

Spanish Experience in *Market-based mechanisms for capacity allocation*

IEA Brazil Gas Workshop 2019



October 2019



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A yellow sign with the ENAGAS logo and text is visible in the top right corner of the slide. The sign is partially obscured by the white content box.

- 1. Introduction. About Enagás and the Spanish Gas System**
2. Capacity Allocation and Congestion Management Procedures
 - 2.1. Liberalization Process
 - 2.2. Last Decade
 - 2.3. Current challenges
3. Conclusions

1. Introduction. About Enagás... 50 years of experience

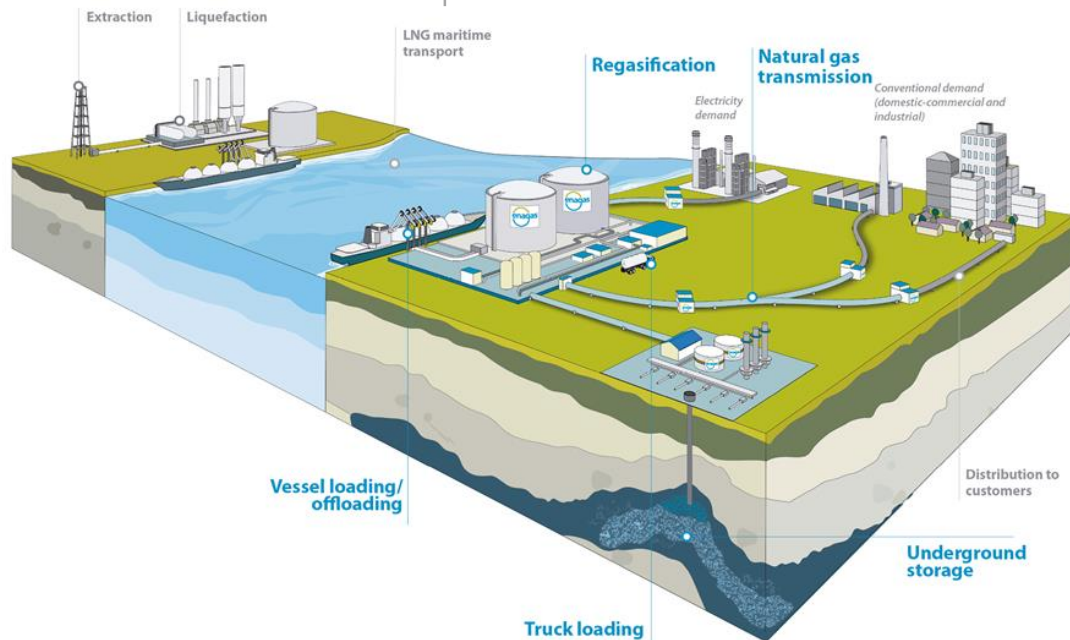


A midstream company

European Union-accredited
Independent TSO

Top natural gas transmission company
in Spain

Technical Manager
of Spain's Gas System



We support sustainable businesses



We Foster skills for excellence



We are a safe and reliable company



1. Introduction. About Enagás... Where we are



Mexico

TLA Altamira LNG Terminal
Soto La Marina Compressor Station
Morelos Gas Pipeline

Peru

Transportadora de Gas del Perú (TgP)
Compañía Operadora de Gas del Amazonas (Coga)

Chile

GNL Quintero LNG Terminal

Spain

11,000 km of gas pipelines
6 LNG terminals (+1 in planning)
3 underground storage facilities

Greece

DESFA

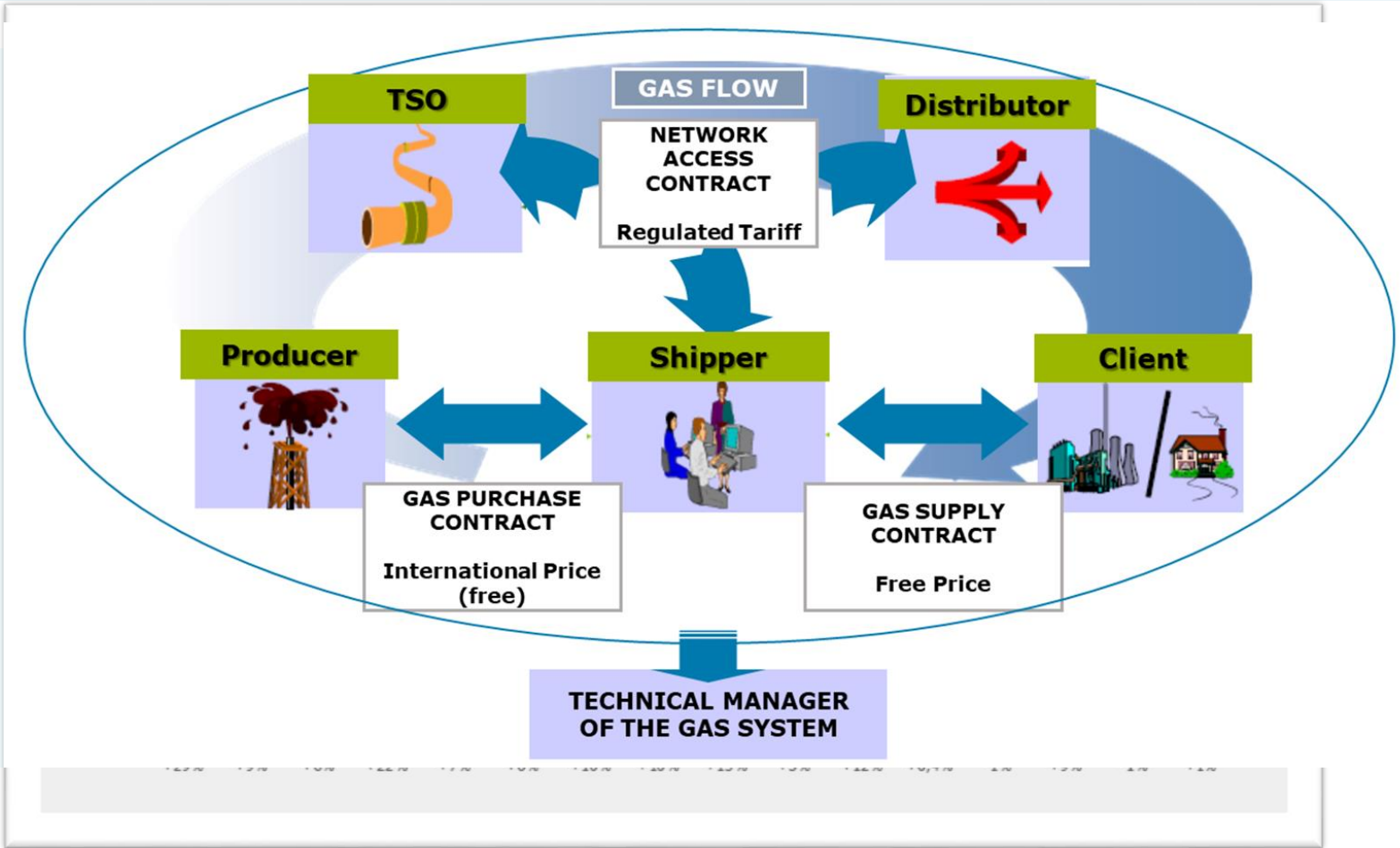
Greece, Albania and Italy

Trans Adriatic Pipeline (TAP)

What we do



1. Introduction. The Spanish Gas System



es

h/d
h/d

Vh
/d
/h/d

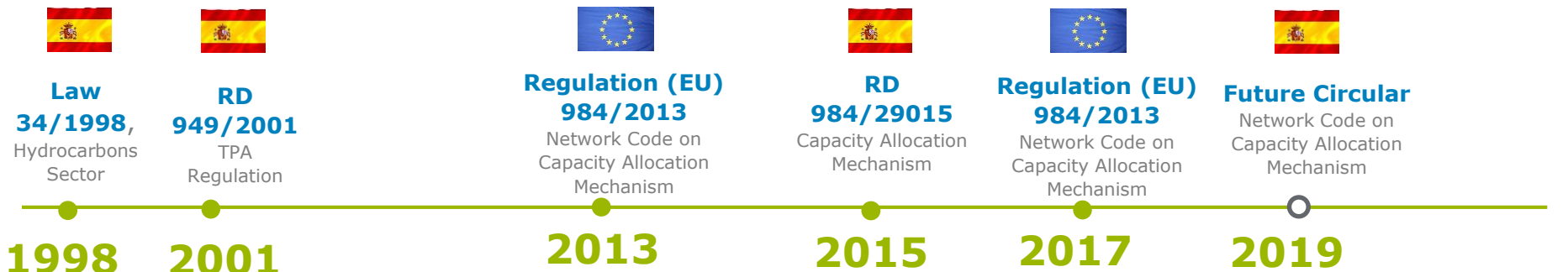
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2. Capacity Allocation

Regulatory Fundamentals



1 LIBERALIZATION



2 LAST DECADE



3 CURRENT CAM

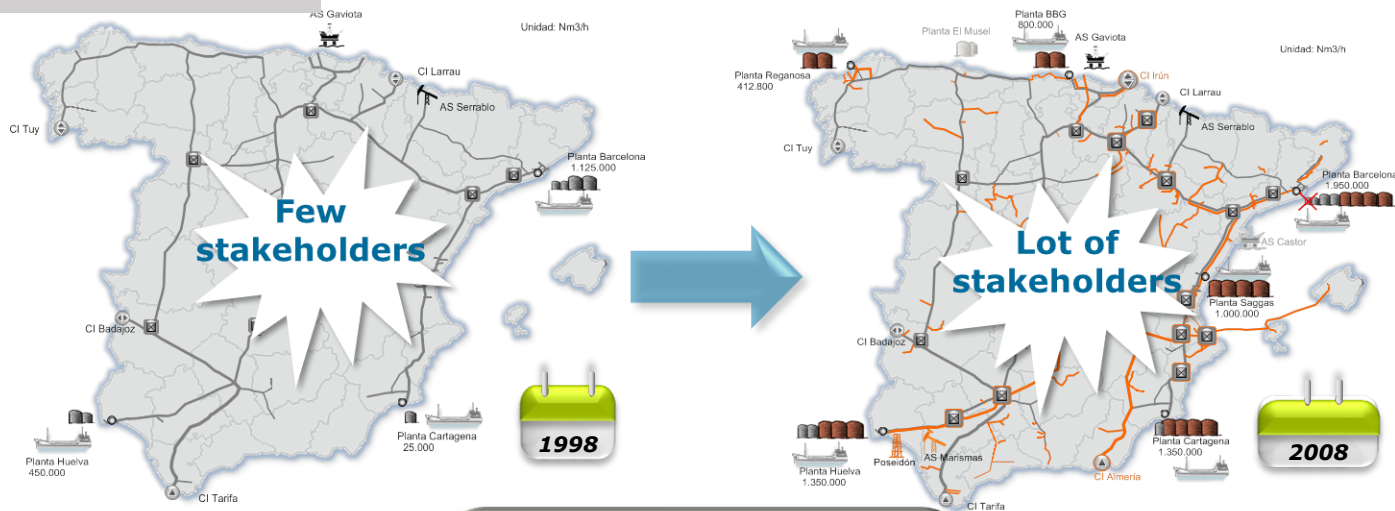


2. Capacity Allocation

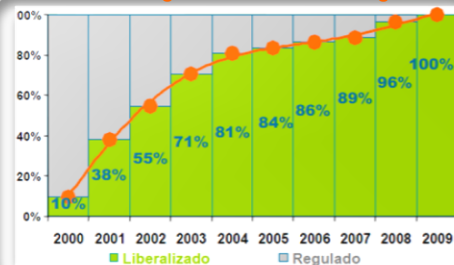


1

LIBERALIZATION



Liberalization degree evolution of the gas market



2. Capacity Allocation



1

LIBERALIZATION

CAM

	Transmission Network	LNG Terminals	Underground Storages	Interconnection Points with Europe
Platform	SL-ATR	SL-ATR	SL-ATR	-
Kind of Products	Non standard	Non standard	Yearly	Long Term
Allocation Mechanisms	FCFS	FCFS	Rights Direct Allocation + Descendent clock auction	Bilateral negotiation
Physical or Virtual	Physical points	Physical points	Single Virtual UGS	Physical Points

2. Capacity Allocation



1

LIBERALIZATION

CMP

**Contractual
Congestion**

- Capacity Rejection
- Bulletin Board
- UIOLI Long Term



**Physical
Congestion**

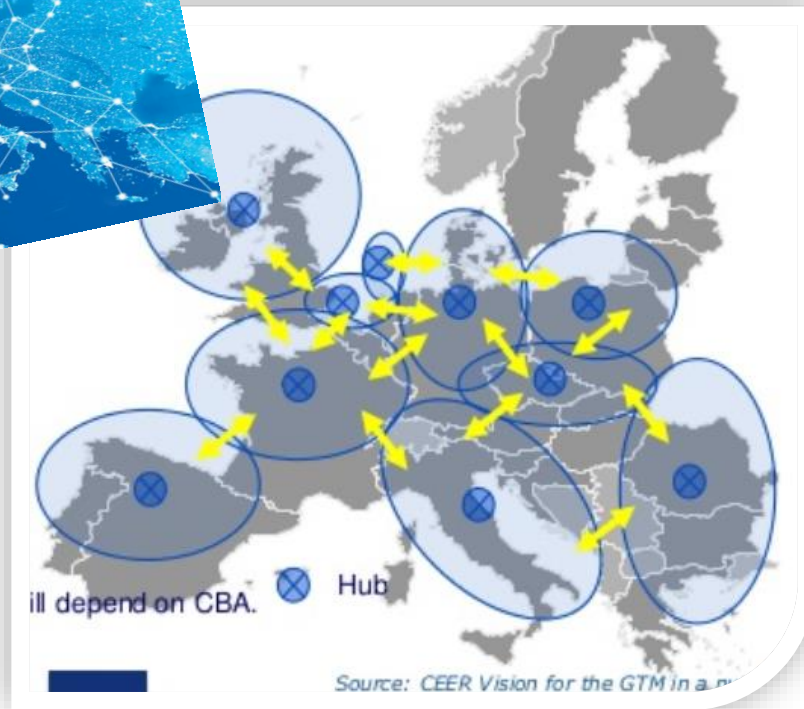
- Allocation viabilities
- Use viabilities
- Antihoarding Mechanisms in LNG Terminals

2. Capacity Allocation



2

LAST DECADE



NC CAM
(Capacity
Allocation
Management)

CMP
(Congestion
Management
Procedures)

NC BAL
(Balancing)

**NC
INTER**
(Interoperability)

NC TAR
(Tariffs)

2. Capacity Allocation



2

LAST DECADE

CAM

	Transmission Network	LNG Terminals	Underground Storages	Interconnection Points with Europe
Platform	<i>SL-ATR 2.0 Single Platform</i>	<i>SL-ATR 2.0 Single Platform</i>	<i>SL-ATR 2.0 Single Platform</i>	<i>PRISMA</i>
Kind of Products	<i>Standard Products</i>	<i>Standard Products</i>	<i>Standard Products</i>	<i>Standard Products</i>
Allocation Mechanisms	<i>FCFS</i>	<i>FCFS</i>	<i>Rights Direct Allocation + Market Based</i>	<i>Market Based</i>
Physical or Virtual	<i>Single Virtual Balancing Point</i>	<i>Physical points</i>	<i>Single Virtual UGS</i>	<i>Virtual Interconnection Points</i>

2. Capacity Allocation

2

LAST DECADE



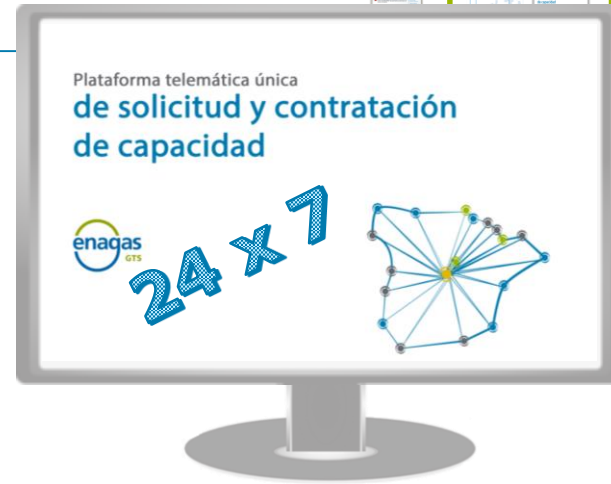
LNG TERMINALS

- Vessel unloading.
- Regasification.
- LNG storage.
- LNG truck loading.
- Vessel loading.
- Ship to ship LNG transfer.



UNDERGROUND STORAGE

- Storage.
- Gas injection.
- Gas withdrawal.



VIRTUAL TRADING POINT

- VTP access from transmission network.
- VTP access from distribution network.
- VTP exit through IP.
- VTP exit to UGS.
- VTP exit to a LNG tank.
- VTP exit to a final consumer.
- VTP storage.

2. Capacity Allocation



2

LAST DECADE

Standard Products



YEARLY PRODUCT



QUARTERLY PRODUCT



MONTHLY PRODUCT



DAILY PRODUCT



WITHIN DAY PRODUCT.



INDEFINITE PRODUCT

Allocation Mechanisms

Chronological (FCFS)

Market share

Ascending Clock Auction (British)

Descending Clock Auction (Dutch)

Pay as Bid Auction



Secondary Market

2. Capacity Allocation



2

LAST DECADE

CMP

**Contractual
Congestion**

- OSBB, Surrender
- Secondary Market
- UIOLI Long Term



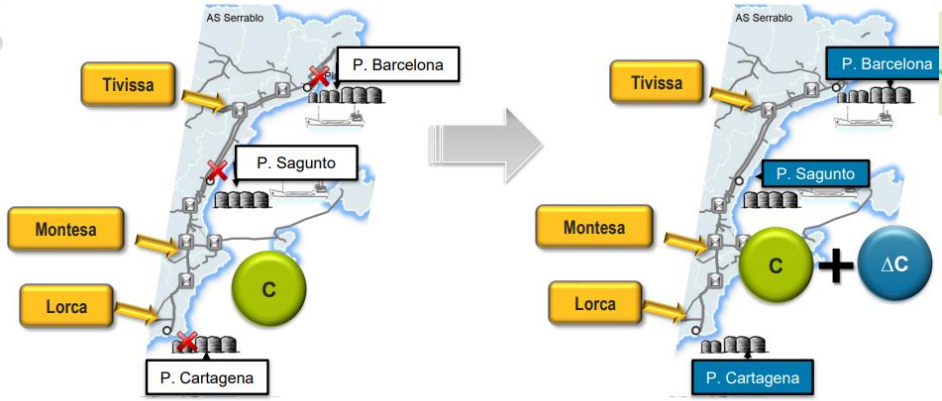
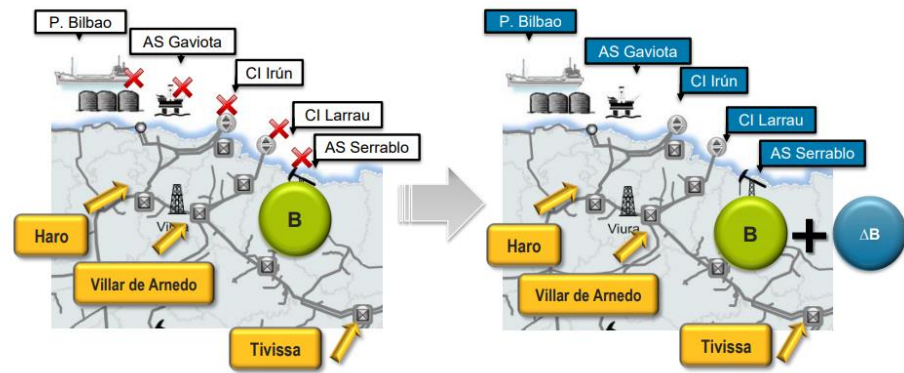
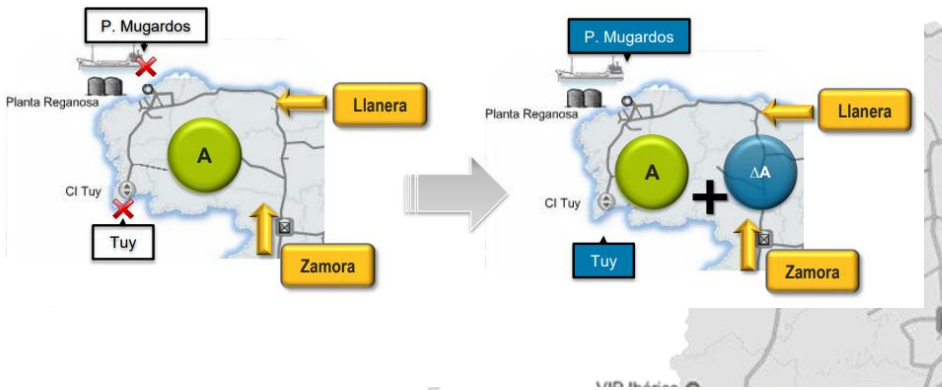
**Physical
Congestion**

- Orderes Entries
- Admisible Ranges
- Antihoarding Mechanisms
in LNG Terminals

2. Capacity Allocation

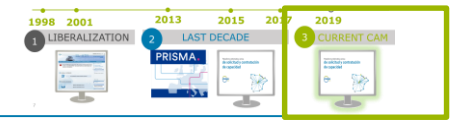


2 LAST DECADE

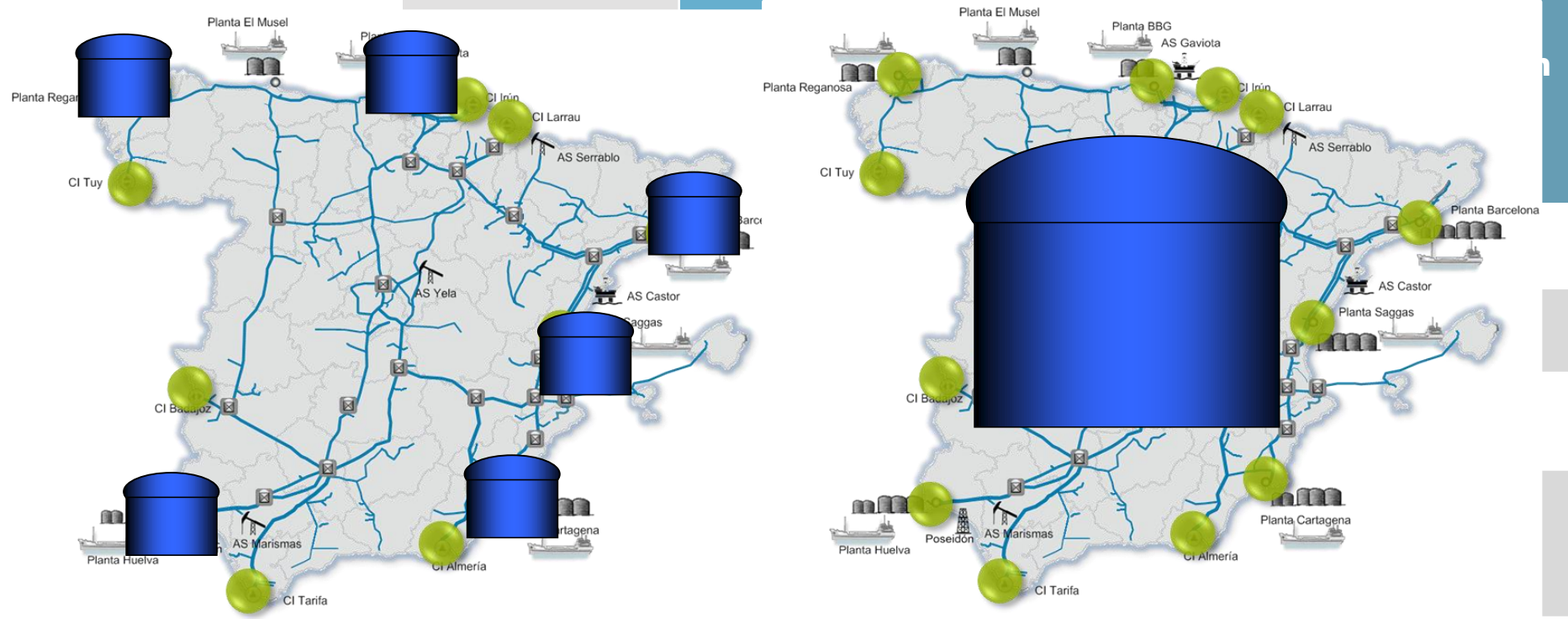


New Tool

2. Capacity Allocation



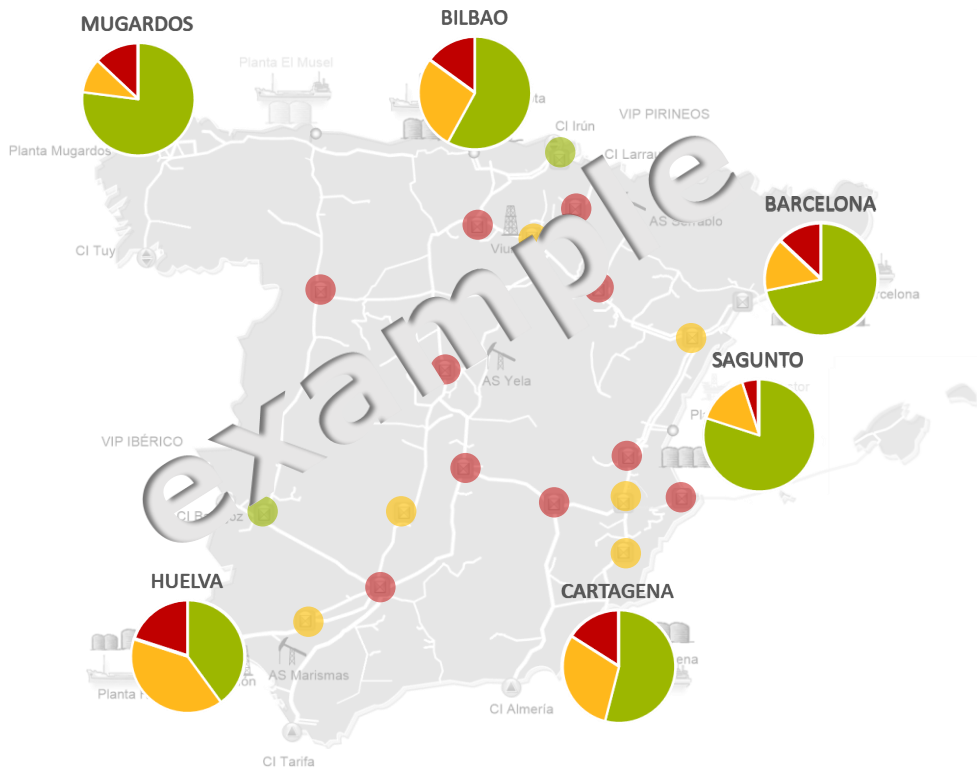
3 CURRENT CAM



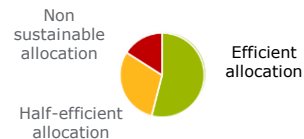
2. Capacity Allocation



3 CURRENT CAM



Nominal regasification capacity of the LNG terminal representation



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1

Path model vs Entry-Exit Model depending on bottlenecks and constrains

2

Market or non market based mechanisms depending on the lack/spared capacity

3

Own Tool Development Trade Off

4

Transparency/Deep knowledge of physical capacities

Thank you



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