

Rethinking the Security of the European Union's Gas Supply

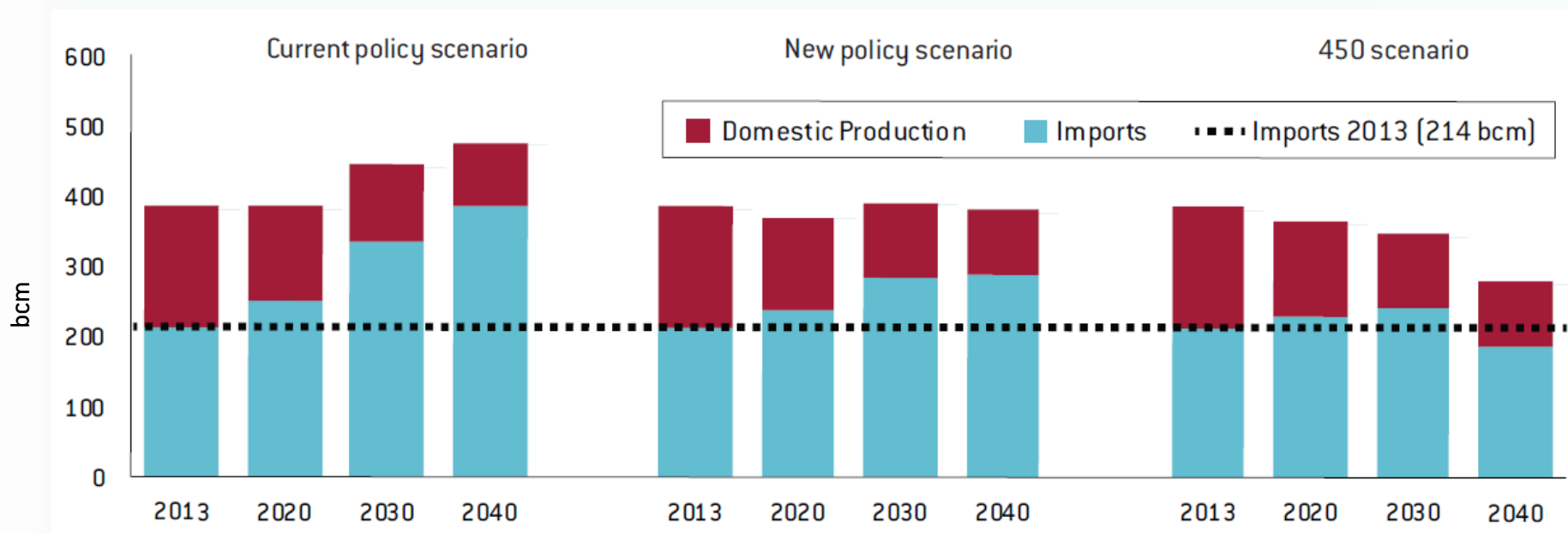
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European Parliament Hearing on the "WINTER ENERGY PACKAGE"

29 June 2016

Security of the EU's gas supply: a structural issue that will last for decades to come



Source: IEA

Today: EU gas import infrastructure largely underutilized

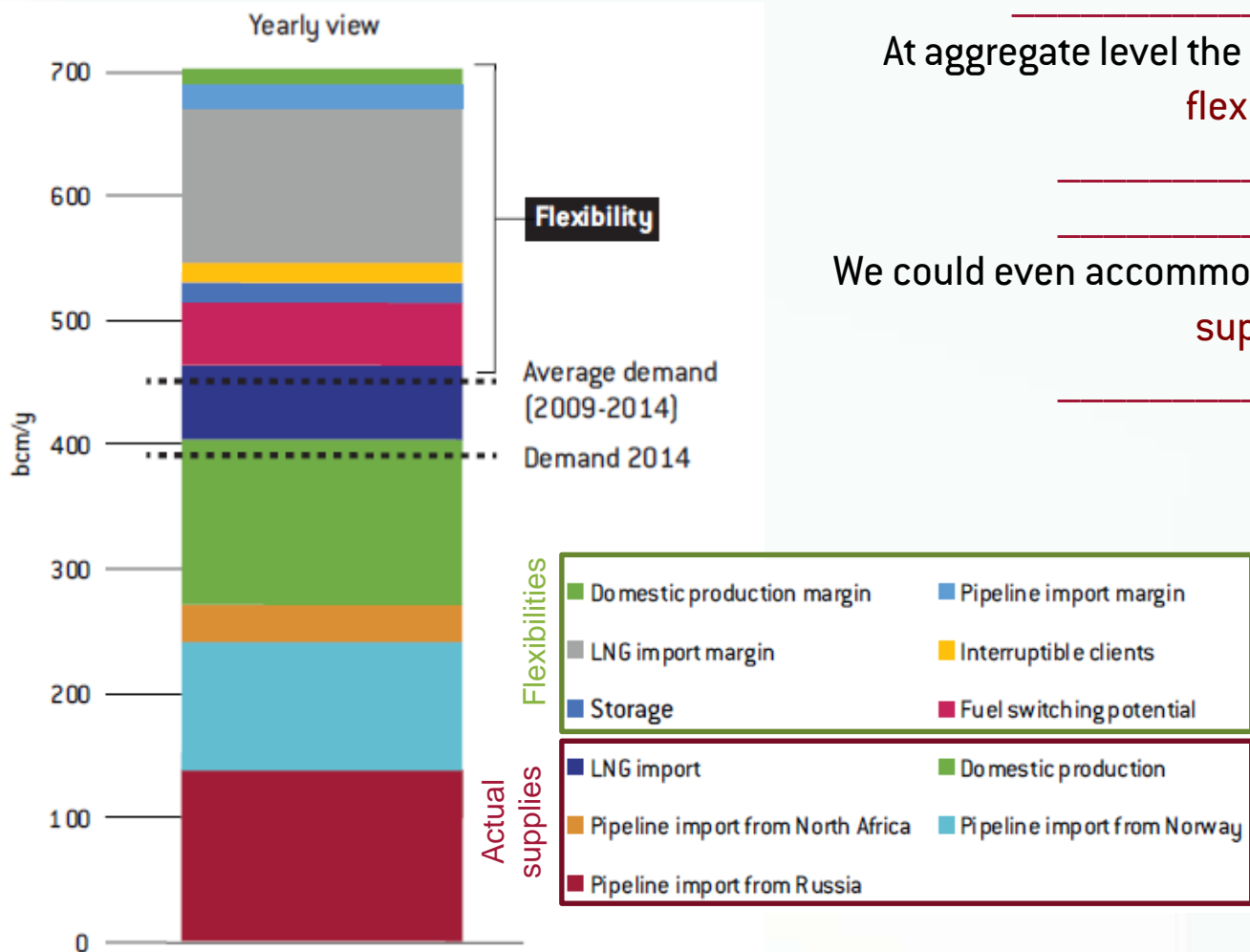
Pipelines (bcm/y)

From	Capacity	Imports in 2014	Utilisation rate
Russia	230*	119	51%
Norway	127	101.1	79%
Algeria	54	19.5	36%
Libya	11	6	54%
TOTAL	422	245.6	58%

LNG (bcm/y)

Country	Capacity	Imports in 2014 (Net of re-exports)	Utilisation rate
Spain	60.2	17.6	29%
United Kingdom	50.7	18.5	36%
France	25.3	10.1	39%
Italy	15.3	7.2	47%
Netherlands	12	0.9	7%
Belgium	9	2.1	23%
Portugal	5.5	2.1	38%
Greece	5.2	0.8	15%
Lithuania	4	n.a.	n.a.
Sweden	0.3	n.a.	n.a.
TOTAL	183.5	59.3	32%

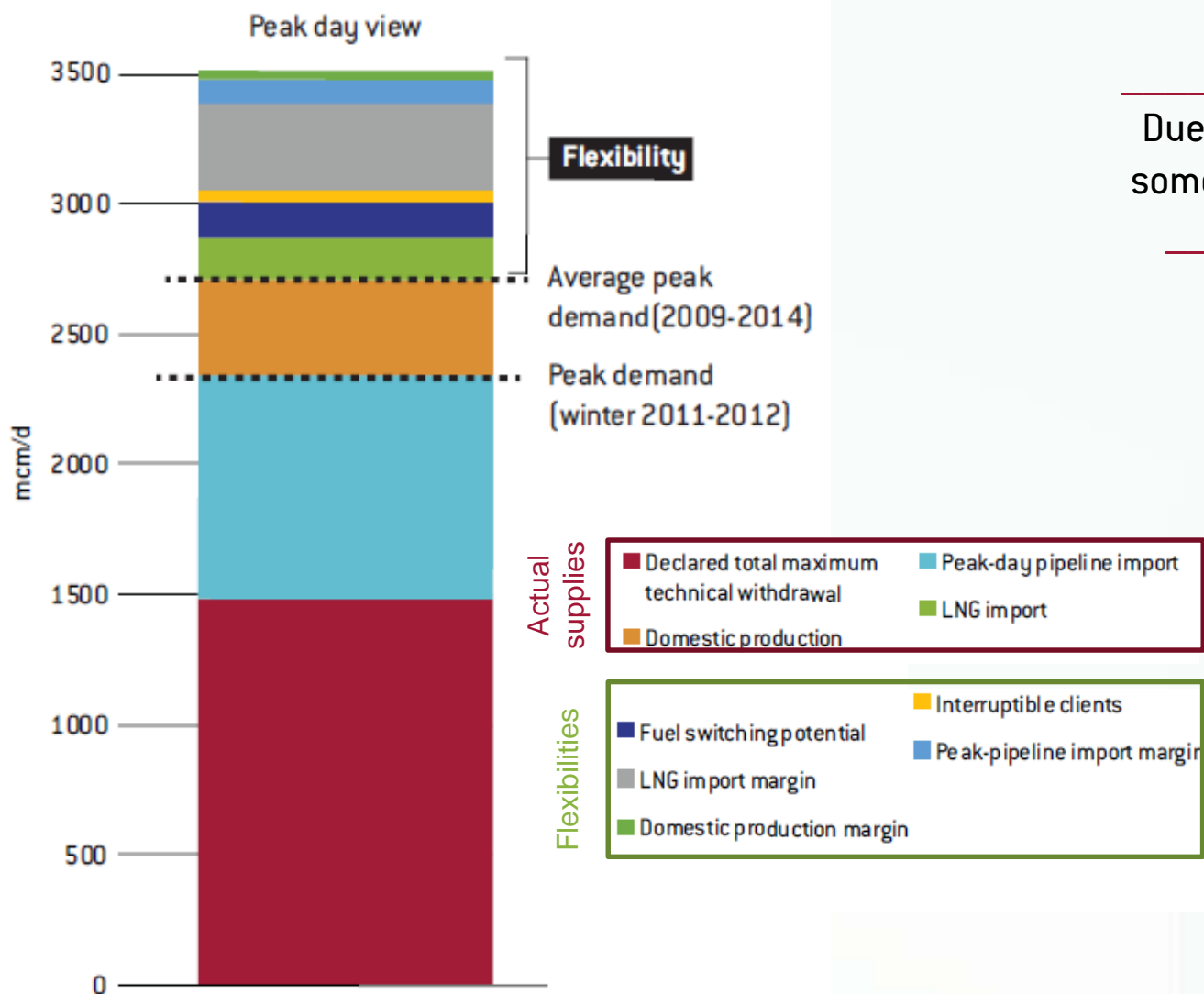
EU gas system has a lot of flexibility – over the year



At aggregate level the EU has ample **margin of flexibility**

We could even accommodate the **loss of the largest supplier**

EU gas system has enough flexibility, even at the peak day



Due to internal bottlenecks, some regional issues remain

A European market-based approach for cheap and secure gas imports

Russia has the lowest cost gas – but we do not want to be dependent on Russia

-> an unmitigated market does not work

Europe has enough flexibility – but it is not reliably available when and where it is needed

-> need for a mechanism to maintain flexibility and to make them available when and where needed [and/or a mechanism to discourage over-dependence]

Our proposal:

- **Enhanced planning of EU infrastructure**
- **A New EU Market for Gas Security Margin**

EU Market for Gas Security Margin

Each **importer**
&
each **domestic producer**

would be **legally required** to hold
a **certain amount of alternative supplies** in the books

How large would the security margin be?

Size of the margin **to be determined at EU level** on the basis of an agreed **definition of emergency situation**

Example: 20% of contracted gas demand for 1 year
[or 50% of gas contracted with 'pivotal' suppliers]

What would count towards the security margin?

Up to each importer/domestic supplier to choose how to structure its portfolio to meet required margin

Wide range of options (more or less costly):

- i) **Interruptible contracts** with industrial customers
- ii) Option contracts with **LNG** suppliers
- iii) Option contracts with **pipeline** suppliers
- iv) Domestic production margin
- v) Fuel switching

Pivotal suppliers not allowed to be part of security margin

How is the security margin activated?

EU Council declares emergency situation

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graph TD; A[EU Council declares emergency situation] --> B[Mandate to the ENTSO-G SoS Taskforce to coordinate infrastructure aspects]; A --> C[Mandate to the national competent authorities to ask suppliers to put the security margin into the market];
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Mandate to the
ENTSO-G SoS Taskforce
to coordinate infrastructure
aspects

Mandate to the **national
competent authorities**
to ask suppliers to put
the security margin
into the market

What will it cost?

- Cost of security margin to have **two components**:
 - i) Cost of **maintaining the flexibility options**;
 - ii) Cost of **reserving the corresponding transport capacity**
- Cost initially borne by **importers/producers** and **then passed through to final consumers**
- EU-MGSM would **reflect regional diversity**: due to different infrastructure endowment, less-interconnected regions will find it more costly to ensure SoS

Many actors benefit

- **Consumers:** as they will be allowed to consume the cheapest gas and are not forced to pay for the most expensive security options
- **Gas infrastructure provider:** as it provides an additional cash-flow to LNG-terminals, pipelines and storages that contribute to the margin
- **Environment:** as we do not lock-in unnecessary fossil fuel infrastructure
- **Gas suppliers:** as it depoliticises the gas sector

RETHINKING THE SECURITY OF THE EUROPEAN UNION'S GAS SUPPLY

SIMONE TAGLIAPIETRA AND GEORG ZACHMANN

Highlights

- The security of the European Union's gas supplies is crucial to ensuring that supplies to households are not disrupted in freezing winters, that industry can flourish and that the EU cannot be blackmailed in vital foreign policy questions.
- Gas supply security should be addressed at EU level because a joint solution would be cheaper, national approaches could undermine the internal energy market and have adverse effects on other countries, and the EU Treaty explicitly calls for energy solidarity.
- The current focus on supply diversification and reduction of dependence on imported gas is expensive and does not constitute a systemic response.
- Instead of doing everything to reduce gas supplies from key suppliers, gas supply security could more effectively be safeguarded by ensuring that unused alternatives are maintained so that they can be tapped into for an indefinite period in case of supply disruption from a key supplier. This Policy Contribution outlines a market approach that could safeguard gas supply security at very low cost.

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Thank you!

@GeorgZachmann

Back-up

- Simply put, the new system would **extend the existing gas storage obligations** adopted by **some member states** for **SoS** reasons:

> to the EU level

> to all gas system's flexibility options

Country	Storage obligations	Security of supply responsibility
Bulgaria	Criteria are not disclosed; Current capacity equals 250 mcm	Bulgargaz
Czech Republic	At least the 20% of supply standards; Current capacity equals 225 mcm	Market parties
Denmark	Criteria are not disclosed; Storage capacity equals 215 mcm	Energinet.dk, with market based tools
France	Starting from 80% of the estimated seasonal storage requirements at the start of the heating season	Market parties
Hungary	Strategic storage and storage obligations by suppliers, totaling 24% of annual consumption	Market parties
Italy	Strategic storage of 4.6 bcm	Ministry sets the volume, storage companies dedicate to strategic storage reserves
Poland	Compulsory stocks of companies equivalent to at least 30 days of average daily imports of the gas brought in	Minister of the Economy and gas suppliers
Spain	Mandatory storage obligations for gas shippers, strategic stocks equivalent to 20 days of their firm sales in the previous natural year (4.78 bcm)	Spanish Government and gas suppliers