Addressing Technical and Safeguard Issues

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Project Development

Plan Design Enable

Introduction

- Technical Due Diligence
- Safeguard Issues
- Case Study – Georgia Roads

Technical Due Diligence

Ensuring Appropriate Technology
(The Right and **DELIVERABLE** Solution for the Defined Problem)

- Affordable and Sustainable
- Specifications within achievable targets
- Maintainable
- Flexibility to support expansion and upgrade
- Low risk of obsolescence

Technical Due Diligence

Service Standards and Specifications (Set out in the Contract):

- Level of Service for users
- Value for Money
- Time efficiency (Whole Life Management)
- Safety

Operational and Design Specifications (Responsibility of the Private Sector):

- Material supply
- Resourcing
- Equipment sourcing
- Detailed Design
- Whole Life Management

Safeguard Issues: Why ?

Social and Environmental Due Diligence

to improve development outcome of infrastructure investments by

- Preventing and mitigating harm to people and their environment
- Improving the social and environmental sustainability of project investments
- Assisting Socio Economic Development

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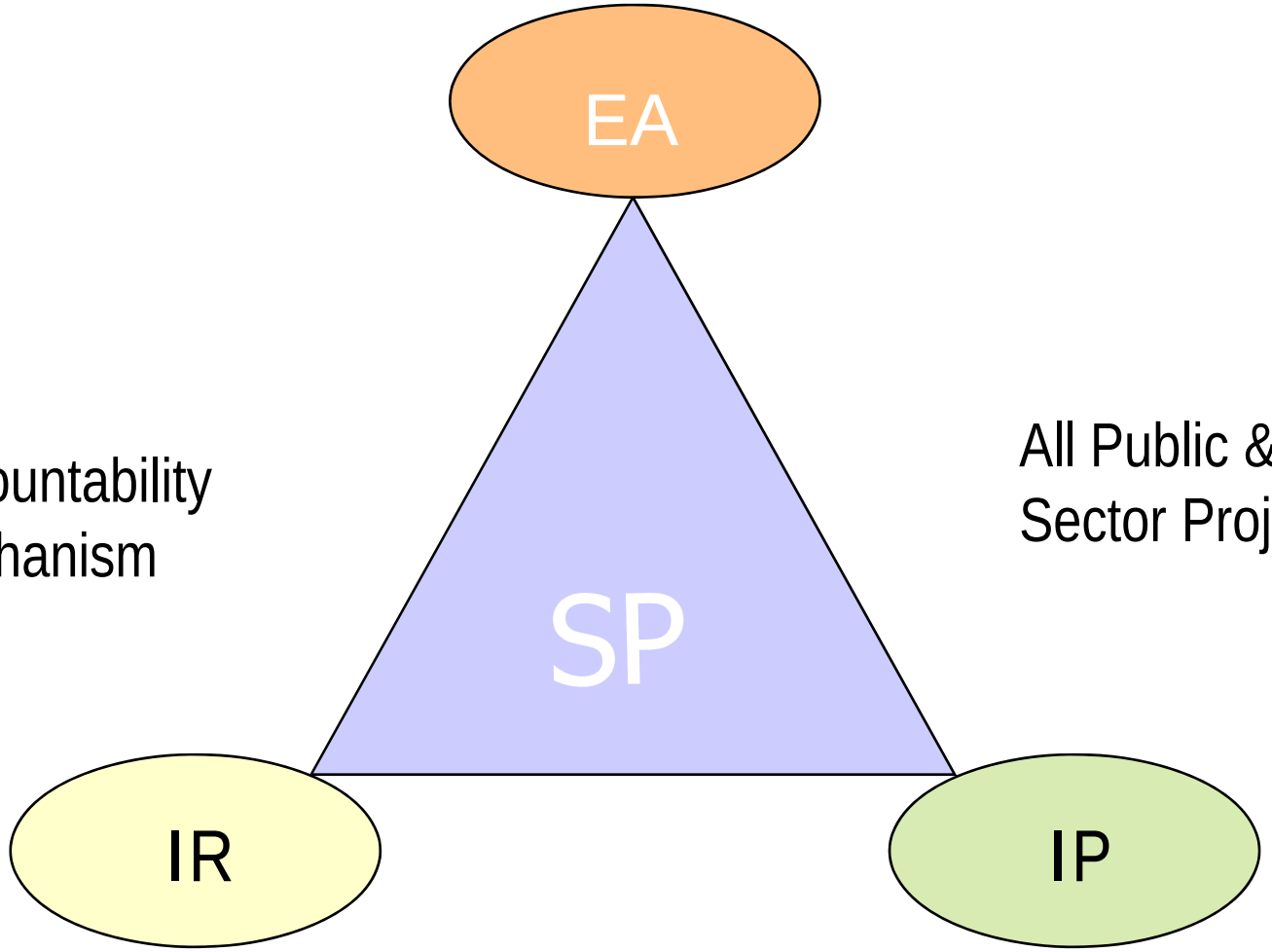
Environmental Considerations



Accountability Mechanism

All Public & Private Sector Projects

Involuntary Resettlement

Indigenous Peoples

Environmental Impact Assessment

(including potential indirect and cumulative impacts)

- Alternatives examined and least impact solution adopted
- Stakeholder Consultation
- Best value mitigation measures adopted in accordance with environmental standards
- Environmental management plans prepared including institutional arrangements, monitoring program, time plan & budget

Involuntary Resettlement

Assessment of social and economic impacts caused by acquisition of land or fixed assets, change in land use, restriction on access to land

- Compensation of affected people at replacement cost of assets and/or through livelihood / income restoration and social rehabilitation
- Measures to be designed with time-bound actions, adequate budget, institutional arrangement & monitoring program
- Beware of Land Grabbing

Indigenous Peoples

LACK OF TRUST OF THE PRIVATE SECTOR TO DELIVER

LACK OF TRUST OF THE PUBLIC SECTOR TO COMPLY WITH THE CONTRACT

Assessment of social and economic impact on Indigenous Peoples

Groups with social or cultural identities distinct from the dominant or mainstream society

- Project design should mitigate negative impact on Indigenous Peoples, including their cultural heritage sites
- Interventions should be designed with informed participation and equitable compensation extended to those affected

Safeguard Process

- Applicable for all projects and project components
- Requires a structured process of screening, assessment, planning and management to address the impacts of projects
- Should be started as soon as potential projects for financing are identified and continued throughout the project cycle
- Information on environmental, IR and IP issues should be made publicly available
- Consultation process with affected people should be undertaken
- Safeguard reports should be made publicly available

The Project

Project Scope

Rikoti Tunnel

- 138 Km West of Tbilisi
- 1750 m long
- Only practical route across Rikoti Ridge
- Current toll on all traffic
  - Light Vehicles & small buses 1 – Lari (.05€)
  - Goods Vehicles less than 10 tonnes - 2 Lari (1.0€)
  - Goods Vehicles greater than 10 tonnes - 3 Lari (1.5€)

Adjara Tunnels

- 2 twin bore tunnels between Batumi an Poti
- Location distant from Rikoti

Technical Feasibility

Tunnel Civil Structures Upgrade Options

Options	Definitions
1	Basic patch repairs to enable continued service for 10 years. No residual value assumed after 10 years.
2	Basic patch repairs to enable continued service for 15 years. No residual value assumed after 15 years.
3	More comprehensive repairs to ensure 25 year life. No residual value assumed after 25 years.

Technical Feasibility

Tunnel Mechanical & Electrical Upgrade Options

Options	Definitions
A	Like-for-like M&E replacement/repair
B	Minor upgrade
C	Upgrade to minimum EU standards

Technical Feasibility

Options to be taken Forward

Improvement Scenarios	Civil Options	Civils definition	M&E Sub-option	M&E definition
1-A	1	Basic patch repairs to enable continued service for 10 years. No residual value assumed after 10 years.	A	Like-for-like M&E replacement/repair
2-A	2	Basic patch repairs to enable continued service for 15 years. No residual value assumed after 15 years.	A	Like-for-like M&E replacement/repair
2-B			B	Minor upgrade
2-C			C	Upgrade to minimum EU standards
3-A	3	More comprehensive repairs to ensure 25 year life. No residual value assumed after 25 years.	A	Like-for-like M&E replacement/repair
3-B			B	Minor upgrade
3-C			C	Upgrade to minimum EU standards
4	2	Basic patch repairs to enable continued service for 15 years, renewed for another 15 years thereafter.	A then C	Like-for-like M&E replacement/repair for the first 15 years followed by Upgrade to minimum EU standards

Technical Feasibility

Affordable Options to be taken Forward

Improvement Scenarios	Civil Options	Civil definition	M&E Sub-option	M&E definition
1-A	1	Basic patch repairs to enable continued service for 10 years. No residual value assumed after 10 years.	A	Like-for-like M&E replacement/repair
2-A	2	Basic patch repairs to enable continued service for 15 years. No residual value assumed after 15 years.	A	Like-for-like M&E replacement/repair
2-B			B	Minor upgrade
2-C			C	Upgrade to minimum EU standards
3-A	3	More comprehensive repairs to ensure 25 year life. No residual value assumed after 25 years.	A	Like-for-like M&E replacement/repair
3-B			B	Minor upgrade
3-C			C	Upgrade to minimum EU standards
4	2	Basic patch repairs to enable continued service for 15 years, renewed for another 15 years thereafter.	A then C	Like-for-like M&E replacement/repair for the first 15 years followed by Upgrade to minimum EU standards

Technical Feasibility

Improvement Scenarios Taken Forward (Preliminary Costs)

Civil option	M&E sub-option	Civil Capital cost (US$m)	M&E capital cost (US$m)	Total capital cost (US$m)	Annual O&M costs (US$m)	Residual M&E value (US$m)
1 (10years)	A (like-for-like)	9.9	1.7	11.6	0.3	0.6
		6 months	6 months	12 months		
2 (15years)	B (minor upgrade)	11.6	11.3	22.9	0.5	3.4
3 (25years)	C (EU standard)	26.5	23.6	50.1	0.8	5.5
		16 months	12 months	29 months		
4 (25years)	A (like-for-like for 15 years, renewed for another 15 years thereafter)	11.59 (first 15 yrs) + 11.59 thereafter	1.68 (first 15 yrs) + 23.60 thereafter	13.27 (first 15 yrs) + 35.19 thereafter	0.3 (first 15 years) then 0.8 thereafter	2.4
		6 months + 6 months	6 months + 6 months	12 months + 12 months		

Traffic Capture and Revenue Forecasts

Existing Tolls

- Toll Level I – Light Vehicles and Bus <30 passengers – 1 Lari;
- Toll Level II – HGV < 10 tonnes – 2 Lari; and
- Toll Level III – HGV > 10 tonnes and Bus >30 passengers – 3 Lari.

Optimised Tolls

- Toll Level I – Light Vehicles and Bus <30 passengers – 1.9 Lari;
- Toll Level II – HGV < 10 tonnes – 6.4 Lari; and
- Toll Level III – HGV > 10 tonnes and Bus >30 passengers – 9.6 Lari.

Financial Analysis

Modelling Results
Initial estimation of the finance Gap

Finance Gap in 2004 US$ million		Scenario			
		1	2	3	4
Revenue	Gross	**24.5**	**40.42**	**77.52**	**77.52**
	PV of Gross (@10%)	**15.69**	**20.65**	**26.43**	**26.43**
	VAT	**-4.41**	**-7.28**	**-13.95**	**-13.95**
	Net of VAT	**20.09**	**33.14**	**63.57**	**63.57**
	PV of Net (@10%)	12.86	16.93	21.67	21.67
Costs	Capex	**-12.04**	**-29.47**	**-63.9**	**-49.38**
	Opex	**-3.48**	**-7.74**	**-19.77**	**-16.04**
	Tax	**0**	**0**	**0**	**-2.43**
	Setup	**-1.2**	**-1.2**	**-1.2**	**-1.2**
	Total	**-16.71**	**-38.4**	**-84.87**	**-64.19**
	PV of Total Costs (@10%)	-15.24	-33.11	-59.14	-26.18
Gap	Real	**3.38**	**-5.26**	**-21.3**	**-0.62**
	NPV of Gap (@10%)	-2.38	-16.17	-37.46	-4.51

Financial Analysis

Modelling Results

- Scenario 1 is the only scenario that can cover its costs, (excluding the costs of financing). The Present Value of revenues (net of costs) is, though, still negative;

- None of the Scenarios holds without grant support. Having a VAT exemption can help but does not close the finance gap

Tender Structure

Due to past issues, prequalification ruled out

Bidders must meet strict technical criteria to have financial bid considered

Some pre-bid negotiation allowed to facilitate submission of firm bids

Financial bid a combination of investment/maintenance cost and toll levels (plus any rentals offered)

World Bank Subsidy available

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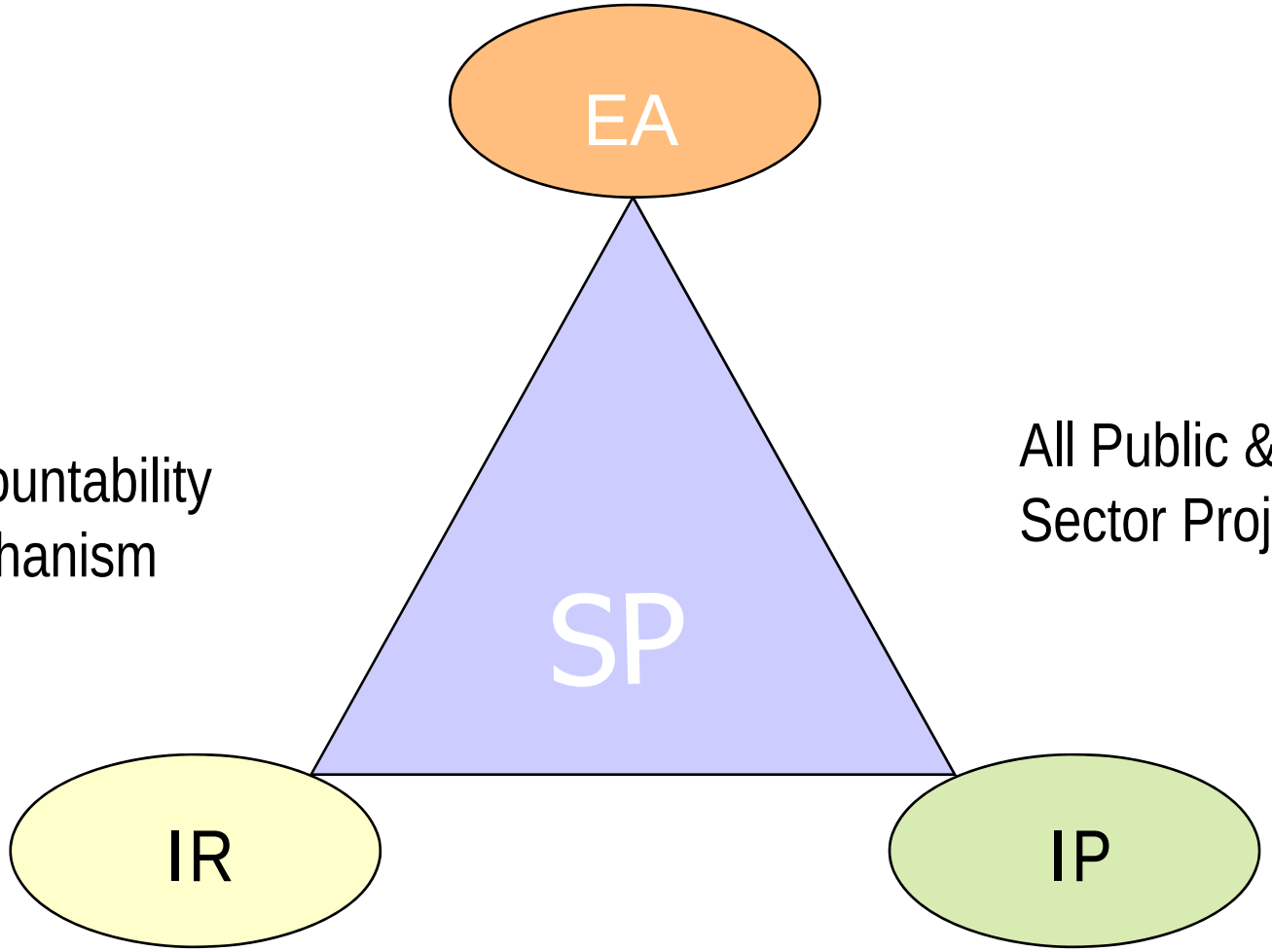

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