officials to the municipalities who wield considerable powers over public service provision, including on finances and pricing. The price for core municipal services such as MSWM and water and sewage remains centrally regulated in Macedonia. If the municipal MSWM company wants to increase its price it must get the approval of the Ministry of the Economy. This remains an unusual infringement on local autonomies in an area that is ostensibly a local responsibility, even by the standards of transition economies. This kind of central bureaucratic control is also a burden for private enterprise.

During 2002-2003, Macedonia received substantial assistance from the European Union to harmonize environmental legislation with EU directives and policies. *Inter alia*, a framework Law on Waste Management has been drafted.

Lessons Learned

- It is possible against all odds, even in an unfavourable legal environment for PPPs, to create and encourage PPP development;
- A backward-looking legal environment that may fall prey to tendencies and traditions reminiscent of the centrally planned economy and undermines the private sector participation in MSWM is difficult to change even with the E.U. assistance.
- For PPPs to develop there is a need to create a supporting policy and legislative framework. There is also a need to provide a supportive framework to encourage private sector interest and efforts by the private sector to identify and investigate possible PPP opportunities

Case 17. Mülheimer Entsorgungsgesellschaft mbH, Germany

<i>Case Study/Country</i>	Mülheimer Entsorgungsgesellschaft mbH - Germany
<i>Rationale/Objectives of the PPP</i>	Attraction of necessary financing, experience and technology
<i>PPP Actors</i>	Municipality and private company
<i>Financial Structure</i>	Bank loans, municipal financing
<i>E.U. Support?</i>	None
<i>Contract Agreement between Parties</i>	Joint venture
<i>Risk Allocation</i>	Shared
<i>Institutional/Managerial Structure</i>	Board and municipal control
<i>Tariff Setting</i>	Tariff increases capped
<i>Strong Points</i>	Elaborate planning and consultation
<i>Weak Points</i>	No open tendering – possibility of legal challenge

The case illustrates potential problems arising when former public monopolistic sectors are opened up to free market competition, while the private partner selection for the PPP structure is made not in a competitive way. It also illustrates the importance of legal tools (contracts, agreements) to establishing a sound PPP.

Background

The case of Mülheim an der Ruhr is especially illustrative for German pilot PPP-projects in MSWM in the early 90s. Economical, technical and environmental problems of solid waste management cumulated, while at the same time the transition to a dynamic market driven solid waste market in the Ruhr area forced the local authority to rethink its traditional role as a local monopolist for MSWM services.

To participate in the increasing volume of private capital and know how in the emerging regional market, the city of Mülheim in 1994 invited two private partners to found the public-private MSWM enterprise “Mülheimer Entsorgungsgesellschaft mbH” (MEG limited). 25.1% of the shares belonged to the city. The 74.9% of private shares were divided equally between one international (Trienekens AG) and one domestic waste enterprise. In 1997 all private shares were transferred to Trienekens AG. MEG was to concentrate on hazardous waste incineration and develop this business as a regional service for the Ruhr area as a whole. All other MSWM services remained until 1997 in a public body for solid waste management, road cleaning and waste water management. In 1998 the city council asked the city management, the management of MEG I and Trienekens AG to develop a PPP concept for all municipal solid waste services. The political idea was to concentrate MSWM in one organization again and to mobilize additional private capital and know how. The majority of the shares – 51% – of the new PPP should be held by the city to keep political control in a sector with controversial public discussions. Trienekens AG accepted this proposal, which meant resigning its majority in MEG I, because it could enlarge its engagement in the Mülheim MSWM to all existing services and help to create new ones in different business segments. After two years of preparation and negotiations the new “MEG II” started work in October 2000.

PPP Features

The objectives of the public-privates enterprises MEG I – and later – II were multidimensional:

- a high quality solution for the problem of hazardous waste incineration
- the costs for technical and environmental modernization of the infrastructure for the whole MSWM and road cleaning sector should be equally shared between the public and private partner: the exact volume of the necessary investment relative to the assets and the value of the assets are kept confidential, but in media reports 10 to 15% of the value of the assets was estimated as investment volume for the first five years of the PPP
- the mobilization of private capital and knowledge to achieve cost saving to finance the modernization of the infrastructure in the situation of limited government funding
- intensive cooperation between different municipalities in the Ruhr area to use the landfills for hazardous waste and technical facilities for biological waste more effectively: in both MSWM business segments capacities were lacking in the whole Ruhr area in the early 90s and existing service contracts resulting from the PPP phase of MEG I could be extended
- the stabilization of rising tariffs for customers
- job security for public employees in a region with a high rate of unemployment

To handle the complex multidimensional objectives and to protect their interests the parties had to agree on several informal and formalized agreements. These agreements had to combine in the form of a joint venture and central elements of a BOT model.

As a first step the city management and Trienekens presented an informal “Letter of Intent” (LoI) to the city council. The most important conditions for MEG II as a PPP were stated in this LoI: A public share of 51% and public majority in the governing body, transfer of the technical infrastructure, capital, services and staff concerning MSWM to MEG II. Tendering should be avoided with this “Inhouse Agreement” as it was considered that Trienekens AG seemed to be the suitable private partner for the city management because of its knowledge and experience in MSWM. After the city council had accepted the LoI, eight different contracts were signed for

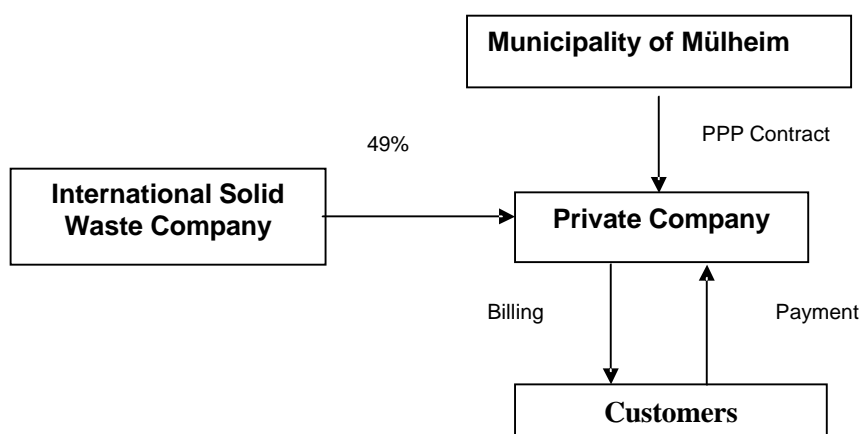
- transfer of shares/capital (partnership agreement: “Gesellschaftervertrag”)
- infrastructure (public asset)/services (MSWM, road cleaning, maintenance of the infrastructure/vehicle fleet) and staff (“Überleitungsvertrag”)
- the private investment over 15 to 20 year and economical, technical and environmental standards to be realized in 2005, 2010 and 2015,
- the tariff level for the period 2000/2005 and certain annual contract payments for the Trienekens AG (sales taxes included)
- building and operation of a new landfill for hazardous waste in an outskirt of Mülheim
- building and operation of a new technical facility for biological waste
- risk of the private and public partner to guarantee a certain annual volume of waste (risk allocation).

The direct public-private negotiation process with Trienekens AG to formulate these detailed contracts in Mülheim showed two main problems relevant for all municipalities trying to establish PPP. The first problem is the risk that competitors sue the municipality if negotiations take place with one private enterprise only. Even if the partners agree on an in-house contract, national and European rules for tendering are very strict. In the Mülheim case the responsible chamber for tendering of the state North Rhine-Westphalia confirmed in October 2000 the decision of the city council concerning the MEG II PPP concept. The given reasons were only of a formal nature being that the time limit for filing complaints had expired. As a second problem it has to be mentioned that dealing with multidimensional objectives direct public-private negotiations can be similar time consuming – if experiences are lacking under the conditions of a emerging market driven economy – as competitive tendering. The experiences with MSWM in Mülheim showed that the sometimes proposed time-

advantage of direct PPP-Negotiations is not an automatism if different complex and detailed agreements have to be contracted.

Regarding the relations between the parties constituting the MEG II PPP in Mülheim the way of direct public-private negotiations with only one private partner implies certain risks. A disadvantage for the public of this tight relation is that information about the financial agreements – including the role of the involved banks, annual contract payments and methods of contract award – is kept confidential. Beside the legal risk, which is implied, the lack of public information and therefore lacking competition is one problem of direct negotiations. The fact of lacking competition leads to the further risks that with different private tenderers the price for the transfer of the public asset to a private partner could have been higher, that the degree of cost saving with the Trienekens AG as private partner never has been really substantiated and that the danger of corruption is rising. There is no valid information to answer these questions clearly for the case of Mülheim, but in Cologne and other municipalities in NRW corruption was observed in similar PPP cases in MSWM in the 90s. In these cases representatives of the Trienekens AG and public employees, who accepted financial grants of the company therefore, had agreed on the non-consideration of the bids of competitors in case of direct negotiation or how the bids of Trienekens should be formulated in detail in case of competitive tendering.

PPP Structure of Mülheimer Entsorgungsgesellschaft mbH



Lessons Learned

- restricted competition and concentration on one private party in the development phase implies risks in effectively addressing the multidimensional set of economical, technical, quality and environmental objectives
- these risks included lack of public information, potential for increased costs, corruption allegations and insufficient competition to promote efficiency gains and technological improvements.

In spite of these risks there are some positive factors of the Mülheim approach, which facilitated the PPP success:

- for clear and detailed solutions regarding the pressing economical, technical, quality and ecological problems of MSWM contracts are signed in a time-effective process
- a new landfill for hazardous waste and technical facility for biological waste have been built, which are used by different municipals in the Ruhr area and therefore help to improve the cooperation between different municipalities slightly by using the “simple” instrument of service contracts
- the employment and tariff situation are kept stable

PART III

TRANSPORT INFRASTRUCTURE

Transport Infrastructure Sector Analysis

Introduction

PPP principles have been applied in the transport sector for a considerable period. With the popularisation of transport and the advent of sophisticated and high-speed connections it has, if anything, become easier to apply PPP principles. However, while experiences are numerous, the transport sector is useful in demonstrating the potential for failure if fundamental issues are not correctly addressed. These include: demand forecasts, cost control, coherent planning or ensuring sustained political support, to cite but a few causes.

Some of the most important issues that will influence the selection of a preferred form of transport PPP are the size and scope of the project, the ability to apply user charges (or shadow tolls) and the extent of risk transfer required. Major road schemes or mass transit systems are well suited to traditional design and build contracts, as operating costs in a typical scheme are low compared to the capital costs of construction while the collection of fees is relatively straightforward.

In some instances and particularly for major road schemes, construction may be funded in part or in whole by user charges. For example, bridges and tunnels are well suited to user charges where there is a clear benefit to be gained from choosing the tolled route over an alternative route. In such circumstances, the public sector must decide whether to transfer responsibility for financing the project and collecting charges to the private sector contractor. As will be seen in certain cases, the existence of alternative routes severely affects the financial viability of such schemes and will ultimately result either in the public sector having to take larger financial responsibilities or project failure.

Different types of PPP contracts are already being implemented in Europe. Toll motorway concession contracts are suitable where the private sector contractor will finance a major road scheme, collect user tolls and bear the risk associated with traffic demand. BOT contracts are more suitable where the private sector will receive fees paid by the public sector (shadow tolls), but the public sector will finance the project and accept the risk associated with demand. Shadow toll DBFO contracts are likely to be more suitable where the private sector contractor will accept some of the risk associated with traffic demand, but direct user tolls are not applied. A number of major road projects have been undertaken in England, Finland, Scotland, Spain and Portugal on this basis and the private sector contractors are paid on the basis of Shadow Tolls. However, there are also a range of issues associated with this approach including the greater level of demand risk retained by the public sector and the fact that, as motorists do not directly pay for the economic cost of infrastructure provision, infrastructure investment may not be rationally allocated.

Minor projects are more suited to traditional design and build contracts and are not likely to be suitable for other forms of PPP unless bundled together into a larger contract with a significant operating element.

Selected Cases

A broad selection of transport projects were selected including roads, tunnels, rail and airports in both Member States and Candidate Countries. Numerous other examples of transport PPPs exist including the French motorway system, toll bridges or even port developments. However the limited cases are presented in order to demonstrate the following:

- The absolute importance of undertaking effective and rigorous demand and cost forecasting in order to avoid cash flow problems. Associated to this is the need of having a degree of flexibility in the PPP agreement should demand forecasts and revenue projections need to be revised

- The need for capable national expertise in PPP development and implementation so as to effectively design and monitor the agreement and intervene as required
- That to use the problem solving potential of PPPs effectively, the integration of private partners must occur at the earliest possible stage
- That assistance from the European Commission can be an important catalyst to mobilising local public and private investment, but that it cannot substitute a long term viable financing concept
- That transport projects cannot exist in isolation and must form part of a regional development plan geared to fully exploiting their potential
- That new PPP projects, particularly in Candidate Countries, require committed and sustained political support but must also demonstrate a clear benefit over traditional methods of project realisation and financing

Distribution of PPP Structures

<i>Cases</i>	<i>Concession</i>	<i>BOT/ Other</i>
<i>M1 M15, Hungary</i>	X	
<i>M5, Hungary</i>	X	
<i>Beiras Litoral, Portugal</i>	X	
<i>Hamburg, Germany</i>	X	
<i>Warsaw, Poland</i>		X
<i>Kassel Calden, Germany</i>	X	
<i>Wijkertunnel, Holland</i>		X
<i>Perpignan, France</i>		X
<i>CTRL, UK</i>	X	

Key Financial and Contractual Conditions

<i>Cases</i>	<i>Guaranteed Minimum Revenue</i>	<i>Risk of Contract Termination</i>	<i>Profit Sharing</i>	<i>Sharing of Management Decisions</i>
<i>M1 M15, Hungary</i>	Initially none	Medium	Yes when profit generated	Board includes public and private parties
<i>M5, Hungary</i>	Yes – standby loan facility	Medium	Yes when profit generated	Board includes public and private parties
<i>Beiras Litoral, Portugal</i>	Government provides shadow toll	Low	None	None
<i>Hamburg, Germany</i>	Yes	Low	Yes	Board includes public and private parties
<i>Warsaw, Poland</i>	Yes	Slight	Yes	Board includes public and private parties
<i>Kassel Calden, Germany</i>	Yes	Low	Yes	Mostly public
<i>Wijkertunnel Holland</i>	Minimum revenue guaranteed	Low	None	Shared
<i>Perpignan, France</i>	None	Low	None	Mostly Private – public oversight
<i>CTRL, UK</i>	Initially none	Slight	None	Shared

Lessons Learned

While the sample of projects is obviously too small to draw definitive conclusions, they are useful in demonstrating a number of issues and the solutions found. These can be of value as the Candidate Countries develop the next generation of transport projects under restrictive national budgets, increasing access to European grant funding and an obligation to upgrade and extend their transport infrastructure.

The principle lessons learned include the following:

- As the Wijkertunnel project demonstrated, a PPP is a relationship between two parties with very different objectives and working approaches. In order for PPPs to be successful, these differences have to be identified, understood and integrated, allowing each party to realise its objectives but also to facilitate a viable and sustainable project.

The public authorities must develop their expertise to design, negotiate and manage a PPP. A successful model has been the early establishment of a national PPP resource centre. This can also help in developing and sustaining the crucial political support.

- As the Hungarian M5 project demonstrated, given the inherent difficulties in correctly forecasting traffic volumes, sustained and, when required, active Government and political support is critical both in ensuring the continuation of a project but also in reducing its long term costs which can be increased through uncertainties and risk perceptions.
- The Wijkertunnel, CTRL, M5 and M1 – M15 projects demonstrate the importance of travel / demand forecasting and the inherent difficulties in getting the forecasts right. Additionally they demonstrate the need for a degree of flexibility in the contractual and revenue provisions, which foresee the possibility of having to adjust revenue flows in respect of changing demand realities. The M5 project highlights the need for an appropriate allocation of risks between the parties and the important requirement of avoiding the total transfer of unmitigated traffic risk to the private party. This is particularly important in economies without previous PPP experience or on traffic corridors with no previous tolling experience.

The M1 – M15 project demonstrates how, despite initial political support and strong economic justifications, a project can fail due to over optimistic traffic forecasts. However it also demonstrates the need to avoid developing transport projects in isolation but as part of a coherent strategy, which integrates PPP needs and characteristics, particularly financial viability. In this case the existence of a parallel road undermined the project's financial viability.

- The need for effective and rigorous preparation is brought out by all projects and in particular the Perpignan – Figueras rail and Kassel-Calden airport projects. This showed that 3 conditions need to be fulfilled in terms of strategic planning and project preparation, including:
 - A rigorous cost benefit, competition and demand analysis
 - A viable long term financing plan which is able to decrease dependence on EU and national funding support over time
 - The inclusion of the project in a coherent regional / national strategy and plan
- The political concerns and potential for public outcry should not be underestimated. As already stated PPP projects, as indeed the PPP concept, require strong and sustained political commitment particularly in economies with little or no experience of private investment in public infrastructure and direct, or indirect, tolling and user charges. This was demonstrated on the Hungarian motorway projects where the tolls were judged to be excessive. But public outcry is also prevalent on such issues as quality of service, environmental and national concerns. The inclusion of the 'paying public' in design and monitoring considerations is therefore a critical step

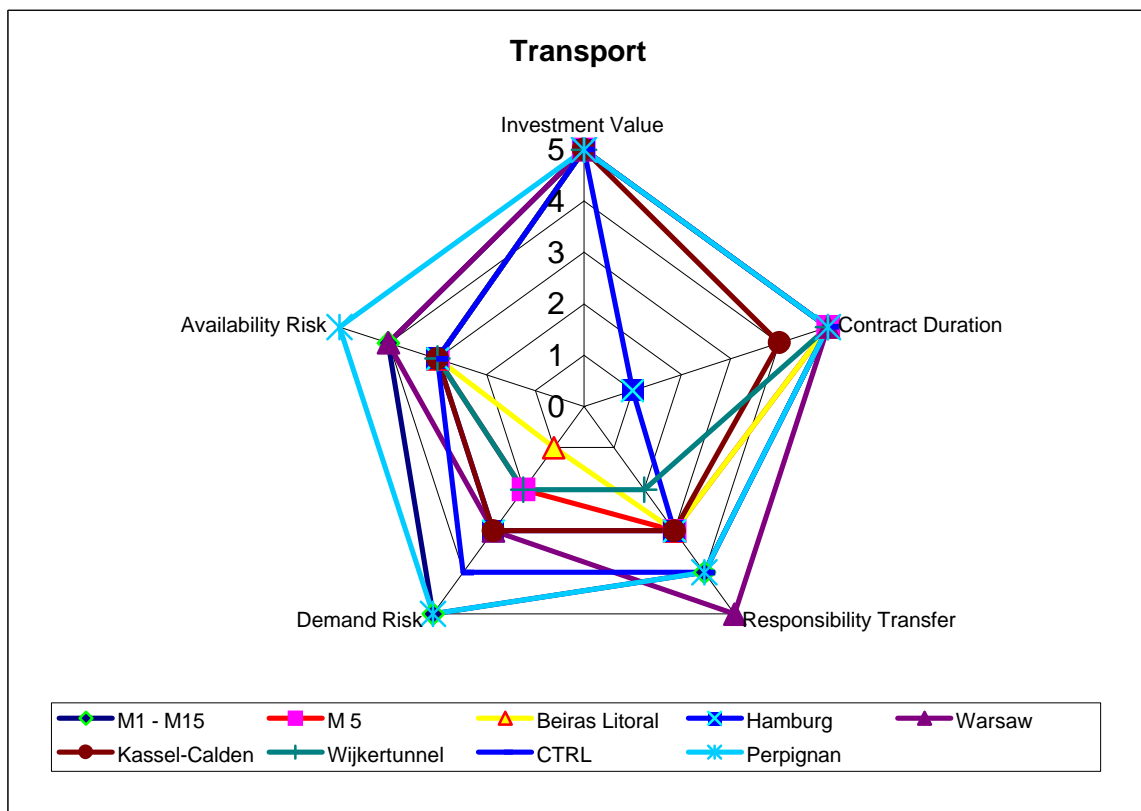
in ensuring use of infrastructure, ease of implementation and the sustainability of the PPP concept.

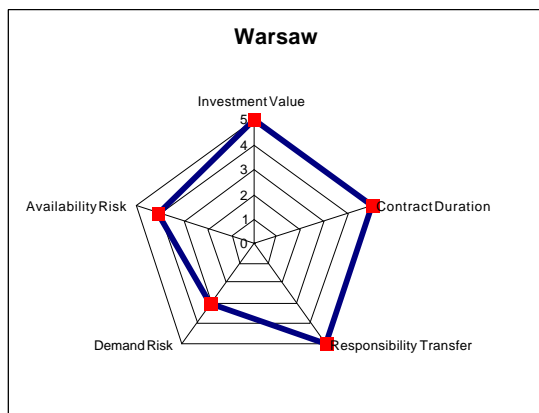
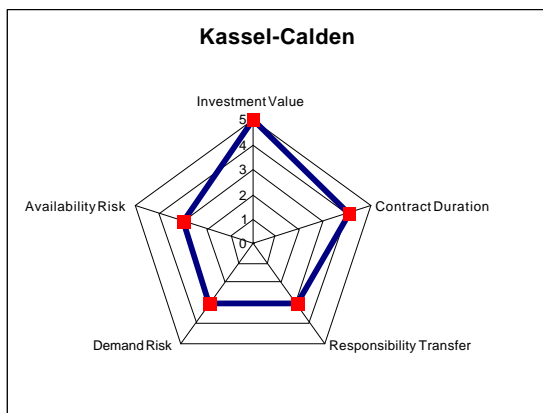
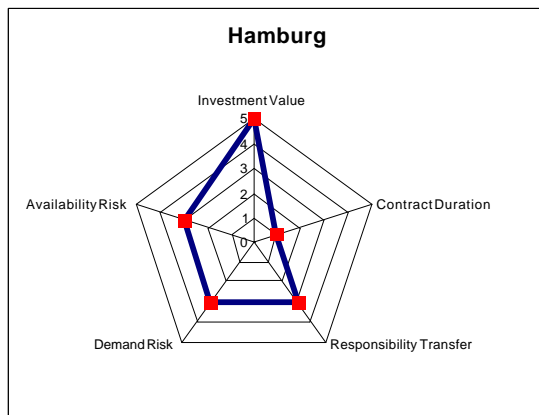
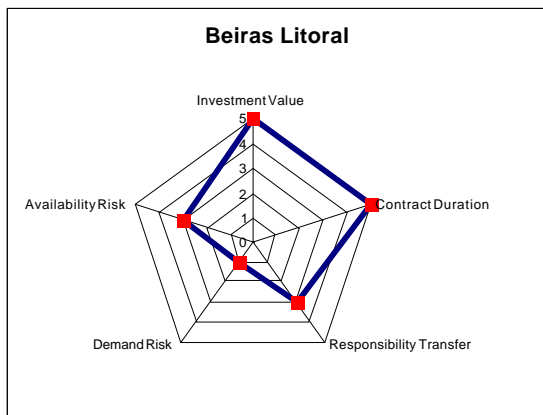
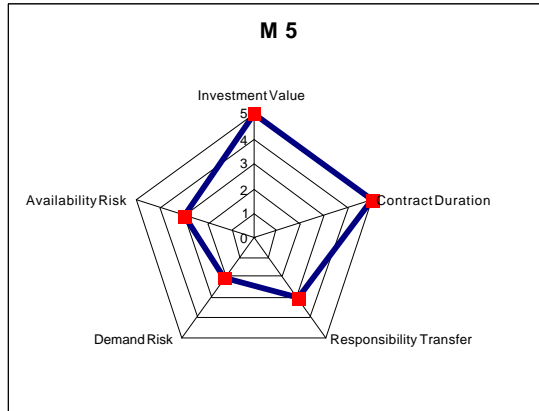
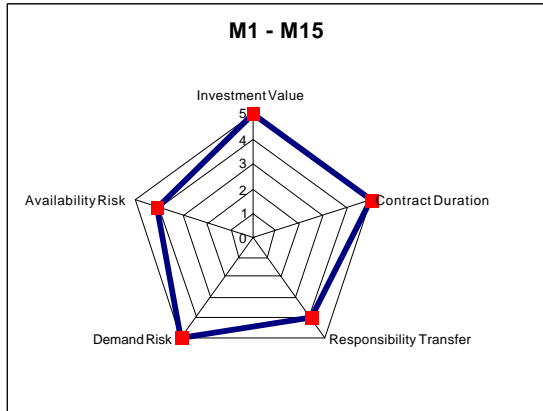
- Political and public pressures can play a negative role on the further expansion of PPP projects or the further expansion of private sector participation. This is demonstrated by the Hamburg International Airport project in which a political consideration restricted the degree of private ownership and therefore impacted negatively on the speed and degree of airport development. While it can be expected that the public sector will wish to maintain a certain amount of control over public infrastructure, if only to fulfil its role as the guarantor of services and quality to the paying public, this should not be confused with political considerations. There are a multitude of ownership structures, financing methods and above all contractual provisions which can be used to control and orientate the private party while at the same time not hindering their desire or ability to invest further and thereby harnessing further private sector advantages of the PPP model.

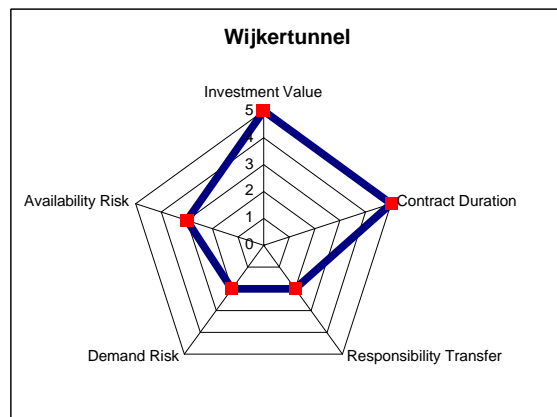
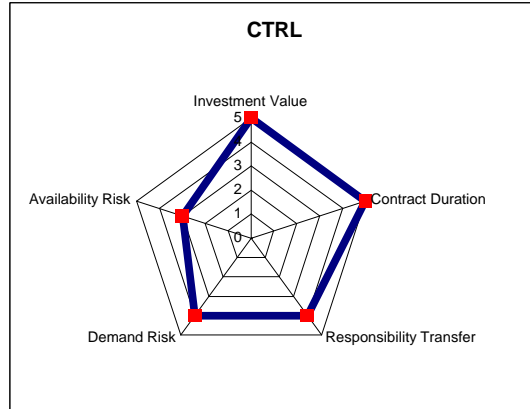
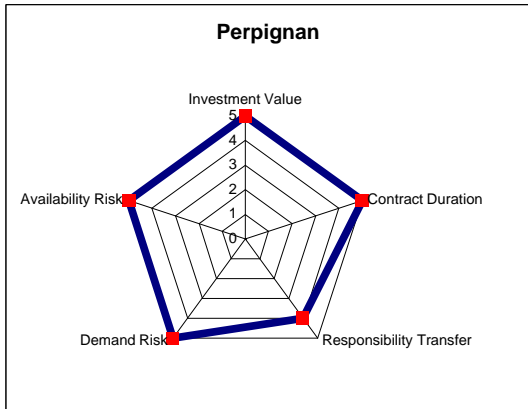
Conclusion

The following ‘Radar’ diagram highlights the qualitative conclusions of the transport case studies according to the criteria of:

- Investment Value
- Contract Duration
- Responsibility Transfer
- Demand Risk
- Availability Risk







Case 18. M1-M15 Motorway, Hungary

<i>Case Study/Country</i>	M1-M15 Motorway - Hungary
<i>Rationale/Objectives of the PPP</i>	Realisation of two high priority sections of motorway forming part of the Trans-European motorway network
<i>PPP Actors</i>	ELMKA Rt., Ministry of Transport, EBRD and other lenders
<i>Financial Structure</i>	Loans by private and domestic banks; lenders ensuring a 14 year loan maturity
<i>E.U. Support?</i>	EBRD support
<i>Contract Agreement between Parties</i>	Concession (DBFO)
<i>Risk Allocation</i>	Risks mainly allocated to the private partner
<i>Institutional/Managerial Structure</i>	Government support
<i>Tariff Setting</i>	Concessionaire free to set initial tariffs (tolls)
<i>Strong Points</i>	Attempts to achieve private sector efficiencies and incentives for the design, construction and operation of the motorway
<i>Weak Points</i>	Overestimated traffic forecasts and inadequate tender criteria

The case highlights the difficulties of transferring unmitigated traffic volume and revenue risk to private sector concessionaires, even for two high priority sections of motorway forming part of the Trans-European motorway network. It also shows the risks to which PPPs are exposed in the absence of full political support to private sector investment and toll setting.

Background

As the level of State debt did not permit public financing, a PPP approach was considered necessary for the realisation of non-recourse financing of 57 km of new motorway. Additionally it was judged that a PPP allowed more rapid implementation, including earlier financial close, of the Project than would have been permitted in conventional public sector procurement and financing. The debt would also have a longer maturity than would have been possible at the time by the Government of Hungary acting on its own as a sovereign borrower, or as a guarantor of a Special Purpose Company.

The project consisted of the design, financing, building, operation and transfer (35 years after effectiveness of the Concession Agreement) of 43 km of motorway from Gyor to the Austrian border (M1) and 14 km of motorway linking the M1 to Bratislava (M15). This would have a semi-open toll collecting system with one main toll plaza and five tolling stations on three interchanges. The parallel, un-tolled country road was to remain unimproved. The traffic volume un-tolled was forecasted to amount to 25,000 AADT (annual average daily traffic), comprising 70% international traffic and 60% commercial traffic. The full traffic risk (volume and revenue) was transferred, without mitigation, to the private sector.

In contrast to other motorway schemes in Hungary, there was no support from the State other than in initial planning and site acquisition, whose costs were to be reimbursed in the form of profit sharing. The Concessionaire was free to set initial tariffs (tolls) at their revenue maximising level and thereafter to adjust them in accordance with agreed indexation provisions (HUF CPI inflation and adjustments for HUF/foreign currency exchange rate variations). The economic rationale for the Project was largely based on time savings to be realised by users (estimated at 20 minutes per full

journey). There were no significant construction (ground or geological) risks as the terrain is flat without the requirement for significant structures to be constructed.

PPP Features

The principal parties involved were the Bureau for Concession Motorways, established by the Ministry of Transport in the Motorway Directorate in 1991, and ELMKA, Rt., a private sector company, comprising the international contractors and toll-road operator. The private party provided 19% of total financing required in the form of equity and shareholder funds. In addition, the Lenders were involved for Euro 329 million arranged by Banque Nationale de Paris (BNP), co-arranged with the European Bank for Reconstruction and Development (EBRD), and syndicated to 11 commercial banks. The Loan maturity was 14 years. At the time this was the longest maturity secured by a Hungarian public or private borrower. Hungarian Forint financing amounted to HUF 12,000 million, arranged and provided by the EBRD and Hungarian commercial banks and insurance companies, together providing 81% of total financing.

The PPP Process

The design and construction permit was secured by the Bureau for Concession Motorways in advance of the tender being initiated. Similarly the site had been acquired and paid for by the State. A two-part tender was launched in 1992 (in compliance with the Act on Concessions (No.XVI), approved by Parliament in 1991. Four consortia were pre-qualified in August 1992. The best and final offers were received from two preferred bidders in January 1993. The Concession Contract was executed with a single preferred bidder in April 1993, effective in January 1994. The principal tender criteria was the level of tariff required by the Concessionaire, subject to meeting technical commercial and financial criteria specified in the tender documentation. A two-year construction period was required and the M1 opened to traffic in January 1996.

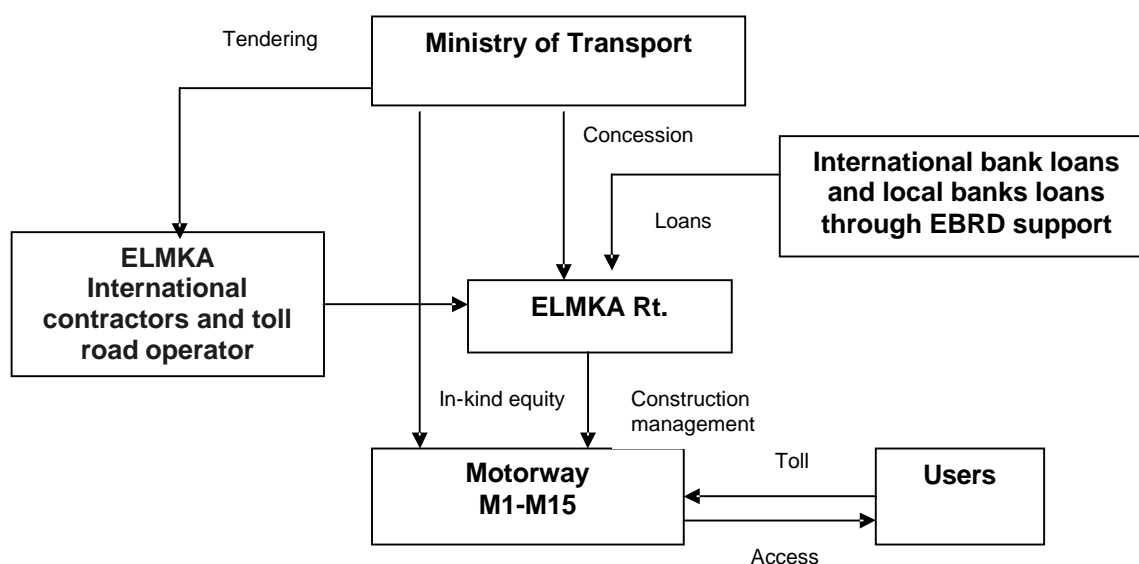
Actual Experience

Traffic volumes in the first full year of commercial operation amounted to 6,350 AADT, 46% of original estimates and ELMKA's total revenues were some 50% below forecasted levels. This reflected a significant diversion by many commercial vehicles to the un-tolled alternative route. Additionally the overall passenger car volumes were much reduced in part due to the development of large shopping centres within Hungary, removing the need for cross-border travel. Furthermore, delays in border crossing formalities for some users of 8 to 10 hours or longer, reduced the apparent value of the time savings potentially generated by the Project.

In 1996 litigation proceedings were launched against ELMKA, amongst others by the Automobile Club of Hungary, contesting the fairness of the toll levels. The court ruled that toll rates were not consistent with the level of service provided. In consequence senior lenders suspended loan disbursements for the M 15 Project and construction was suspended. ELMKA experienced serious cash-flow shortfalls and defaulted on its loans in 1998.

Following the election of a new Government, the Concession was taken over by a special purpose public sector company in 1999 and the Republic of Hungary assumed debt service obligations, from January 2003. The loans were restructured to give an overall maturity of 20 years, reduced rate of interest and a reduction in the amount outstanding, (debt write-down) secured by a sovereign guarantee.

PPP Structure of M1-15 Tolled Motorway



Other Hungarian Motorway Projects

The Bureau for Concession Motorways subsequently initiated tenders for other motorway schemes in Hungary including the M5, M3 and M7. Feasibility studies showed, in contrast to the situation for the M1-M15 that a stand-alone private sector financing solution was not possible and would require traffic volume or revenue shortfall support mechanisms. A tender procedure for the award of a private sector concession for the M3 Motorway was cancelled in 1995 and the Project was implemented by a state-owned public sector special purpose company. This was financed by means of direct Government contributions and Government guarantees. EIB loans initially made up 50% of project costs but this loan has subsequently been cancelled.

Lessons Learned

- Notwithstanding the high economic and political priority of the Project at the time, the viability of the PPP was undermined by underlying economics, which in practice did not bear out the optimistic traffic forecasts at the time the Concession was first negotiated and financed.
- Traffic forecasts are widely recognised as difficult to get right (compare forecasts for passenger forecasts for Eurostar passenger train services London to Paris and Eurotunnel revenues with the actual outturn), especially so when alternatives modes of transport or corridors are available to users.
- Optimism in the traffic forecasts was exacerbated by the adoption of tender criteria which emphasised the lowest possible tariff, and the insistence on a stand-alone private sector investor.
- The M1-M15 Project has established itself as a benchmark of the dangers to which project participants are exposed when traffic risk on a greenfield project is transferred to private sector participants without mitigation or contingent support (as opposed to the M5, see case 19).
- There is a wide variety of different commercial structures (availability charges, shadow tolls, etc.) for attracting PPP involvement in motorway and highway investments.
- A defaulting private sector concession can lead to a re-nationalisation.

Case 19. M5 Tolled Motorway, Hungary

<i>Case Study/Country</i>	M5 Tolled Motorway - Hungary
<i>Rationale/Objectives of the PPP</i>	Realisation of part of the Pan-European Transport Corridor IV under public funding constraints
<i>PPP Actors</i>	AKA Rt., Ministry of Transport, EBRD
<i>Financial Structure</i>	EBRD and commercial bank (Commerzbank and ING) loans plus EBRD guarantee
<i>E.U. Support?</i>	None
<i>Contract Agreement between Parties</i>	Concession
<i>Risk Allocation</i>	All operational, commercial and financial risks are born by the private partner
<i>Institutional/Managerial Structure</i>	Government support; International consortia
<i>Tariff Setting</i>	Provided in contract agreements, plus inflation/currency depreciation mechanism
<i>Strong Points</i>	The availability of the revenue shortfall mechanism provided a critical safety net
<i>Weak Points</i>	Uncertainty of traffic forecasts in a transport corridor without previous experience of tolling

The case illustrates a successful PPP mechanism, including in-kind equity contributions, revenue shortfall (make-up) provisions, and profit sharing for the construction of a toll road that has operated successfully in spite of lower initial revenues. In addition, it highlights the important role of IFIs in facilitating the financing at a time of limited liquidity in the commercial markets for non-sovereign, long maturity loans for Hungarian borrowers, and also the unpredictable nature of user response to introduction of tolls followed by the pragmatic and proactive response to public protest

Background

The 157-kilometre M5 forms part of the Pan-European Transport Corridor IV (Berlin-Prague-Bratislava-Budapest-Bucharest-Thessaloniki-Istanbul). It is the main link from Budapest to Hungary's Southern region and an important extension of the western and central European motorway network towards Belgrade and Bucharest.

Pre-qualification documents were released to private sector bidders in April 1992. Following the selection of three pre-qualified bidders in September 1992, a tender was launched in 1993, leading to the selection of two preferred bidders in February 1994. A 35-year concession contract was signed with the successful bidder, a Special Purpose Company formed by a French-Austrian-Hungarian consortium, Alfold Koncesszios Autopalya Rt. (AKA). The main shareholders in AKA are the general contractors, Bouygues S.A. and Bau Holding AG. Financial close was delayed until December 1995 as a result of a requirement imposed by lending banks for a fresh traffic study. In turn, this led to a requirement to increase the revenue support arrangements available to the Project from the Hungarian authorities. The operating and maintenance services are provided to AKA by Maygar Intertoll Rt, a company fully owned by the South African toll road operator, Intertoll. The concession award was made in accordance with the local Concession Act XVI/1991.

The first Phase comprises the upgrading and rehabilitation of existing roads and the construction of approximately 90 kilometres of new highway. A semi-open tolling system was adopted with two main toll plazas and 8 toll barriers on interchange access roads. AKA was required to complete the construction of the second and third Phases of the Project by 2003. The second Phase comprises a 45 kilometre extension from Kiskunfelegyhaza to Szeged and the third a further 15 kilometre extension from Szeged to the State border.

PPP Features

The toll for passenger cars was set at HUF 5.00 per km in 1993 terms, and approximately at a fourfold multiple for heavy goods vehicles. Discounts for residents and frequent users were agreed. AKA is permitted to adjust toll rates in accordance with Hungarian retail price inflation and with any devaluation of the Hungarian currency, should such depreciation exceed the inflation differential between HUF and the respective foreign currency in which AKA's external indebtedness is denominated.

Financing Plan

Use of Funds		Sources of Fund	
	ECU Million		ECU Million
Construction	252.7	Equity	66.6
AKA costs	46.9	EBRD "A"	52.0
Interest (during Construction)	70.3	EBRD "B"	198.0
		HUF Loan	53.4
Total	370.0	Total	370.0

The EBRD "A" Loan is provided directly by the EBRD, whilst the "B" Loan is provided by commercial banks, arranged by Commerzbank and ING. However, the EBRD extends its preferred creditor status (ranking ahead of other lending institutions in the event of rescheduling or revenue shortfall, by virtue of its multilateral status). At the time the "B" Loan was the largest non-sovereign international commercial bank loan raised by a Hungarian borrower. Repayment of the loans is in the form of annuities, calculated on the basis of an 18 year maturity, but with final repayment due in Year 13 as a "bullet" payment. The "bullet" payment corresponds to 55% of the initial principal amount. In order to achieve acceptance of this structure amongst commercial banks, the EBRD undertook to provide a guarantee of the final repayment.

A refinancing of all AKA's borrowings was undertaken in 2003, with the objective of extending loan maturity, taking advantage of lower prevailing interest rates, increasing gearing, (the amount of debt in the overall financing in relation to the equity) thereby allowing the equity rate of return to investors to be enhanced. Subject only to the support arrangements and in particular the revenue deficiency facility described below, all operational, commercial and financial risks were placed on AKA. Thus, repayment of AKA's borrowings and the payment of dividends to AKA's investors are dependent on AKA's cash flow and profitability.

Experience to Date

Construction was achieved on schedule, or for some sections, ahead of schedule and within budget. In 1997, the first year of operations, the average daily traffic volumes at 7,700, were significantly below forecast levels and AKA was obliged to draw on the stand-by facility (cash deficiency / revenue shortfall fund) agreed with the Government. Following a proactive marketing campaign by AKA and traffic calming measures, implemented by the Government on competing routes, the requirement to draw on the Stand-by Facility in 1998 and in subsequent years was significantly reduced. The

availability of the revenue shortfall mechanism provided a critical safety net to AKA, without which it would have found itself in default in the same way that the M1-M15 was unable to pay its debt service obligations.

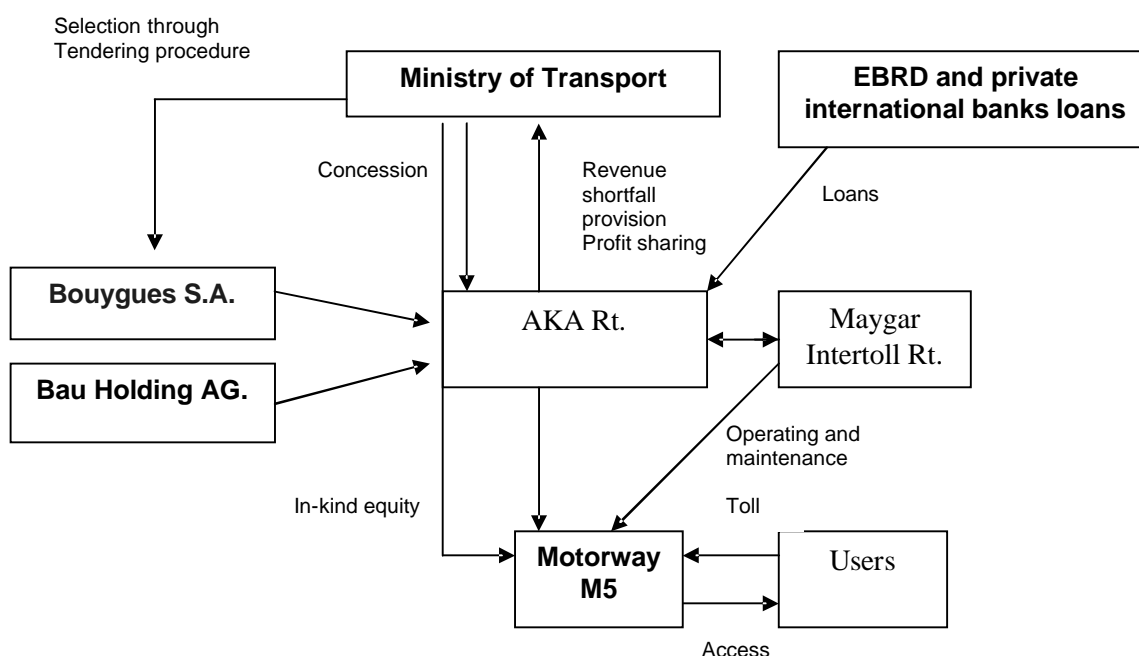
As a result of the imposition of tolls on an existing road alignment, extensively used by domestic and international heavy goods vehicles, a significant amount of traffic in the corridor, (50% or greater in the first year of commercial operation), diverted to Route No. 50, an untolled road running parallel to the M5. Traffic volumes on Route No. 50 had increased by 30% in relation to the levels prevailing before the opening of the M5. The vehicles diverting to Route 50 comprised principally local residents and cross border truck traffic, especially from the Ukraine and Turkey. The increased noise pollution and safety hazard led to protests by local residents. Subsequently, following negotiations involving the Ministry of Transport, AKA, AKA's lenders and the relevant municipalities, it was agreed to implement traffic calming measures on Route No. 50 and to build by-passes. AKA was able to resist pressures to reduce the agreed toll rates on the M5 (in contrast to a similar situation prevailing on the M1 Motorway) but did agree to a programme of more substantial discounts for frequent and local users. Some users brought legal cases against AKA concerning toll rates in force but the Courts rejected these complaints.

Government Contributions

Revenue Shortfall Mechanism. The Government of Hungary is obliged for the first six and a half years' of commercial operations (i.e. until 2006) to provide AKA with compensation in the form of a subordinated loan facility, repayable after discharge of Project indebtedness to senior lenders, in the event that AKA's actual revenues, for whatever reason, are below the levels in the Agreed Base Case. The total amount of the shortfall facility is capped at HUF 9,000 million in 1993 terms (approximately EUR 50 million).

The Concession Agreement provided for the Government to contribute at no cost the following: the preliminary design for the Project, building permits and environmental clearance, land acquisition and such roads and motorways that are already in existence and traffic calming measures on competing roads. In return for the above in-kind and financial contributions the Government will be reimbursed through a profit sharing scheme, which is expected to account for approximately one third of the dividend stream forecast in the agreed base case.

PPP Structure of M5 Tolled Motorway



The M5 continues as a viable PPP. The Government of Hungary provided capped, contingent, revenue shortfall support during the first nine years of commercial operations. Traffic volumes were significantly below forecast levels, but the Concession Company was able to avoid a default by drawing on the contingent Government support payments and a restructuring of its long-term borrowings.

Lessons Learned

- The M5 experience highlights the importance of an appropriate allocation of risks between the public and private sectors and the critical requirement for avoiding the transfer of unmitigated traffic risk to private sector investors and their lenders. This is especially important in transport corridors without previous experience of tolling.
- The early operating experience of the M5 illustrates the difficulties, which even the most experienced traffic forecasters have, in arriving at dependable forecasts of toll acceptance by drivers in a traffic corridor with no prior experience of tolling.
- Given the inherent uncertainty of traffic forecasts in such situations, the Government support arrangements, especially the revenue deficiency facility, were critical in ensuring the financial existence and viability of the Project and in avoiding the risk premia, which lenders and investors would otherwise have required.
- Experienced technical, traffic, financial and legal advisers were important to both the Government and private sectors in order to achieve a satisfactory allocation of risk and an appropriate revenue support mechanism.
- The financial viability of a capital-intensive road project is dependent on achieving loan maturities of acceptable length. The loan maturity available to borrowers in Hungary in 2003 has substantially increased in relation to the circumstances prevailing when the M5 financing was first initiated as a result of Hungary's improved economic position and EU accession status. The EBRD played a critically important role, at that time, in enabling the necessary loan maturities to be achieved.
- Even without the improvement in Hungary's overall economic position, the rate of return to investors would have been significantly improved by refinancing the initial borrowings, once construction risks had disappeared and the financial results for a number of the early operating years can be made available to lenders.

Case 20. Beiras Litoral and Alta Shadow Toll Road, Portugal

<i>Case Study/Country</i>	Beiras Litoral / Alta Shadow Toll Road, (SCUT IP5) - Portugal
<i>Rationale/Objectives of the PPP</i>	Construction of a highway to improve safety levels and travel times between Portugal and Spain, in the context of constrained public budget
<i>PPP Actors</i>	Portuguese State (as grantor), the consortium Lusocut Auto Estradas das Beiras Litoral e Alta S.A. (as concessionaire)
<i>Financial Structure</i>	EIB loan; commercial bank loans, equity
<i>E.U. Support?</i>	EIB loan and guarantee
<i>Contract Agreement between Parties</i>	Concession under a shadow toll regime
<i>Risk Allocation</i>	Balanced risk allocation between the grantor and concessionaire
<i>Institutional/Managerial Structure</i>	Private consortium
<i>Tariff Setting</i>	Tariff payments calculated according to the number of vehicle kilometres of usage
<i>Strong Points</i>	Already heavy traffic prior to tender
<i>Weak Points</i>	- Absence of environmental licensing when tendered; large public funding burden

The case outlines that both the clear statement of the project objectives (with careful initial appraisal of the project and development of a public sector comparator) and obtaining all licences (including environmental ones) are essential in order to effectively benefit from the partnership

Background

Following the launch of the National Road Programme in 1996, the Portuguese Government initiated a programme of new motorways on a project finance basis, with an aggregate investment cost of around EUR 5 billion. The first phase of the programme included two real toll and six shadow toll (SCUT⁶) road concessions (an additional SCUT was included later). Some of these highways provide main transit corridors between Portugal and Spain, which constitute a vital part of the national motorway network. A rapid programme of road construction was required at a time when public sector budgets for new capital investment were heavily constrained. The objective was not only to enhance the availability of the road infrastructure, but also to compensate for regional economic imbalances and generate employment opportunities, with the smallest possible initial financial contribution from the government.

Project Description

The project entails the widening and upgrading of 167 kilometres of the existing two-lane (2x1) IP5 highway between Aveiro, in the Coastal West, and the Spanish border at Vilar Formoso (East), via the cities of Viseu and Guarda. The existing road goes across hilly terrain with gradients of up to 8%. Vehicles per day range between 9 000 and 12 000, varying with location and season. Trucks account for as much as one third of total traffic flow. The accident rate on IP5 has been notably high. Despite the heavy traffic, the absence of non-tolled alternative routes, induced the government to adopt a shadow toll regime for the concession, then with expected construction costs under € 250m. The

⁶ SCUT – “Sem Cobranca ao Utilizador”

concessionaire thus receives tariff payments directly from the grantor, which are calculated according to the number of vehicle kilometres of usage and determined with reference to a banding system.

PPP Features

Institutional and Management Structure

In 1998, the Portuguese Government, through the Ministries of Public Works and Finance, solicited bids from the private sector in a public tender. After a preliminary screening process, two of the bidding groups (led by Portuguese contractors) were admitted to the negotiating phase as preferred bidders, and their respective Best and Final Offers were submitted in October 2000, presenting bid values much higher than the ones presented in the initial phase of the tender: the expected net present value of payments from government to the concessionaire nearly doubled relatively to the initial bids, reflecting the fact that estimated construction costs almost trebled, attaining €93.4m; start-up costs amounted to €75.5m and financing costs to €164.9m. In February 2001, the consortium Lusoscut - Auto Estradas das Beiras Litoral e Alta S.A. was awarded the concession for a thirty year period, including 5 years for the construction with phased opening. In order to reduce costs and increase road safety, the project included the construction of large new sections of highway, instead of enlargement of existing ones. The concessionaire is incorporated as a limited liability SPV company under Portuguese law. The shareholders comprise several Portuguese contractors and financial institutions with commercial interest in the Project also as lenders.

<i>Shareholders</i>	<i>SPV Equity (%)</i>
<i>Mota & Companhia</i>	<i>18.6</i>
<i>Bento Pedroso Construcoes</i>	<i>14.2</i>
<i>Engil</i>	<i>14.2</i>
<i>OPCA</i>	<i>12.4</i>
<i>Banco Espirito Santo</i>	<i>10.0</i>
<i>BCP –Banco de Investimento</i>	<i>7.5</i>
<i>7 other Construction Companies, each with 3.30 per cent</i>	<i>23.1</i>

The Government is paying for existing sections of the IP5 road, which will either be widened, duplicated or replaced by new sections. In 2002, the environmental appraisal of the project resulted in the refusal of the project and the requirement of enlargement of all existing sections regardless of their gradient or sinuosity (that should be, nevertheless, corrected). As this represents a deviation of more than 200 metres away from preferred alignment, the concessionaire is entitled to compensation for any additional costs or for delays in relation to the baseline of the submitted variant. As the environmentally accepted alternative (of just enlarging the existing road) was not accepted by government, construction works were stopped, and work schedule is delayed several years, waiting for an agreement between concessionaire, government and local authorities (and for the result of its ulterior environmental evaluation). Only the eastern section of IP5, 35km between Vilar Formoso and Guarda, is completed.

Financial Structure

<i>USE OF FUNDS</i>	<i>EUR MILLION</i>	<i>PERCENTAGE</i>	<i>SOURCES OF FUNDS</i>	<i>EUR MILLION</i>	<i>PERCENTAGE</i>
<i>Construction Costs</i>	<i>693.4</i>	<i>60.5</i>	<i>Equity</i>	<i>102.0</i>	<i>8.9</i>
<i>Start-Up Costs</i>	<i>75.5</i>	<i>6.5</i>	<i>EIB Loan</i>	<i>470.0</i>	<i>41.0</i>
<i>Financing Costs</i>	<i>164.9</i>	<i>14.4</i>	<i>Commercial Bank Loan</i>	<i>448.4</i>	<i>39.1</i>
<i>Other start-up costs (incl. fees and reserves)</i>	<i>51.5</i>	<i>4.5</i>	<i>Net VAT Cash flow</i>	<i>126.2</i>	<i>11.0</i>
<i>VAT, Working Capital Build-up and operating cashflow</i>	<i>161.3</i>	<i>14.1</i>			
TOTAL	1,146.6	100.0	Total	1,146.6	100.0

The commercial bank loan is repayable in annuities over 25 years, commencing on the final completion date of the project. It is structured as a non-recourse loan, with repayment entirely dependent on the SPV's revenue performance according to the level of motorway usage and the resulting revenue stream. The loan from the European Investment Bank has a slightly longer maturity of 27 years and is guaranteed by a commercial bank syndicate, with the possibility for guarantee release during the loan life – 50% after year 8 and 50% after year 16 – provided agreed covenants, including debt servicing ratios, meet certain contractually defined tests.

The revenue risk under the shadow toll regime is mitigated due to the existing heavy traffic and the fact that around 81 per cent of the traffic flows forecast in the SPV business case at full completion in 2005 was already achieved on the existing IP5 route in 2000. This risk profile is reflected in the interest rate margins charged by the commercial banks, starting at 125 basis points during construction and progressing towards 100 basis points thereafter depending on the project performance.

Shadow Toll Regime

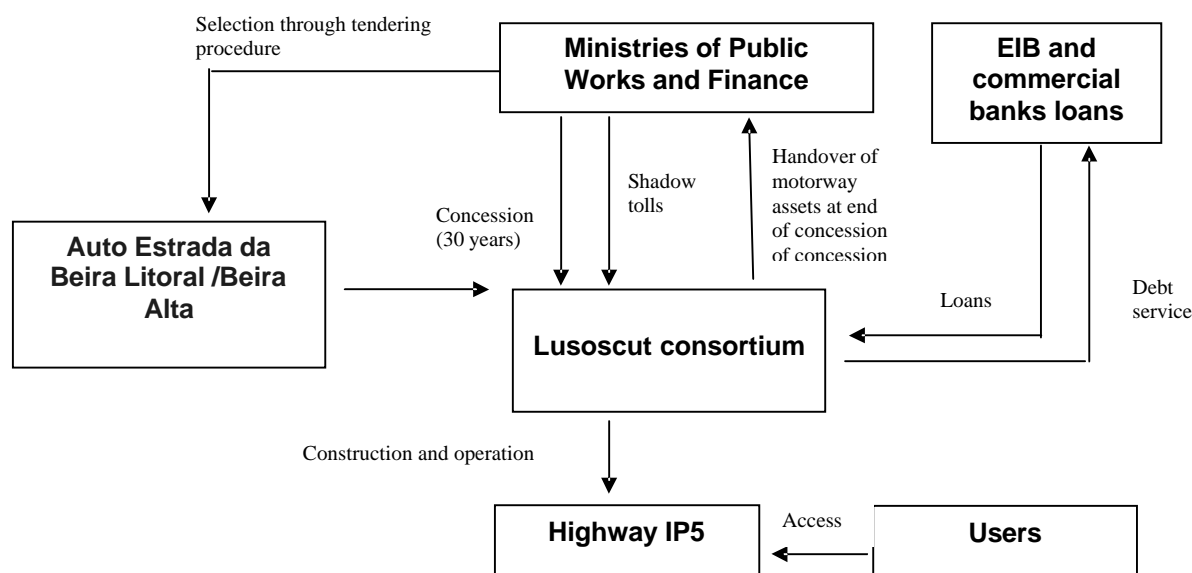
The shadow toll regime reduces the uncertainty attached to traffic forecasts under a fully tolled (user pays) regime. Under the shadow toll regime there is no deterrence to use alternative non-tolled routes, and savings in operational (toll collection) costs and in land investment costs (construction and equipping of toll plazas) can also be made.

Shadow tolls present some adverse aspects to the public sector that must be evaluated against the benefits. In first place, the regime implies the transfer of costs from users to the public purse and ultimately to the taxpayer. In second place, the regime provides some guarantees to concessionaires, in order to reduce the traffic risk or to create additional sources of profit. For instance, in Portugal, they implied the granting of some local “monopoly” to concessionaires: the government agreed contractually to freeze the Road Plan as it was in 2000, in the vicinity of road concessions, for 30 years, abstaining from increasing the level of service of those roads beyond the stipulated in the Plan. That is very difficult to satisfy in the long-term. The conditions related to future enlargements are also important. Some of these matters may be significant when payment is made according to shadow toll, but non significant if payment is made according to availability.

The shadow tolling for IP5 is based on four categories of potential traffic volumes. The first category is intended to cover the concessionaire's fixed operating & maintenance costs plus interest and principal payments on senior debt. The second category covers variable operating & maintenance costs plus interest and principal payments on subordinated debt. Revenues derived from the third category are used to pay dividends. During the first six years of the project (including the construction period plus the first operational year) the government pays only fixed amounts based on the availability of the motorway. Thereafter, shadow toll payments are made three times a year: May and September payments are set at one third of the respective year's estimated traffic and the January payment is adjusted to reflect actual traffic volumes achieved in the preceding twelve months.

The dramatic increase in projected costs of Beiras Litoral e Alta concession to the public purse occurred also in other road concessions, creating a significant burden to public accounts. The expected amount of shadow tolls in 2007 is higher than the current highways agency budget for construction and maintenance of national roads in all country. That, and the fact that traffic prospects are very good in this concession, prompted the government to announce in May 2004 that this highway (as well as several other SCUT roads) will have real tolls when completed.

PPP Structure of Beiras Litoral e Alta Shadow Toll Road



Lessons Learned

- The absence of environmental approval (at least for the road alignment) is a negative factor that impacts significantly in the process of implementing a PPP. In this case, as in others in Portugal, it created large delays (several years) and the possibility of large cost overruns that will be supported by government. This changes the initial risk allocation, eventually destroying the well-balanced distribution of risks designed during tender.
- Without a clear statement of the project objectives (standards of quality and service required), there is opportunity for presentation of sub-standard bids in the initial stage of tender, forcing an upgrade of proposals in the second stage (negotiation), with corresponding increase in proposed level of shadow tolls. This reduces the degree of effective bidding competition, even in formally competitive tenders, as bidders are allowed to present unrealistic proposals with unreasonable prices (because they know that the projects will be forced to upgrade, creating the chance for increasing prices). The definition of objectives is also useful in avoiding the introduction of changes in the projects during construction, by public authorities, something common in PPP in Portugal and source of ulterior compensations to concessionaires.
- With no careful initial appraisal of the project and inherent development of a public sector comparator, project sponsors cannot reasonably expect the outcome of tender to present prices (for the public sector or for the users) that justify the option for a PPP. Additionally, there is no guarantee that the result is sustainable from the viewpoint of public accounts. When the traffic allows, the option of real tolls should be considered; in the alternative case, the option of availability payments should be considered.
- The lessons obtained in Portugal, in this and in other PPP projects, mainly in the road and train sectors, were the drivers of recent changes in legislation • requiring an adequate appraisal of PPP proposals and the evaluation of their long-term impact on public accounts, as well as some rules for efficient design of risk sharing in PPP • and lead to the creation, in 2003, of a PPP Unit, in Parpublica SA, with significant responsibilities in PPP evaluation and appraisal and in both research and dissemination of information. Those institutional changes are crucial in the new PPP programmes, in transport and in the health sector, more focused on the provision of services to the end-user.

Case 21. International Airport Hamburg AG, Germany

<i>Case Study/Country</i>	International Airport Hamburg AG - Germany
<i>Rationale/Objectives of the PPP</i>	Airport construction and extension harnessing private sector efficiency
<i>PPP Actors</i>	Hanseatic City; Flughafen Hamburg GmbH; Consortium formed by Hochtief AirPort AG and Aer Rianta International GmbH
<i>Financial Structure</i>	Private Equity and public funds
<i>E.U. Support?</i>	EIB loan
<i>Contract Agreement between Parties</i>	Joint venture and concession
<i>Risk Allocation</i>	Shared
<i>Institutional/Managerial Structure</i>	Political support; company board
<i>Tariff Setting</i>	Fixed by contract regulated under public law
<i>Strong Points</i>	The willingness of the private partner to accept compromises such as price-cap regulation or noise protecting programmes, very attractive asset to begin with: already well managed company and high degree of reationalisation was already achieved before the asset sale
<i>Weak Points</i>	The withdrawal of the state of Schleswig-Holstein and the federal government of Germany as long term financial partners;

The case was illustrates how socio-political conflicts, regularly occurring wherever an airport expansion is planned, can be mitigated by means of a sophisticated public-private partnership agreement

Background

According to a forecast made by the German Federal Ministry of Transport in April 2001, air transport volumes are planned to more than double by 2015 as against 1997. The rise of flight movements is increasingly causing capacity bottlenecks at international airports. Therefore, upgrading and expansion of airports has become a priority in transport policy. The Federal Government presented an airport concept in 2000 in which it expresses support for the further development of airports by means of extending their capacities in all functions in line with demand. However the application of PPP principles in German airports is, at the moment, in an initial stage.

Traditionally, the Federal Government, the individual state ("Land"), and the municipalities involved, hold shares in the individual airport companies. Involvement of private partners initially took place at four locations: Düsseldorf, Hamburg, Hanover and Frankfurt/Main. The partial privatisation of the Hamburg airport is the most advanced and successful example of the above four cases. The extension measures are focussed on construction of a new terminal with large commercially usable real estate as well as connection to the suburban rail network. Together with further construction measures, e.g. extension of parking areas, the entire investment between 2001 and 2007 will reach a total of €350m.

The decisive factor for the Hamburg strategy was an effort of consolidation on the part of the public authorities, which aimed at a budget income from the proceeds of the project. In December 1997, the partners of the company Flughafen Hamburg GmbH (FHG) at that time (City State of Hamburg 64%, FRG 26%, State of Schleswig-Holstein 10%) appointed an investment bank for further preparation of the intended sale, amounting to a partial privatisation. Whilst the Federal Government and the state

government of Schleswig-Holstein wanted to dispose of their shares entirely, the City (State) of Hamburg aimed at maintaining a majority stake in the airport operating company. From its point of view, the introduction of private sector partners would increase the profitability and would therefore result in greater revenues flowing to all partners in the long term.

PPP Features

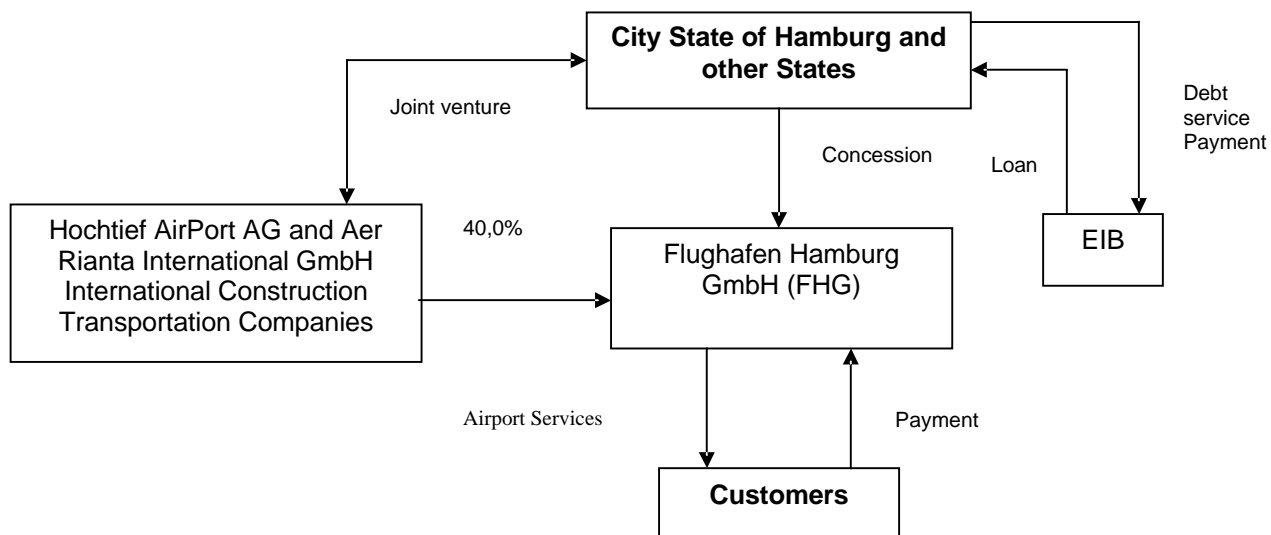
An EU-wide tender procedure was held and the contract was awarded, with the Senate of Hamburg's approval in July 2000, to a consortium (Hamburg Airport Partners) formed by -"Hochtief AirPort GmbH"- and -"Aer Rianta International GmbH", a subsidiary of the Irish airport operating company-. The consortium initially acquired 36% of the company shares in FHG at DM 540m (€96m) and obtained an option for the purchase of a further 13%. The stake of the private consortium in FHG has meanwhile increased to 40%. In addition, the EIB granted a loan to the City State of Hamburg through a local bank of Euro 220m of which €110m has been disbursed.

The objectives of the international airport joint venture had to be agreed between the City, as public majority partner; and the private consortium. Moreover, a right of veto in cases of conflict has been granted to each of the partners within the partnership agreement, e.g. with reference to fundamental issues of operation management. In addition, a so-called price-cap regulation has been agreed between the City as approving authority and FHG after its partial privatisation. This means that a contract regulates the fixing and adjustment of charges for take-off, landing, parking of aircraft, as well as the use of passenger bridges. The aim of the contract is to agree on a fixed maximum charge and to create flexibility for the airport operator in pricing without relinquishing sovereign control. The contract is to be valid from 01/01/2000 until 31/12/2004. After September 2001 and the associated traffic loss at Hamburg airport the private sector partners would have liked to renegotiate this price cap contract and achieve a better sharing of the traffic risk between the airport and the airlines.

Besides these contractual agreements, the public's interest has been considered in the planning procedure. A diligent but time-consuming public zoning procedure integrating different societal actors was initiated in 1997 and terminated in May 1998. As a result the expansion measures had been subject to little political dispute. Apart from a noise-protected hangar for trial runs of big aircraft, "unique world-wide" according to the airport operator, a total of around €25.5m has been invested in three main noise protecting programmes for the 11.000 surrounding households. The graduation of compensation according to noise emissions, a noise quota system, and a restriction on night flights for low-noise equipment between 23.00 and 06.00 h, exempting night airmail, complement the range of protection measures.

The interest of the private partners in the context of public-private cooperation will be determined at the end of the project. While the financial gains are not expected to be significant there is an evident business development value given the trend to apply PPP in the airports sector. Up to September 2001 airports were a highly interesting field in this respect due to growth in air traffic, political objectives of extensions „in line with demand“, and partial privatisation. According to this long term interest companies like Hochtief AG and Aer Rianta International were ready for some commercial compromises in PPP pilot projects concerning e.g. price-cap regulation, private and business customers can benefit from, or noise protecting programmes. After a decade of relentless enthusiasm for investment into the airports sector, the market has since the onset of international terrorism in its current form "sobered up" and become more cautious. The risk profile of such investments has changed for ever, and the price for investment in Hamburg airport is now largely considered as having been higher than warranted.

PPP Structure of International Airport Hamburg AG



Lesson Learned

Major PPP projects in airport construction can be successfully realised if the needs of all parties are integrated. Airports present particular environmental and social issues but these can be successfully addressed.

- Compensations like advanced noise protecting programmes or noise quota systems can be established contractually and financially integrated
- Private and business customers can benefit from sophisticated contractual instruments like price-cap regulations
- A right of veto in cases of conflict has been granted to each of the partners within the partnership agreement. This was seen as a central instrument of risk management strategy.

Case 22. Local Airport Kassel-Calden, Germany

<i>Case Study/Country</i>	Local Airport Kassel-Calden – Germany
<i>Rationale/Objectives of the PPP</i>	Extension of a local airport for furthering regional economic development
<i>PPP Actors</i>	City of Kassel; Municipality of Calden; IHK
<i>Financial Structure</i>	Private equity and public funds
<i>E.U. Support?</i>	EU grant
<i>Contract Agreement between Parties</i>	Joint venture
<i>Risk Allocation</i>	Shared between partners
<i>Institutional/Managerial Structure</i>	An institutionalised steering committee reflecting the “triangle relationship” of the public, private shareholders and stakeholders
<i>Tariff Setting</i>	Fixed tariffs
<i>Strong Points</i>	EU Grant catalysed local public and private investment in the phase of the institutional consolidation of the joint venture
<i>Weak Points</i>	A missing strategic cost-benefit analysis; frequent changes of private partner

The case underlines that E.U. financial assistance can catalyse local public and private investment in the framework of a PPP, but it is not a valid alternative to long term financing, and that only a diligent and sophisticated cost-benefit and competition analysis leads to a successful PPP.

Background

Due to the increase of actual and forecasted air traffic in the 90s, local sports airfields and former military airports in the old and new German states were investigated for their potential as regional airports. Regional airports should on the one hand catalyse the economic development of regions as centres of transportation clusters and on the other hand release pressure on dynamically expanding international airports. Therefore airport-operating companies like FRAPORT AG in Frankfurt/Main, the nearest international airport to Kassel-Calden, provided support to such regional airport initiatives in the late 90s. Because of the economic and environmental complexity and necessary long-term planning it was almost impossible to find private investors for regional airport initiatives, though this situation is actually changing due to the growing interest of national airport companies.

The first German local airport PPP “Kassel-Calden” was built in 1971 in a sports airfield and has been operated as a PPP since 1991. Calden with around 8.000 inhabitants is located near the central Northern Hesse city of Kassel with 200.000 inhabitants). Due to the German unification the development of the local airport for air services and even more as an industrial park has shown growing potential. Kassel-Calden being situated in the “heart of Germany” shows an increasing economic potential for services in logistics/transportation and related sectors. The necessary investment volume for the transformation of the local airport Kassel-Calden into an internationally competitive regional airport was estimated at approximately €100 to €255m in the early 90s.

The estimated investment volume depended on the chosen options for the expansion and modernisation of the runway and security equipment. Option A comprised the simple extension of the present runway from 1.670 to 2.500m. It implies the highest noise pollution for the airport residents in the region. Option B meant a displacement of the runway. B has been evaluated as the most expensive option in two feasibility studies in the 90s. Option C, a compromise between A and B, was the

favourite of the airport management since 1991. This is yet to be confirmed by an ongoing geological feasibility study. A longer runway is in all expansion options discussed as necessary for bigger airplanes of tourist charter traffic. Tourist charter traffic is estimated as the most important business segment of a regional airport in Northern Hesse besides services related to freight traffic.

PPP Features

The “Flughafen GmbH Kassel” (FGK) is since 1991 operating as a joint stock company equally shared as a public-private joint venture between the city of Kassel and changing “silent” private partners. The German model of the silent partner agreement was chosen because it enables an equal risk and investment allocation without further contracts. In 1995 the municipality of Calden and the rural district of Kassel started to participate in the FGK GmbH. Two thirds of the public shares were divided equally and transferred to the new public partners. From the beginning of 2000 until summer 2003 the local chamber of commerce took the place of the silent private partner of the FGK. The reason for this change in the partnership was that no short or even medium term return on investment could be expected with a maximum of approximately 250.000 annual passengers between 1999 and 2003. Between 1991 and 2003, facing investments of €7,5m, the annual deficit could be reduced from €0,25m in 1991 to an almost balanced budget, but a positive return on investment has not been realised. The minor investments relative to the costs of a structural expansion have been used to modernise the existing technical infrastructure, especially buildings, security equipment and vehicles. An E.U. Grant of €340.000, co-financed by the state of Hesse, supported this modernisation since 1999. The main reason for this grant, which could not be used for measures of structural airport expansion, was the importance of the airport industrial park for the development of a regional transportation cluster.

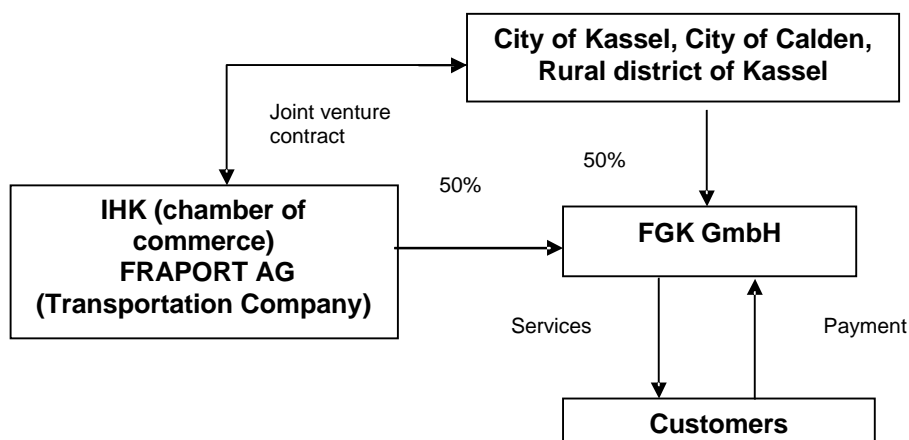
The continuation of the expansion option C was recommended in a report of FRAPORT AG. The majority of regional politicians and business associations also voted for this expansion option in the late 90s. In 1999 an enhanced public-private steering committee was formed. It consists of representatives of FGK, IHK, the city, rural district and provincial government of Kassel, the FRAPORT AG and of further institutions with importance for Northern Hesse.

Since the establishment of this additional institutional and political structure, the airport management can be characterised as a “triangle relationship” of public and private partner(s) and citizens. The regional public zoning procedure for the airport expansion due to international standards of air traffic started in January 2002 and should be finished by the end of 2003. Environmental standards, especially due to the Flora-Fauna-Habitat- and avian-protection-Directive posed by the E.U. and national government, are included in this procedure.

The project approval procedure – timed for approximately two years – can start once FGK decides on an expansion option in 2004. In the summer of 2003 IHK transferred its shares and position of a silent partner to the government of the federal state of Hesse. The reason for this transfer was its restricted competences as a self-governing body of private companies to bear long term financial risks connected with own business activities. The airport engagement of the state of Hesse is planned also to be temporary: FRAPORT AG in Frankfurt/Main shows interest in taking over the “private” shares of Kassel-Calden. Since FRAPORT AG is organised as a joint stock corporation with a public ownership majority.

In connection to the future planned development of the local/regional airport Kassel-Calden, several downsides are to be mentioned. In spite of two official and one private, (financed by local NGOs), feasibility studies, a diligent and sophisticated cost-benefit and competition analysis has not been conducted so far. The potential market allocation between the airports of Kassel-Calden and its competitors or partners Paderborn, Hannover and Frankfurt/Main, all three of them located in a distance of under 200 km, is not evaluated. Forecasts, concerning the necessary investment and annual number of passengers for a structural expansion range between €120m and €500m and 780.000 to 1,46m passengers.

PPP Structure of Local Airport Kassel-Calden



Lessons Learned

- In order to build a successful PPP in the transportation sector, a diligent and sophisticated cost-benefit and competition analysis must be carried out, which ensures the long-term viability of the project without public financial support, and includes the local airport in a wider regional transportation cluster and development concept.
- A durable partnership and consistency in partners is essential to the development of project ownership and the ability to further develop project opportunities.

Case 23. International Airport Warsaw, Poland

<i>Case Study/Country</i>	International Airport Warsaw - Poland
<i>Rationale/Objectives of the PPP</i>	Construction of a major transport infrastructure under constraint public budgets
<i>PPP Actors</i>	Hochtief Airport AG; Polish Airports enterprise
<i>Financial Structure</i>	Citybank AG loan,
<i>E.U. Support?</i>	EIB
<i>Contract Agreement between Parties</i>	Design, Build Finance
<i>Risk Allocation</i>	On private partner
<i>Institutional/Managerial Structure</i>	Political and institutional support
<i>Tariff Setting</i>	Fixed at the contract
<i>Strong Points</i>	Strong government and international support
<i>Weak Points</i>	-

The case illustrates how PPP models for international airport extension can be tested in pilot projects with calculable risks of financing and project management

Background

A significant growth of freight volume and passenger numbers is forecasted for the Candidate Countries for the period 2002 to 2020. In this context the construction of a new passenger terminal and associated infrastructure between 1990 and 1992 for the International Airport in Warsaw was the first major planned PPP airport pilot project in the EU Candidate Countries. The private partner was Hochtief Construction AG. The Warsaw airport PPP was financed by Citybank AG, which had some experiences in international PPP financing, especially together with Hochtief AG. Because of the unique character of the airport extension, the European Investment Bank (EIB) supported the construction of the new terminal I in the year 1992 with a €50m loan to PPL (Przedsiębiorstwo Porty Lotnicze), the state enterprise Polish Airports.

This first extension helped to increase the airport's capacity to 3 million passengers. Passenger traffic, however, has grown at rates exceeding forecast, reaching 4.7 million passengers/year in 2001 and is expected to increase to almost 6.3m by 2005 and 9.4m by 2010. Therefore in December 2002 EIB decided to lend PPL a further €200m for co-financing a new passenger terminal and associated airside and landside work. The new terminal will provide capacity for an additional 6.5m passengers per year thus increasing the airport's overall capacity to 10 million passengers.

An important argument for EIB to support the airport extension was the added value that this project could give to other major projects in the metropolitan region of Warsaw with private participation including a Technology Park, Integrated Logistics Centre, Exposition of Warsaw Products, Futurallia 2006, Congress Centre, Convention Bureau, Multifunctional Sports and Entertainment Arena, New City Hall and PPP possibilities in the National Motorway Programme. The accumulation of public-private partnership experience would foster a local knowledge transfer concerning the opportunities and risks of PPP.

PPP Features

The objectives of the Warsaw airport extension PPP were:

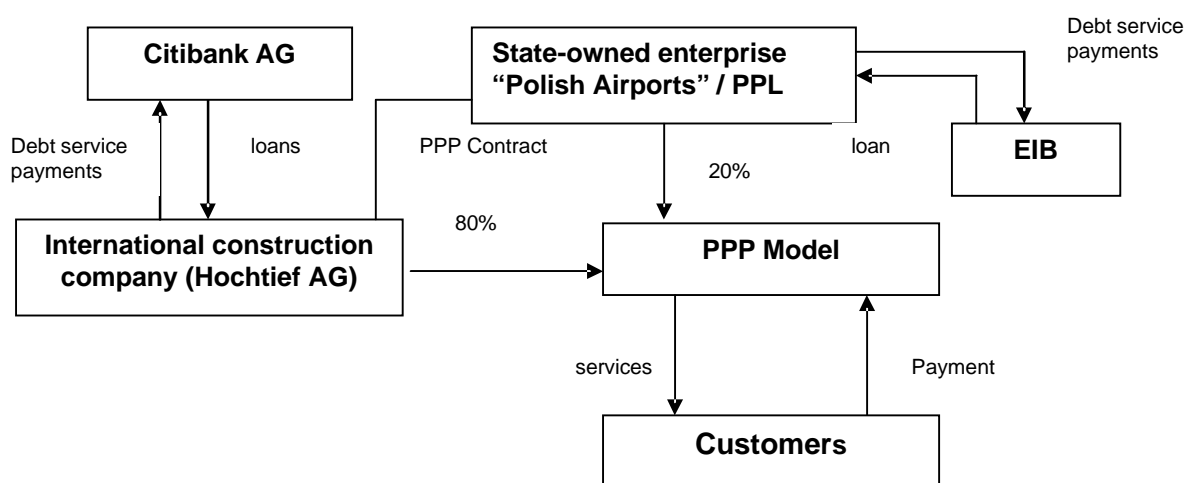
- for PPL as the public side to obtain a ready to use new terminal and examine alternative PPP models for airport construction and financing.
- for the EIB to examine and test the optimal combination of private and E.U. financing concepts for major PPP infrastructure projects.

It was considered that only an international consortium consisting of a large construction company as general contractor with both international PPP experience and established relationships to experienced subcontractors could manage the project and meet E.U. environmental and procurement standards to avoid political and legal conflicts.

The loan repayment to involved private banks began in 1993 on a quarterly basis and was completed by the end of 2000. According to the agreement between PPL and Citybank AG the latter is allowed to collect all hard currency payments owed to PPL by the foreign flag carriers, interest on the loan and other fees owed to Citibank AG. A fixed amount of money was calculated as a reserve in a collateral account. Concerning the tariff fees as base for these contractual regulations Hochtief AG, Citybank AG and PPL had agreed on a fixed model in the project framework contract.

A number of other positive elements have also assisted the success of the project. An independent Environmental Impact Assessment (EIA) was undertaken. Regarding the results of this study the public-private airport extension of the 90s is compliant with the Polish Environmental Protection Act of 27 April 2001 and with E.U. environmental legislation. Furthermore the procurement process for the design, finance and build contract comprised an open international tender competition between pre-qualified consortia, following advertisement in the OJEC. The tenderers had been also asked to propose the method of financing of the investment. Additionally the national Polish airline Lot financed one-third of the private loan of DM 221.7m in a long term contract and that a HERMES security was given by the German national export insurance company (with support of the national Polish Government).

PPP Structure of International Airport Warsaw



Lessons Learned

An international consortium consisting of a large construction company as general contractor and a major bank can manage a successful 100% PPP model for the extension or construction of international airports if several conditions are fulfilled:

- the volume of air traffic supports the planned investment and forecasts are realistic,
- the regional PPP knowledge transfer is accessible,
- the procurement process for the contract comprises an open international tender competition between pre-qualified consortia,
- Independent Environmental Impact Assessments are undertaken to assist in the mitigation of political conflicts.

Case 24. Wijkertunnel Randstad, The Netherlands

<i>Case Study/Country</i>	Wijkertunnel Randstad – The Netherlands
<i>Rationale/Objectives of the PPP</i>	Construction of a tunnel alleviating traffic congestion.
<i>PPP Actors</i>	National Transportation Department; ING Bank
<i>Financial Structure</i>	Private Equity
<i>E.U. Support?</i>	EIB
<i>Contract Agreement between Parties</i>	Concession (BOT)
<i>Risk Allocation</i>	On private partner
<i>Institutional/Managerial Structure</i>	The private bank and the construction enterprise were integrated as one contractor
<i>Tariff Setting</i>	Minimum fixed at the contract, no maximum.
<i>Strong Points</i>	Transfer of design and construction risk
<i>Weak Points</i>	Poor tendering and structuring, little or no demand risk on private party, substantial costs incurred by public party.

The case demonstrates the problems that can arise if the public sector does not possess sufficient understanding of the PPP process or the analytical framework required to assess the true costs and value for money of a PPP solution. The ineffective structuring of this project led to substantial costs to the State, which could have been avoided through better analysis and more effective tendering.

Background

As of 1980's the circulation in the Randstad, the Netherlands central region, was made very difficult by traffic congestion and car accidents. The economic costs of these transportation problems were estimated at an annual amount of approximately €180m in the early 80's and a further increase was forecast. The growing demand for public investment for the extension and modernisation of the national transport infrastructure occurred in the middle of a structural crisis of the national economical and political system, as recession, high rates of unemployment, budgeted deficits up to 6.7% of GDP hit the country in 1983. In this situation, the proposal to mobilise private capital and know-how for major infrastructure projects was part of the national government plan developed in 1983 which included a privatisation programme and a PPP approach similar to the UK Private Finance Initiative (PFI).

A task force of the National Transportation Department ("Ministerie van Verkeer en Waterstaat") developed a draft framework for the financing, risk allocation and contractual schemes for two urgent major transportation projects in the Randstad: The "Noordtunnel" and the "Wijkertunnel", presented in this case study. The financing contract for the Noordtunnel was signed in 1988, while the competitive tendering process for the Wijkertunnel started in 1991.

PPP Features

The main criteria for selection of the bidder were: financial liquidity, experience with major tunnel construction programmes and the most economically advantageous bid. The last criteria however could not be tested competitively because the ING BANK was the only bidder. Despite the missing assessment of value for money, negotiations between ING BANK and the Dutch National Department

of Transportation took place between May 1991 and September 1992. The modified PPP toll contract covered the following aspects:

- a private investment of €183m (sales tax not included) for the period 1993 to 1996
- an operating concession of 30 years with a subsequent transfer of the tunnel to the National Department of Transportation
- an option for the national government to buy out the contract earlier
- a shadow toll system that raised several subsequent concerns particularly as the minimum revenue was set at the financial / traffic demand base case and maximum revenue was not capped but related directly to actual usage.

In addition, ING was granted an EIB loan of around 93m Euros.

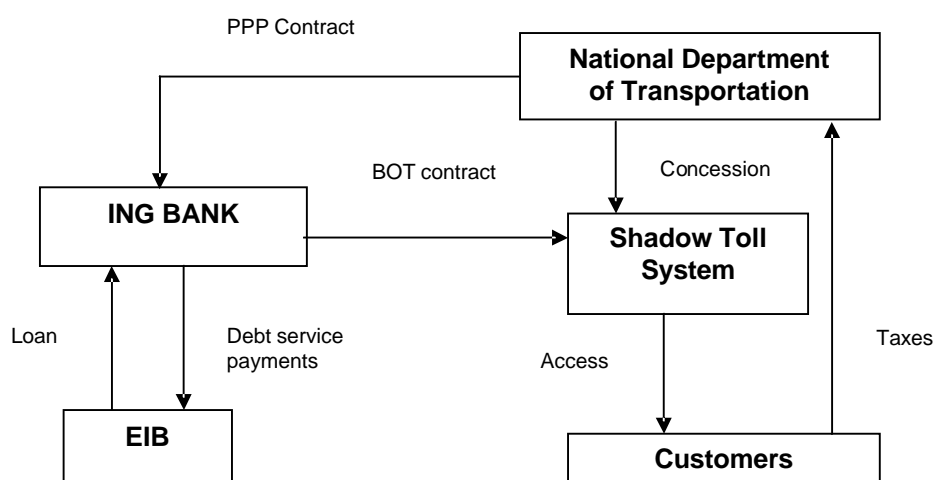
The national audit court examined both of the PPP projects Noordtunnel und Wijkertunnel in the mid 1990's. As regards to the choice of the private partner, risk allocation and the public costs of the projects, the examination underlined that:

- if a competitive tendering process only leads to one bid it should be repeated with modified bidding documents
- interest rates for the involved bank grants should not be fixed for 30 years but adjusted regularly to reflect changing capital market conditions
- the tariff fee should be fixed for all vehicles to guarantee long term calculable costs for the state
- a public sector comparator should be developed and integrated into the process of selecting both the PPP alternative (as opposed to traditional public sector alternatives) and the private partner because in both tunnel projects, the audit court calculated that the PPP solutions had been 34 to 41% more expensive than the public sector alternative.

These results of the audit court examination and general concern over the lack of value being derived assisted in reshaping the national approach to PPP implementation. A major recognition was the lack of national competence and analytical tools available for the analysis of options. The major consequences of the review can be summarised as:

- establishment of a national PPP competence centre, founded in January 1999 in the framework of the Department of Finance, with, as one of its objectives, the development of a Public Sector/Public Private Comparator, standard contracts and to organise the knowledge transfer in and between the departments participating in PPP projects
- establishment of a scientific study group to support the development of economic supervision instruments (based on an economical cost effective analysis) in April 1993 as a forerunner to the competence centre
- the need for a clear division of responsibilities between the State being responsible for policy formulation, project preparation and procurement and the private sector for the long term delivery of infrastructure and services.

PPP Structure of Wijkertunnel Randstad



Lessons Learned

The project is generally considered as having major structural deficiencies. It is interesting to note the major changes that have been implemented in The Netherlands and which now drive the development of new PPP projects.

- While the project partly transferred design and construction risk to the private party, demand risk was borne by the public party and resulted in substantial costs to the State as maximum revenues were not capped. Additionally no provision was made for including project life cycle costs in the contract
- The inclusion of (potential) private partners during the preparation and planning of a PPP can harness the problem solving potential of the private sector and PPP models. However this should in no way negate the need for the public party to have a clear strategy, detailed understanding of its needs, objectives, technical and financial details of a PPP approach; and a competitive tendering process contributing to the creation of real value for money.
- The development of a national PPP competence centre is a clear advantage for the development and application of analytical methodology, development of national know-how, provision of assistance to local authorities and the general dissemination of experience and support.
- The project clearly demonstrates that project costs and overall value for money are affected by the effectiveness of the procurement process in identifying the most cost effective solution. Also the public party should clearly identify the financial and economic case for a PPP option beforehand by comparing it to traditional public sector methods. Only if it clearly provides better value for money should a PPP option be selected (as is now the case in most EU Member States). Similarly the individual bids of the private sector should also be subjected to comparison to clearly identify the costs and benefits of each. As stated above such analysis requires the development of skills and know how at a national level together with standardised methodology.
- A modified toll model for public-private tunnel projects can be more expensive for the taxpayer than a public solution if PPP experiences in transportation projects are missing
- In a country such as the Netherlands, with a strong SME sector, there is a restricted number of potential private partners able to undertake major infrastructure projects. As a result the project structure needs to be tailored accordingly. General opinion in the Netherlands suggests that such a project would not be repeated given the overly generous terms accorded to the private party in an attempt to attract the required financing.

Case 25. Perpignan – Figueras Rail Concession, France & Spain

<i>Case Study/Country</i>	Perpignan – Figueras Rail Concession – France & Spain
<i>Rationale/Objectives of the PPP</i>	Provide link between French and Spanish rail systems, reduce travel times and transport bottleneck
<i>PPP Actors</i>	State of France & Spain, Private consortium
<i>Financial Structure</i>	State subsidies, EU grant, concessionaire equity, loans
<i>E.U. Support?</i>	EU grant
<i>Contract Agreement between Parties</i>	BOT agreement over 50 year concession
<i>Risk Allocation</i>	Construction and operational risk borne by private party
<i>Institutional/Managerial Structure</i>	Inter-government Commission regulates contract with Concessionaire
<i>Tariff Setting</i>	Publicly approved indexed fee levied on rail operators. Maximum fee set in contract
<i>Strong Points</i>	Clear performance incentives to private party, clear legal and performance structures
<i>Weak Points</i>	Possible over-reliance on private party

The case highlights the ability of a PPP approach to realise important infrastructure in a timely fashion despite tendering delays and complicated inter-governmental negotiations. Additionally it shows that substantial risk can be transferred to the private party provided that demand forecasts and revenue streams are well identified

Background

The Perpignan-Figueras rail line traces its origin from Spain's efforts to develop a standardised UIC gauge network, the European TEN-T network of rail connections and inter-state negotiations which began in 1992 and resulted in a treaty in 1995 establishing the concept of developing the line under a PPP / concession model.

The 50km long freight and high speed rail line will provide a vital link between the French and Spanish rail systems and between the Spanish and European rail networks. It is anticipated that the line will allow a reduction of 10 to 12 hours for freight and 2 hours for passenger traffic by eliminating the rail gauge difference between the two countries. This is expected to have a significant impact on the demand for rail usage. The technical parameters include 50km of line incorporating 5 bridges and an 8km long tunnel. The total investment is in the region of Euro 1 billion of which 32% is related to the tunnel.

The project has been characterised by strong and effective inter-state cooperation which established a unified implementation structure for the development and realisation of the tendering procedure. Although the tendering process had to be re-started, all sides gained valuable experience and this was put to effective use in concluding the second round. The BOT model and concession contract has been borrowed from the motorway sector but has been successfully adapted to the requirements of this rail project. The strong government support and allocation of resources was a major factor in the successful conclusion of the tender.

PPP Features

The concept of applying a PPP model was fixed by an international treaty of 1995 and the contract is granted through a bi-national tender process as defined by the EEC Directive 93/37 under the supervision of the French and Spanish States. The project will be implemented through a BOT approach including a 50 year operating concession. This is based essentially on the French motorway concession principle. The main features of the approach include:

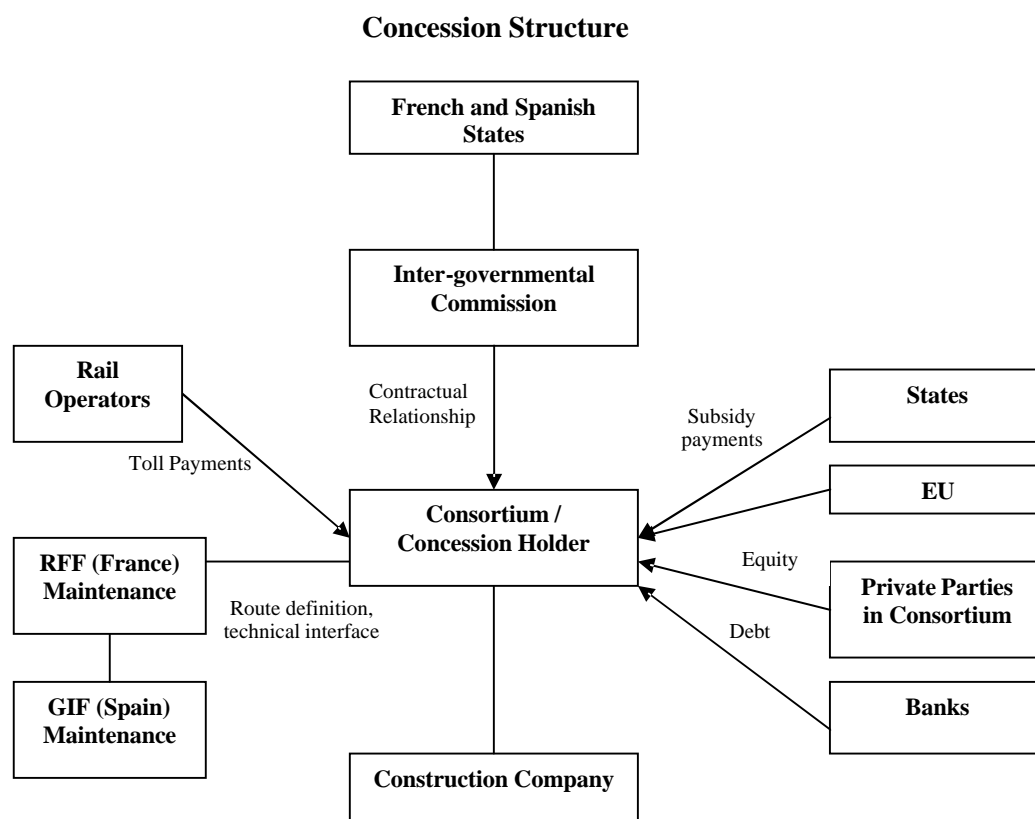
- Responsibility for design remains with the States.
- Construction and financing of the project will be the sole responsibility of the private party although the construction costs will receive a Euro 540 million state subsidy shared equally between France and Spain and which includes EU grants. This is provided to the private party in 10 semi-annual payments.
- The private party will be required to invest its own equity (estimated at Euro 103 million) and will have to raise the remainder from private bank loans.
- The operating concession is for a period of 50 years after which the assets revert back to the States.
- During the concession the private party will operate and manage the infrastructure making it available to rail operating companies at fixed rates. The contract makes stringent requirements on maintenance and availability performance (>99.9%) and sets penalties for non-performance.
- The tolls levied on the train operators have been publicly approved and indexed according to usage type. The maximum tolls are defined in the contract and for the first three years of operation the tolls will be imposed on a flat rate basis.
- Delivery of the infrastructure must occur within 60 months of contract signature and financial close must occur within 1 year of contract signature.

The tender was launched in May 2003. The procedure imposed bidding on the basis of a non negotiable contract, not allowing any alternative technical options and imposing a tight response schedule.

Bids were received by October 2003 and by November 2003 negotiations were begun with the 2 leading consortia with a contract signed on February 17, 2004.

Given the project's characteristics, the risk allocation profile can be considered as ambitious as most of the construction and operating risk is placed on the private party. However a number of checks and balances have reduced the risk. This includes, on the financial side, the considerable state subsidy covering 57% of the construction cost and strong support of external financiers on the project and the concession contract, including bank guarantees. Additionally, although there is a clear motivation on the private party to maximise the rail users, the traffic assumptions are thought to be very realistic providing an apparent stability in the financial model.

From the States perspective the contract provides for harsh penalties in case of non-performance and the ability to use a real threat of contract termination. Successful implementation does however require effective coordination and a good working relationship between the private party and the existing infrastructure managers (RFF and GIF) / rail operators and continued effective inter-state cooperation.



Lesson Learned

This project demonstrates the importance of careful planning and establishing effective oversight and management structures. Additionally it clearly demonstrates that PPP principles can be applied on difficult projects provided that the interests of all parties are identified and addressed. The main lessons learned include:

- Existing PPP structures can be applied across sectors provided that they are correctly adapted to the requirements of the sector.
- PPP in the rail sector is feasible and can include substantial risk transfer to the private party provided that the compensation system is effective and sustainable in meeting the needs of all parties. Additionally there must be a clear demand for the infrastructure providing clarity and reliability in demand forecasts.
- Tendering procedures can be implemented rapidly provided that sufficient planning is undertaken and that an effective oversight / management structure exists.
- The project clearly demonstrates the need for and value of committed political and State support for such projects, particularly in pushing through the tendering and negotiating phases.
- The project also benefits from clarity and simplicity in the division of responsibilities. All construction is the responsibility of the private party as are the operating and maintenance requirements. These are clearly defined in the contract.

Case 26. Channel Tunnel Rail Link (CTRL), UK

<i>Case Study/Country</i>	Channel Tunnel Rail Link – UK
<i>Rationale/Objectives of the PPP</i>	Realisation of a high speed rail link between the Channel Tunnel and London to reduce the journey times between London, Brussels and Paris.
<i>PPP Actors</i>	Department for Transport, Treasury, London and Continental Railways, Rail Link Engineering, Network Rail and the funders
<i>Financial Structure</i>	Initially funded through promoter's equity, government grants, revenues from Eurostar train services, development rights over land at Kings Cross Station and loans from banks and other financial institutions. After project restructuring in 1998 a substantial part of the funding was backed by Government guarantees.
<i>E.U. Support?</i>	EIB loans and funding under the TENS (trans-European Networks) Programme.
<i>Contract Agreement between Parties</i>	Act of Parliament to provide planning consents for the project and a concession agreement for the operation of the services.
<i>Risk Allocation</i>	Design, construction and infrastructure maintenance risks allocated to the concessionaire. Revenue risks also allocated to concessionaire but with some safeguards
<i>Institutional/Managerial Structure</i>	The private financing bank and the construction enterprise were integrated as one contractor
<i>Tariff Setting</i>	Track access charges agreed with Network Rail. Concessionaire free to set fares for train services and other commercial services.
<i>Strong Points</i>	Effective control over the design and construction of the infrastructure. Section 1 was opened on time and within budget in September 2003.
<i>Weak Points</i>	Little progress in developing the train services that will use the rail link. Passenger numbers and revenues on Eurostar are around half forecasted levels. Certain services have yet to materialise.

This case highlights the importance of understanding the skills and motivations of private sector partners and the impact that they can have on the long term development of transport systems. The CTRL was promoted by engineering and construction companies whose primary interest is in designing and building the infrastructure (a task they are completing successfully) but are less skilled in the operational and commercial aspect of railway systems. The development of passenger and freight services may therefore have been less successful. This case also demonstrates that on a project of national significance it is almost impossible to transfer the overall risk of the project to the private sector and that the Government must remain committed.

Background

The Channel Tunnel Rail Link (CTRL) is a 110km twin-track high-speed railway that will link the Channel Tunnel with a new international railway station at St Pancras in London. When it is completed in 2006 it will provide continuous high-speed rail connections between London, Paris and Brussels with trains travelling at speeds of up to 300kph.

It was originally envisaged that the PPP would design, build, finance and operate the CTRL for ninety years. During the development of the project it was necessary to renegotiate the concession and the original PPP is now designing, building and financing the project and then selling it to Network rail, the UK national rail infrastructure company.

History of the Project

When the Channel Tunnel was under construction in the late 1980s the French and Belgian Governments were already planning and constructing high speed rail links to enable trains to travel at speeds of 300kph between Paris, Brussels and the tunnel. In contrast, British Rail maintained that the Eurostar passenger services could be routed on existing tracks through to a new international terminal at London's Waterloo Station. This strategy not only added significantly to the journey times but also increased congestion on the existing tracks in Kent and South-East London.

In August 1987 the UK Government's Department of Transport published the Kent Impact Study which demonstrated that if no new railway infrastructure was provided in Kent, the growth of rail services in SE England would be constrained. This led British Rail to study options for a new rail link from London to the Channel Tunnel and in 1998 they published five possible routes. At the time this led to considerable difficulties in the housing market as people were reluctant to buy houses that would be affected by construction on the five routes. Under pressure from the public and Government, British Rail chose a single route in March 1989.

In the late 1980s the UK Government was promoting the involvement of the private sector in the development of public infrastructure. This policy was partly driven by the need to finance the provision of infrastructure but also by a strongly held belief that the private sector would be more disciplined than the public sector in designing and constructing infrastructure and more commercial in operating it. In December 1988 British Rail had invited six private sector consortia of engineering and transport companies to submit proposals for designing and building the rail link.

Recognising the opportunities in the Government's approach and the shortcomings of British Rail's proposals, the privately-owned consulting engineers Ove Arup & Partners decided to develop an alternative route for the rail link and in March 1990 published their proposals. The Arup route had several technical advantages over British Rail's proposal. It followed existing transport corridors, avoided many built-up areas and entered London from the East passing through a potential new transport hub at Stratford. At the time this was seen as an opportunity to connect the rail link with the London Cross Rail and Jubilee Line Extension projects that were then being planned for London.

Over the next two years there was intense activity as the Eurorail Consortium, which had won the competition to build the British Rail route, and Arup developed their alternative proposals and lobbied Government. In October 1991 the Government announced that they preferred the Arup Route and Arup was invited to join the British Rail team to develop it. Finally in March 1993 the Government announced that:

- The Channel Tunnel Rail Link would be developed as a joint venture between the public and private sectors.
- Government would provide substantial financial support to the project.

- Following public consultation, the Government would introduce legislation to provide the consortium with the planning permissions and other powers that it needed to construct the project.
- This approach would enable the CTRL to be opened by the end of the century.

As the project was now very different from British Rail's original proposals, a new competition had to be held to choose the private sector partner. Arup formed the London and Continental Railways (LCR) consortium with six other companies with interests in construction, transport, property development and banking and in August 1994 began to compete with three other consortia for the project. Eighteen months later LCR was chosen by the Government to design, construct, finance and operate the CTRL. As part of the agreement LCR took over control of the Government's share in Eurostar on the understanding that it would use revenues from the existing passenger services through the Channel Tunnel to help finance the construction of the CTRL.

In 1996 LCR began work on the design and detailed planning of the project that would lead to confirmation of the financing and to the start of construction. At the same time LCR established a subsidiary company to design and build the project. Rail Link Engineering was owned by the engineering and construction companies in the consortium and provided them with a considerable amount of work in recognition of the investment that they had made in developing the project.

By 1998 it became clear that it would not be possible for LCR to finance the construction of the CTRL under the existing agreement with Government. The principal reason for this was that the Eurostar passenger services were carrying fewer passengers than had been predicted and LCR's share of the revenues were not forecast to meet the financing requirements of the project. By this time British Rail had been privatised and Railtrack plc had been formed to own and operate the national railway infrastructure. Furthermore, a new Government had been elected only a year before and it had a long history of opposing the previous Government's policies on PPPs.

Throughout the summer of 1998 there were intensive negotiations between the Government, LCR, Railtrack and the financial institutions as the Government tried to save the project. The negotiations were constrained by the legislative framework of the project. The legislation that provided planning permission for the project named LCR as the promoter. Railtrack was now a privately-owned company and was the only organisation apart from LCR that could operate the railway. Finally, any increase in state aid to the project would have to be approved by the European Commission.

In October 1998 agreement was reached on a complex refinancing of the project. Under the agreement LCR would finance and build the CTRL and then sell it to Railtrack who would take over responsibility for the operation of the infrastructure. LCR would retain the right to develop the land associated with the project and the Government would provide certain guarantees to enable LCR to finance the design and construction work.

The final twist in the history of the project came in November 2001 when Railtrack plc was unable to finance its operations and was taken into administration by the Government. A year later it was reformed as Network Rail Ltd, a company limited by guarantee.

The first section of the CTRL was completed in 2003 on time and within budget reducing the journey time between London and Paris to 2hrs 35mins. When the project is completed in 2006 the journey time will be reduced to 2hrs 20mins. The total cost of the project will be more than £5bn and it will be completed seven years later than originally envisaged.

PPP Features

Project Structure

One of the most interesting features of the CTRL project is the changes that have taken place amongst the key participants over the twenty years since the project was originally conceived:

- **Promoter** – the promoter of the project is the UK Government through the Department for Transport. When the project was conceived there was a Conservative Government with a policy of privatising national infrastructure and developing infrastructure projects through PPPs. In 1997, before construction began, the New Labour Government came to power and took over responsibility for the project. In opposition they had been strongly opposed to privatisation and to PPPs. In Government they supported the privatised railway and the CTRL project. Over the life of the project there has been a total of seven Ministers of Transport responsible for the project.
- **Infrastructure Operator** – when the project was conceived the national railway infrastructure was owned and operated by British Rail. Under the concession that was granted to LCR, they would operate the infrastructure for ninety years and it would then revert to BR. In 1995 BR was privatised and Railtrack plc was formed to own and operate the national railway infrastructure. Under the restructuring of the project in 1998 Railtrack became the operator of the CTRL. In 2002, Railtrack was replaced by Network Rail.
- **PPP Consortium** – the idea for the route of the CTRL was developed and promoted by Ove Arup & Partners at their own expense. When the route had been accepted by Government Arup formed the LCR consortium to bid for the project. LCR are still responsible for the design and construction of the project and for property development associated with it.

The PPP Process

The CTRL is a good example of what can be achieved through a pragmatic approach to developing infrastructure projects through PPPs. From the start of the project there has been a commitment from Government to use a PPP process to design, build and finance the CTRL. The process has been changed and adapted along the way as new ideas have been put forward and as problems have had to be overcome.

Actual Experience

The first section of the CTRL was completed on time and within budget in 1993 and the overall project is on target to be completed in 2006. There is no doubt that the private sector has demonstrated its ability to deliver a complex engineering project efficiently.

The numbers of passengers using the high speed train services between London and Paris and London and Brussels are about half the number that was predicted when the project was in the planning stages. CTRL has failed to replace the airlines as the mode of choice for passengers on these key inter-city routes but has significantly contributed to increased market competition on these routes. The principal reason for this seems to be that the airlines have competed effectively with the railway and each other over these key routes by reducing fares and improving services. In contrast Eurostar has been much less commercial than the airlines in developing and marketing its high-speed rail product. This may however be a feature of rail transport as opposed to air which can be more responsive to market demand.

When Arup promoted their alternative route for the CTRL in the early 1990s, they placed great emphasis on the opportunities for high-speed domestic services from Kent and for high-speed freight. They also stressed that the alignment of the Arup route would enable high-speed train services to be extended to the north of London. The actual experience has been that very little progress has been made with these proposals. One of the reasons for this is that the original team did not have experience of operating a railway and tended to underestimate the operational problems of integrating high-speed services into the national rail network.

Other UK Rail Projects

When the present Government came to power in 1997 they quickly accepted the privatised structure of the railway and actively promoted PPPs as the means of financing and building major railway projects. At the time the CTRL was held up as an example of how things should be done.

In practice nothing has come of these proposals. This is partly the result of other well publicised problems on the UK rail network. However, the principal reason is that most of the other projects that have been promoted are upgrades of existing routes and it is extremely difficult to separate these projects from the ongoing operation of the railway so that a PPP can take responsibility for them.

Lessons Learned

- Major railway projects take many years to plan, design, approve and build. And over the years it is inevitable that circumstances will change and unforeseen problems arise. The success of the CTRL is the result of consistent Government support for the project and of a pragmatic approach to modifying the PPP to suit the changing circumstances.
- While it is advocated that such infrastructure projects be developed in the context of a coherent sector strategy there is also an inherent risk in linking projects too closely. As in this case CTRL suffered from the equally poor performance of the Channel tunnel. While the two pieces of infrastructure are obviously closely linked, provisions may have been necessary to assess the projects in isolation and the degree of dependence each has for the other. Such analysis may have allowed more robust financial provisions / safeguards to be developed.
- PPPs can deliver excellent infrastructure on time and within budget. There is consistent evidence from the UK that PPPs are much more likely to deliver the infrastructure on time and within budget than the public sector.
- The CTRL has not yet delivered the range of railway services that it committed to and it seems unlikely that it will. This is partly due to a lack of realism about the problems of integrating a high-speed railway into the rest of the network. It might also result from the fact that the PPP was led by engineering and construction companies with a strong focus on building the infrastructure rather than on developing and marketing the services.
- Even in the core Eurostar services passenger numbers are around half those predicted at the planning stage. Overestimations of revenues are very common on railway projects (Ref. "Megaprojects and Risk - an Anatomy of Ambition" by Flyvbjerg, Bruzelius and Rothengatter Cambridge University press 2003) If the Government had known this at the start of the project, it is questionable whether they would have supported it.
- It is very difficult to transfer the risks in major railway projects to the private sector. When such projects get into difficulties, Governments have few options other than supporting the existing team.