

ENERGY MARKET OVERVIEW

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HYDROMATTERS

PADOVA - 20 SETTEMBRE 2022



AGENDA

1. **Energy market overview**
2. **PPA Contracts**
3. **Capacity Market – UVAM**

EGO ENERGY

- Among top-trader in Italian **PPA** market (>1,2 billion Euro/year)
- 1'500 power plants inside portfolio = **3 GW** dispatched
- 5 TWh/year physical production managed
- 30 TWh/year Guarantees of Origin (GO)
- Demand-response (150 MW qualified **UVAM**)
- Capacity Market (80 MW awarded 2022-2024)
- Energy Services (ESCO) energy-intensive customers
Energy Audit, Monitoring, Energy Management, Efficiency
- Hi-tech proprietary platform for Digital Energy
- Energy IoT, Artificial Intelligence, E-Mobility



ENERGY MARKET OVERVIEW

MAIN DATA FOR ITALIAN MARKET

- Electrical Energy Consumption: **320 TWh/year**
- Peak Demand: **60 GW**
- Average Demand: **36 GW**
- Renewable Generation: **100 TWh/year (2022)**
- Renewable Generation PNIEC target: **180 TWh/year (2030)**
- Updated PNRR target: **>210 TWh/year**
- Natural Gas Consumption: **75 bcm/year**
- Dependency on natural gas: **43% primary energy consumption**
- Russian Natural Gas: **30 bmc/year (40% of total)**

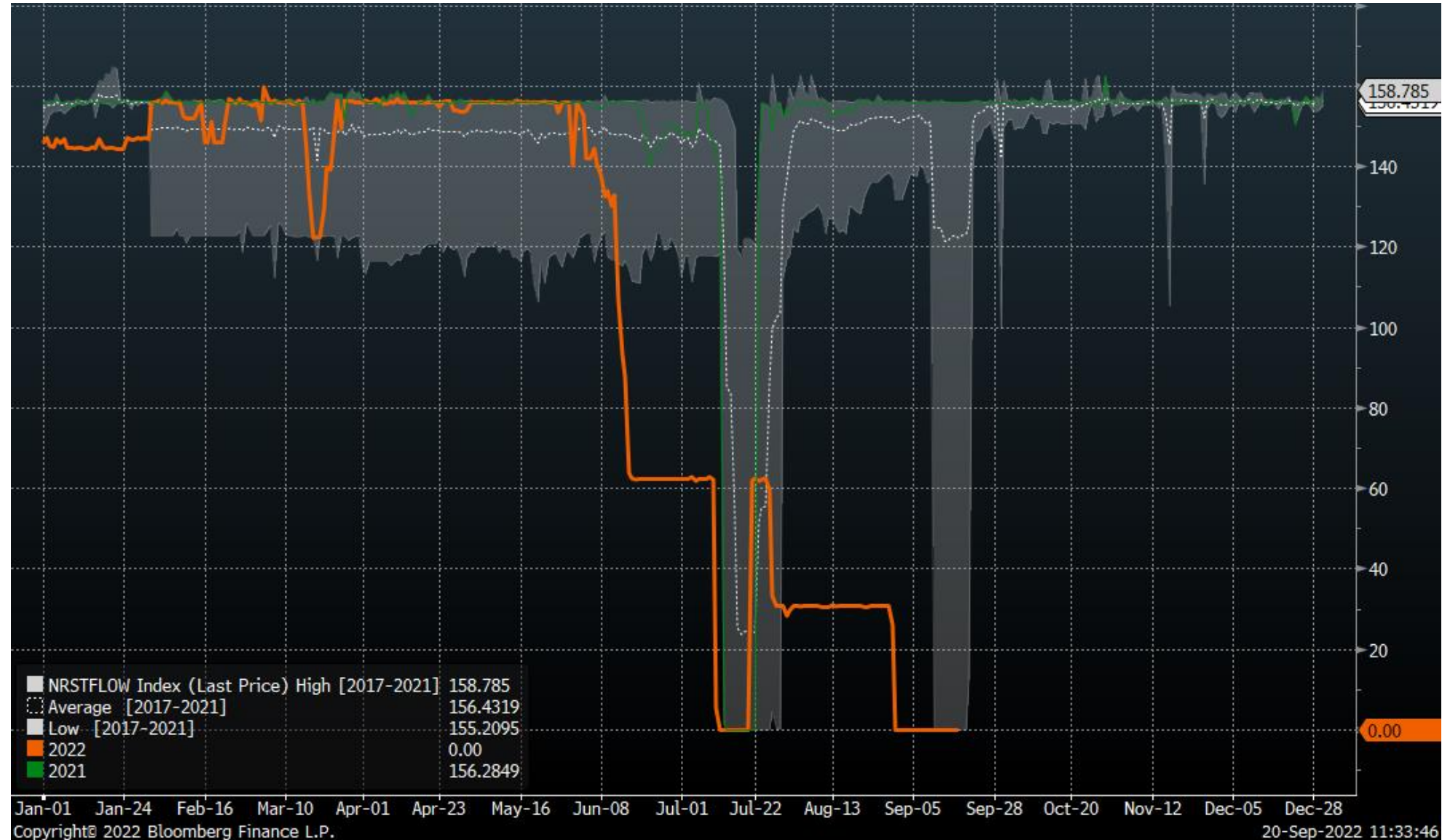
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NATURAL GAS FLOWS FROM RUSSIA - GLOBAL



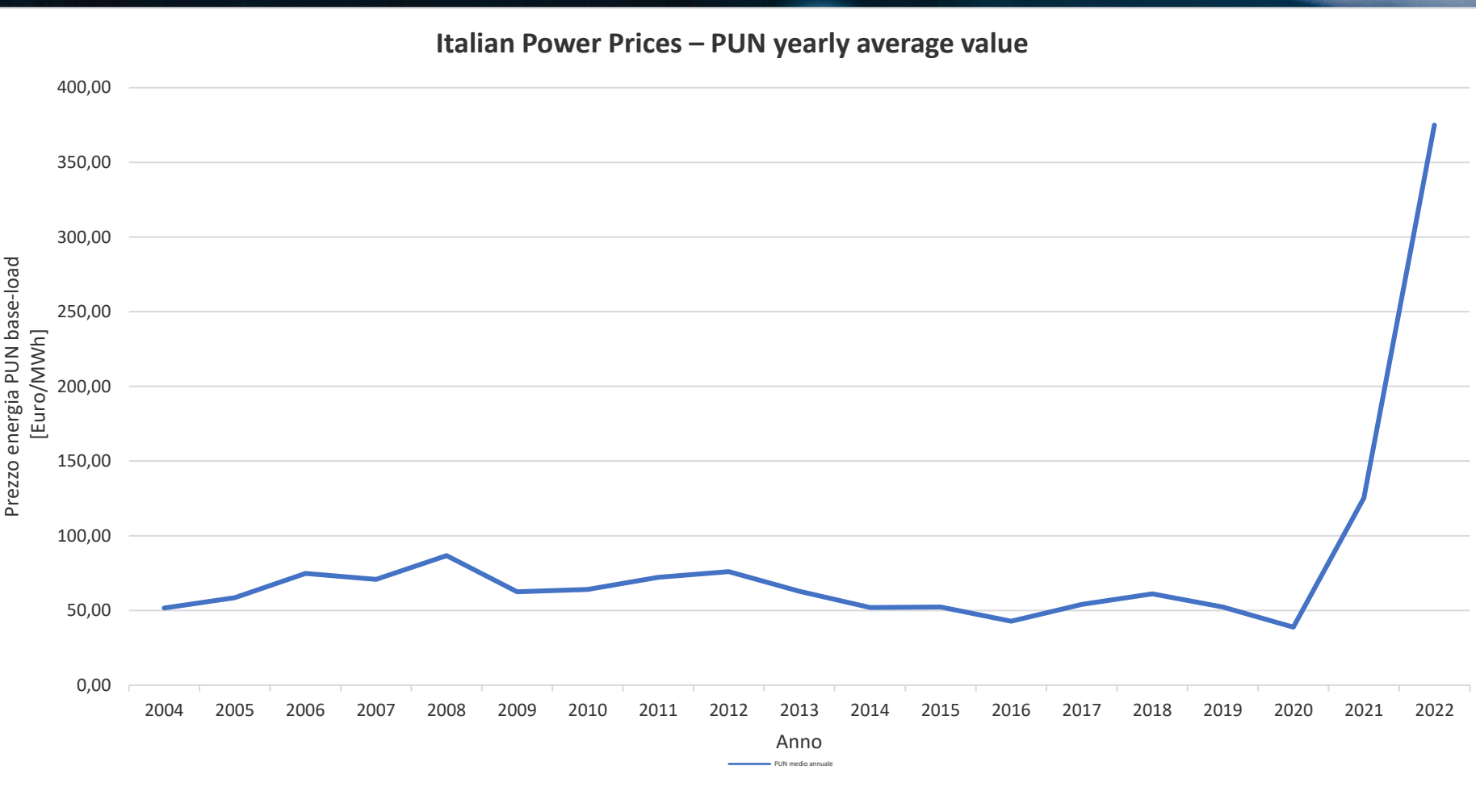
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NATURAL GAS FLOWS FROM RUSSIA – NORTH STREAM 1



ENERGY MARKET OVERVIEW

DAY-AHEAD MARKET PRICES



Average Price Day-Ahead Market «PUN» base-load

2004-2020: 60,00

€/MWh

2021: 125,00 €/MWh



Average Price Day-Ahead Market «PUN» base-load

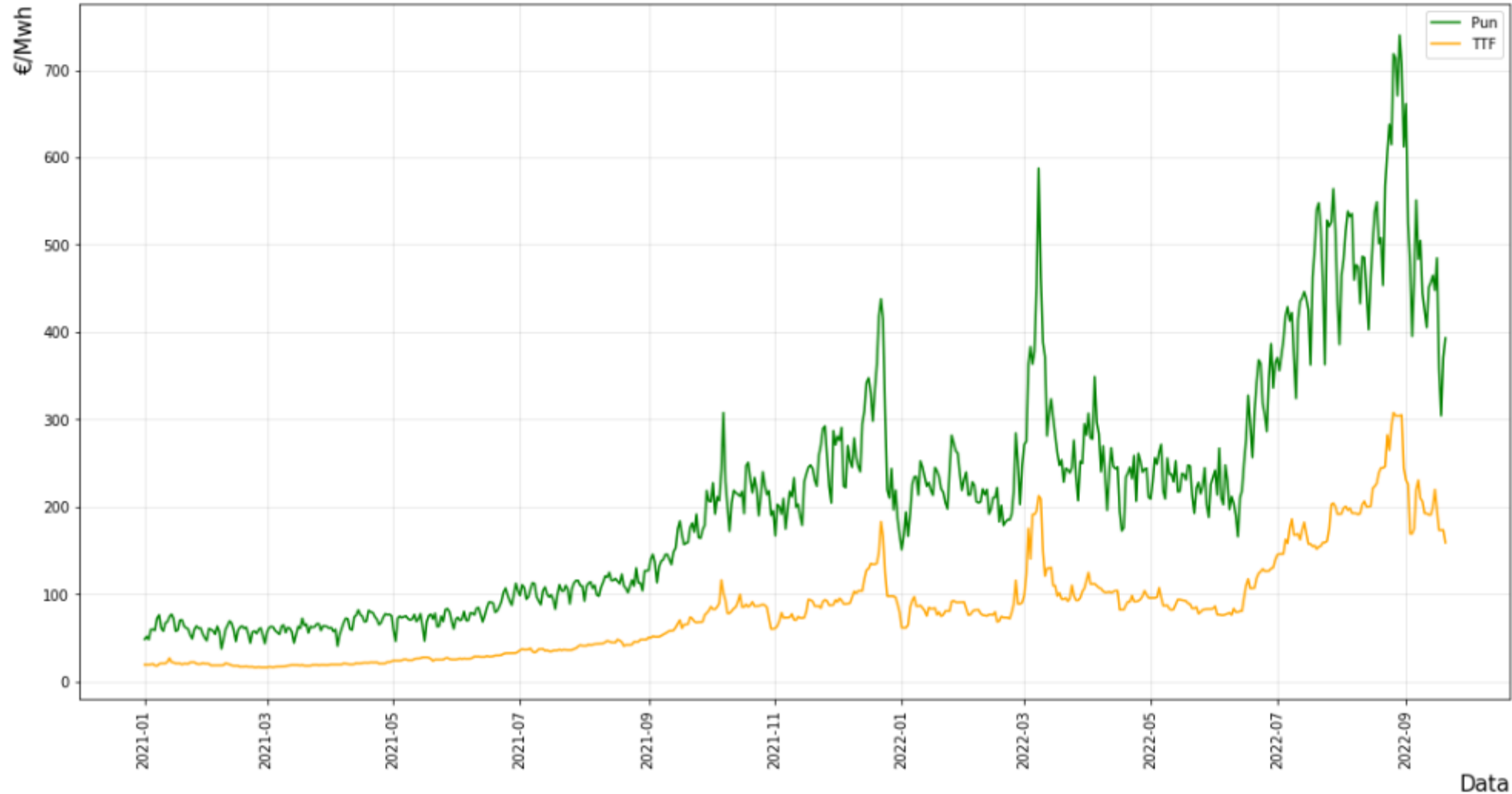
2022: 320,00 €/MWh

Present Spot-Price:

450,00 €/MWh

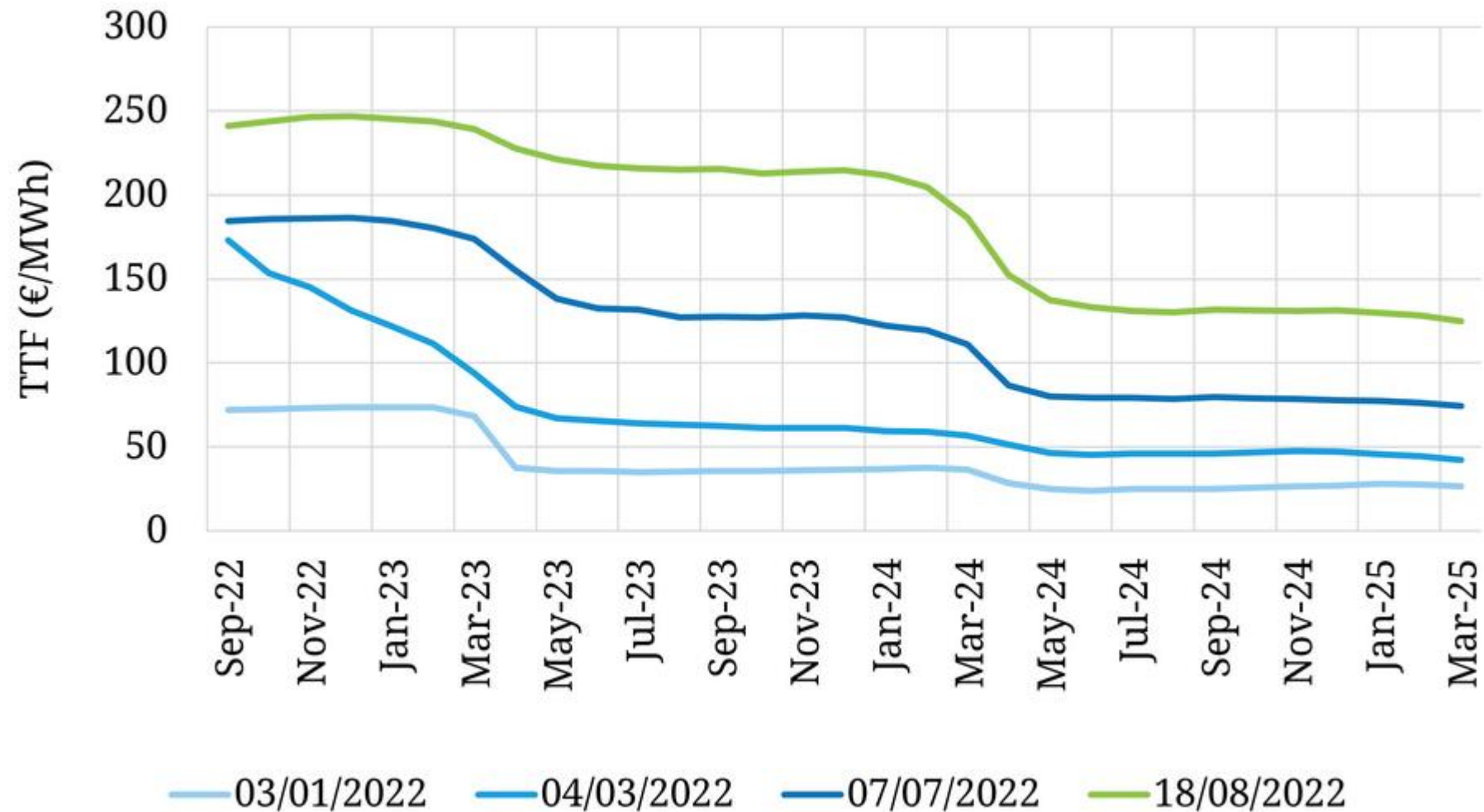
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SPOT POWER & NATURAL GAS PRICES RECENT TRENDS



ENERGY MARKET OVERVIEW

FORWARD GAS PRICES 2023-2025



ENERGY MARKET OVERVIEW

ITALIAN BASELOAD YEAR 2023 FORWARD POWER CURVE



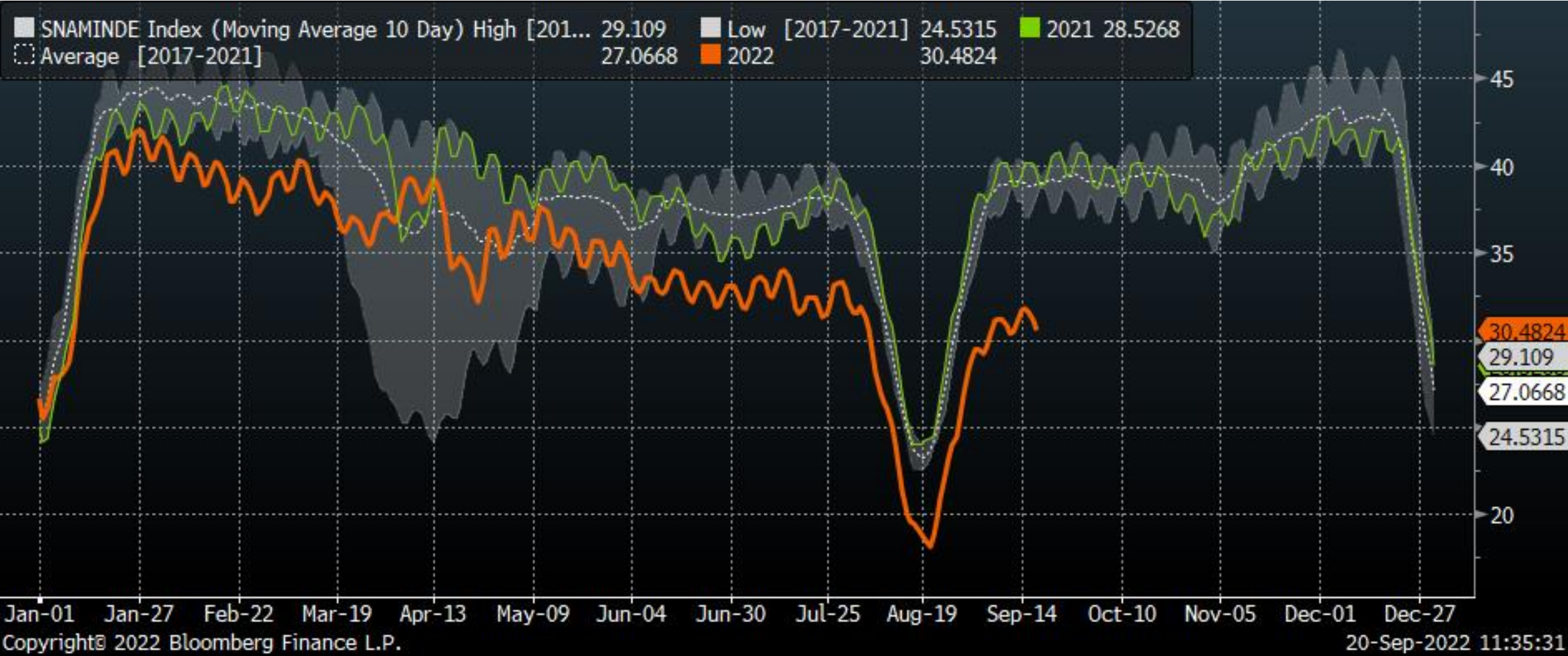
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ITALIAN BASELOAD YEAR 2024 FORWARD POWER CURVE



ENERGY MARKET OVERVIEW

INDUSTRIAL GAS DEMAND «DESTRUCTION» - ITALY



PPA CONTRACTS

PPA MARKET (1/2)

- **Long-term contracts** related to renewable energy production
- Significant for **«market-parity» projects**, but more and more for any renewable project
- Many deals signed (various GW) all around Europe
- Italy misses real ready-to-build projects, but it's a **main market** for prices and expected size
- **«As produced» formula** Italian standard
- Possible also to manage «standard» profile (adjusted solar PV profile, base-load etc.)

PPA CONTRACTS

PPA MARKET (2/2)

- Physical or Virtual (only financial settlement)
- Trader, Utility or Corporate PPA
- Strong price increasing (natural gas, CO2 etc.)
- Cannibalization risk to be evaluated
- Indicative value for PPA 10 years
 - May 2021: 45,00 Euro/MWh
 - December 2021: 60,00 Euro/MWh
 - **July 2022: 80,00 Euro/MWh**
- Very much depending on expected COD

CAPACITY MARKET

YEAR 2022 RESULTS

- Existing Plants Premium: 33'000 Euro/MW/year
- New Plants Premium: 75'000 Euro/MW/year
- Renewable Power awarded capacity: 1 GW

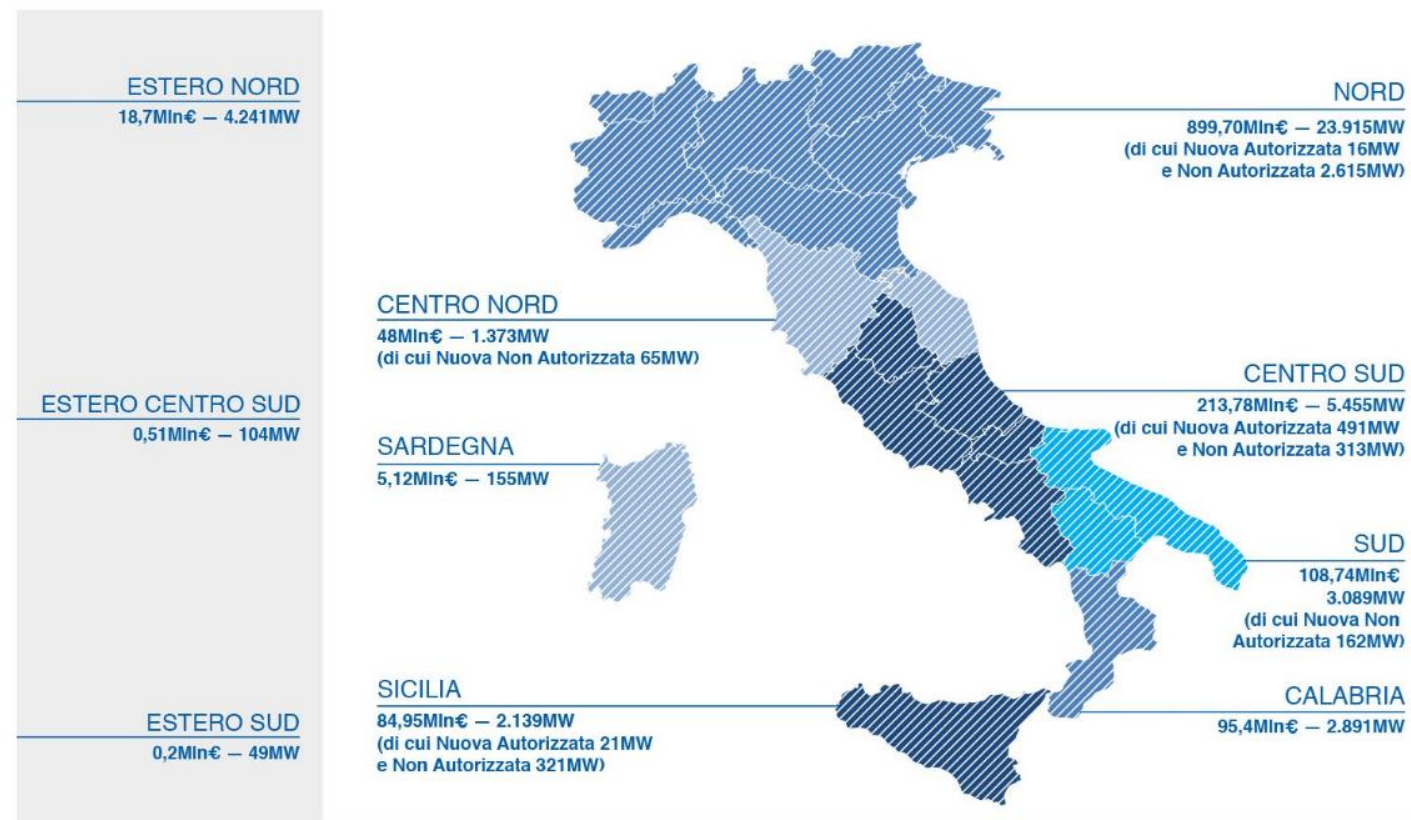
Area	Esistente		Nuova	
	CDP accettata [MW/anno]	Premio di valorizzazione [€/MW/anno]	CDP accettata [MW/anno]	Premio di valorizzazione [€/MW/anno]
<i>Nord</i>	21.465	33.000	1.276	75.000
<i>Centro Nord</i>	1.272	33.000	49	75.000
<i>Centro Sud</i>	4.233	33.000	305	75.000
<i>Sud</i>	2.581	33.000	84	75.000
<i>Calabria</i>	3.185	33.000	0	75.000
<i>Sicilia</i>	1.878	33.000	53	75.000
<i>Sardegna</i>	144	33.000	0	75.000
TOTALE CDP	34.758		1.767	

Tabella 1: Quantità complessivamente accettata e premi di valorizzazione suddivisi per Area nazionale

CAPACITY MARKET

YEAR 2023 RESULTS

- Existing Plants Premium: 33'000 Euro/MW/year
- New Plants Premium: 75'000 Euro/MW/year
- Renewable Power awarded capacity: 1,3 GW
- Storage awarded capacity: 0,2 GW



Gli esiti dell'asta sul 2023 fig.1

CAPACITY MARKET

YEAR 2024 RESULTS

- Existing Plants Premium: **33'000 Euro/MW/year**
- New Plants Premium: **70'000 Euro/MW/year**
- Renewable Power awarded capacity: **2,5 GW**
- Storage awarded capacity: **1,1 GW (0,5 GW in Sardinia)**

Tabella 1: Quantità complessivamente accettata e premi di valorizzazione suddivisi per area nazionale - CDP esistente

Area	ESISTENTE	
	CDP Accettata [MW/Anno]	Premio di Valorizzazione [€/MW/Anno]
CALABRIA	2.843	33.000
CENTRO NORD	1.210	33.000
CENTRO SUD	4.796	33.000
NORD	20.423	33.000
SARDEGNA NORD	176	33.000
SARDEGNA SUD	1	33.000
SICILIA	1.771	33.000
SUD	2.933	33.000
Totale	34.153	

Tabella 2: Quantità complessivamente accettata e premi di valorizzazione suddivisi per area nazionale - CDP Nuova

Area	NUOVA AUTORIZZATA		NUOVA NON AUTORIZZATA	
	CDP Accettata [MW/Anno]	Premio di Valorizzazione [€/MW/Anno]	CDP Accettata [MW/Anno]	Premio di Valorizzazione [€/MW/Anno]
CALABRIA	0		0	
CENTRO NORD	44	70.000	0	
CENTRO SUD	373	70.000	45	33.467
NORD	1.027	70.000	1.721	48.110
SARDEGNA NORD	0		247	51.012
SARDEGNA SUD	28	70.000	253	51.012
SICILIA	0		8	33.467
SUD	32	70.000	0	
Totale	1.504		2.274	

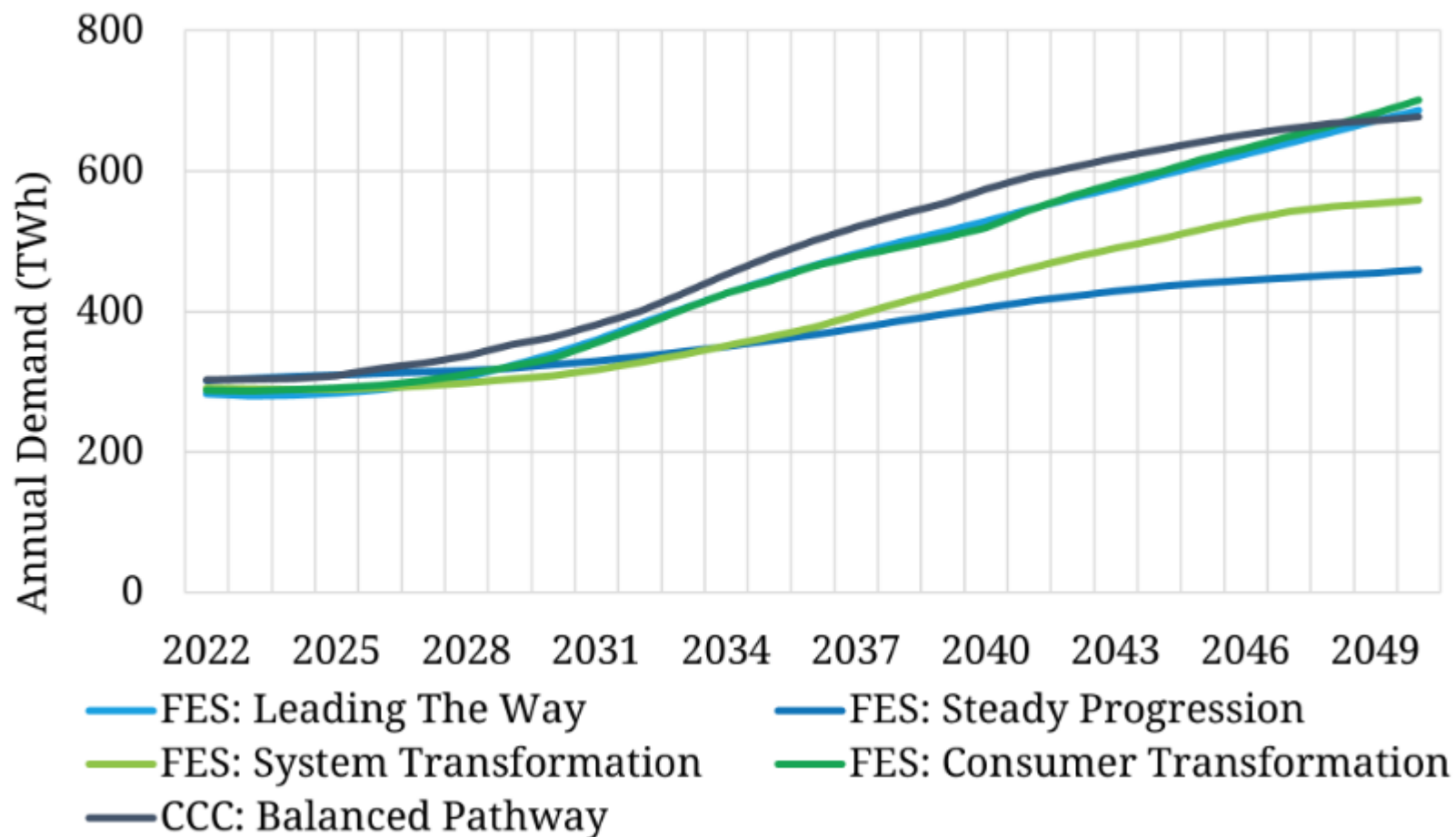
UVAM

YEAR 2022

- Possibility of participating to **Ancillary Services Market** for medium-size plants (< 10 MVA)
- Flexibility towards the grid for **production, consumption and storage units**
- **Virtual aggregation by means of a Balancing Service Provider (BSP)**
- Available Volume: **1'000 MW**
- Fixed Premium: **22'500 – 30'000 Euro/MW/year**
- Possible services: **3 hours** during afternoon (15.00-18.00) and **4 hours** during evening time (18.00-22.00)
- Strike-price: **200 – 400 Euro/MWh**

ENERGY MARKET TRENDS

POWER DEMAND PROJECTIONS – UK DATA (SOURCE: TIMERA)



➤ Transport

- 2030: +27 TWh/year
- 2040: +96 TWh/year

➤ Heat

- 2030: +33 TWh/year
- 2040: +53 TWh/year

➤ Electrolyzers

- 2030: +14 TWh/year
- 2040: +59 TWh/year

The background is a solid dark blue. In the center, there is a large, complex wireframe structure that resembles a sphere or a planet, composed of many interconnected white and light blue lines forming a mesh of triangles. Some of these triangles are highlighted in a vibrant yellow-green color. Scattered around this central structure are numerous smaller, individual triangles of varying sizes and orientations, also in white and light blue, creating a sense of depth and geometric complexity.

THANKS FOR
YOUR ATTENTION

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