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Investment security in LNG import infrastructures IGU (International Gas Union) Case Studies

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ICER-IGU cooperation project: context and purpose



Context

- ✓ 5-decade experience of LNG import facilities
- ✓ Increase of LNG importing countries, transformation/diversification of business models
- ✓ ICER & IGU aiming to work together to study several cases and ways to best fostering and guaranteeing investments

Purpose

- ✓ Take a picture of different choices in terms of LNG facility regulations and to help to analyze different structures in related investment regimes
- ✓ Provide good regulatory practices, to the extent possible
- ✓ Final outcome: report build up on the case studies both from regulators and industry



ICER-IGU cooperation project: case studies

- ✓ Explain good and/or innovative regulatory principles and practices

Cases will develop on:

- Challenges developing LNG infrastructure
- Uncertainties and risks
- Regulatory policies and instruments to manage the risks
- Explanation of the expected outcome
- Empirical assessment of actual results

preferred

Cases from
different regional
areas

Different
TPA
models

Flexibility
mechanisms

Tools for
SoS and
DoS

Open
seasons
and
exemptions

Role of
LT
contracts

Ways of
promoting
new
investments

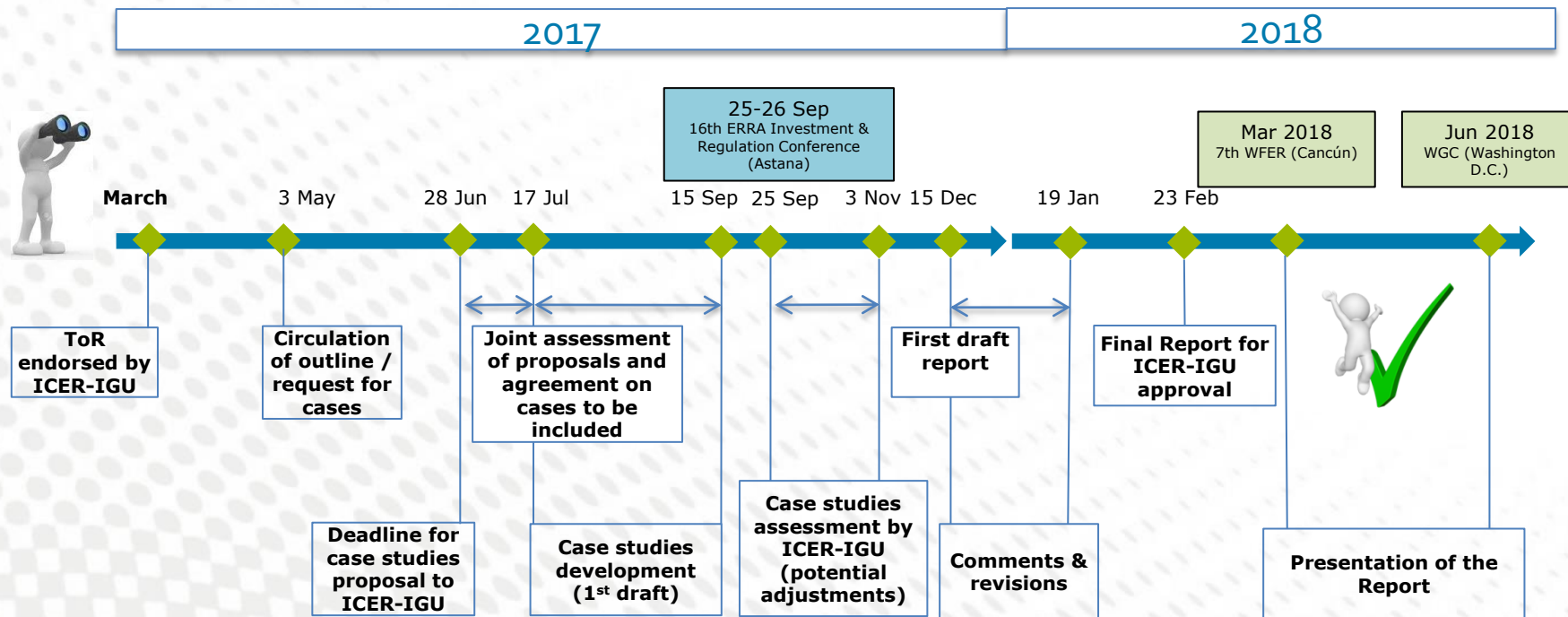


Maximum of 20 pages + annexes





1-page Executive Summary

Identify good principles/practices





ICER-IGU cooperation: Milestones for LNG report



Cases under development by IGU

Case study	Issues of potential interest
Adriatic LNG, Italy 	Technical approach, facilitating permitting Exemption granted to 80% of the capacity (remaining 20% regulated) Adaptation of access models to the limitations of an onshore platform
Dunkerque LNG, France 	Exemption granted in a country with several regulated terminals Possibility to directly supply non-odorised gas to neighboring Belgian market Exemption conditions for capacity allocation and congestion management (UIOLI)
Elengy, France 	Large experience, managing 3 LNG regas terminals Fully regulated environment: 4-year regulatory periods, several Open Seasons conducted, experience with pilot programs for new services
Enagás, Spain 	Main LNG regas company in Europe (6 terminals in Spain) and EU country with the largest regas capacity Highly regulated environment with mandatory planning and rTPA since the late 90s

Cases under development by IGU

Case study	Description
Independence LNG, Lithuania 	Terminal develop for SoS/diversification reasons in a strongly regulated environment Significant impact on import prices TPA model adapted to the limitations of a FSRU Costs recovered mainly through a fee collected by the transmission operator.
Japan (by the IEE) 	Main LNG importer in the world, introduced voluntary TPA provisions last decade and in the midst of a regulatory reform since 2016 pushing for mandatory TPA and unbundling.
Polskie LNG, Poland 	Strong SoS/diversification component in the investment decision. Strongly regulated environment and relevant support from the EU
GNL Quintero, Chile 	South American terminal developed in a very light-regulated environment, based on commercial contracts

Preliminary results: GNL Quintero, Chile



Context

- Lack of domestic production.
- Gas introduced in central Chile in the 90s after a protocol signed with Argentina.
- Economic crisis in Argentina in 2002 provoked a gas crisis in 2004, resulting in a permanent halt of the flow of gas to Chile and significant economic and environmental losses for the importing country.



Preliminary results: GNL Quintero, Chile



Project

- **First LNG regas terminal in Chile. 1,253 M\$ project, 85% project finance, 15% financed by shareholders. Supported by the Government of Chile through ENAP (NOC of Chile).**

3 phases completed:

- Fast Track” phase: 5 mcm/d (2 ORV + 1 SCV), 14,000 m³
- Original Capacity: 10 mcm/d (2 ORV + 1 SCV), 334,000 m³
- Expansion Phase 1 (current): 15 mcm/d (3 ORV + 1 SCV), 334,000 m³
- Expansion Phase 2 (not decided): 20 mcm/d (4 ORV + 2 SCV), 480,000 m³
- Truck loading facilities since 2011, expanded in 2014

Preliminary results: GNL Quintero, Chile



Business model

2 companies, GNL Quintero and GNL Chile

- **GNL Quintero:** asset owner, service provider, O&M
- **GNL Chile:** shipper, 20-year access contract, aggregates demand of all downstream users ensuring terminal use optimization through a “Borrowing & Lending system” . Owned by downstream users. GNL Chile subscribes LNG SPAs, while GNL Chile and downstream users enter into “Gas Sales Agreements”.



Preliminary results: GNL Quintero, Chile



Access rules

- **Tariffs** composed by capacity and commodity terms, the first ensuring the return of the investment and fixed O&M costs and the second being a pass-through of variable costs. Roll in tariffs ensure that all customers benefit from terminal expansions.
- No regulated TPA but **2 Open Seasons** held:
- OS in 2011-12 for Expansion 1. Open to existing a new customers. 100% of capacity was subscribed by existing customers.
- OS in 2014-15 for Expansion2. Open to new customers. 19 customer interested in non-binding phase, only 2 in binding phase. FID not adopted.

Preliminary results: GNL Quintero, Chile



Access rules

- Investigation by the competition authority (FNE) in 2014 on third party access and information asymmetry. Findings on 1st OS:
 - Contract duration (10 to 20 years) in line with industry practices
 - Minimum volumes justified by the Borrowing & Lending system
 - High load factor
 - Liquid secondary market downstream
- Similar findings on 2nd OS, highlighting the effort made to facilitate access to terminal capacities under flexible, public and non-discriminatory conditions.

The authority concluded that the operation of Quintero GNL was made under competitive conditions

Preliminary results: GNL Quintero, Chile



Summary of results

- Business model met the financing needs of the project
- Flexible access model through the Borrowing & Lending system
- **Initial objectives met:** High load factor, serving the main area in Chile (90% of population, 85% of GDP). Supplies gas for 20% of electricity generated in the central interconnected system. Active secondary market downstream, stable and secure power supply reducing dependency from hydro, reduced power price and enhanced air quality. Gas used by more than 450 industries, 700.000 residential users and around 7,000 vehicles. It can enable the integration of renewables.
- No regulated TPA, but **FNE confirmed that the operation of Quintero GNL was made under competitive conditions**

THANK YOU FOR YOUR ATTENTION!



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