



**Stress tests:
The role of LNG
to improve regional SoS in Europe**

Christophe Poillion
Chairman of the Task Force on Security of Supply

CEER workshop
Madrid, 17th March 2015

The Contribution of Infrastructure Operators

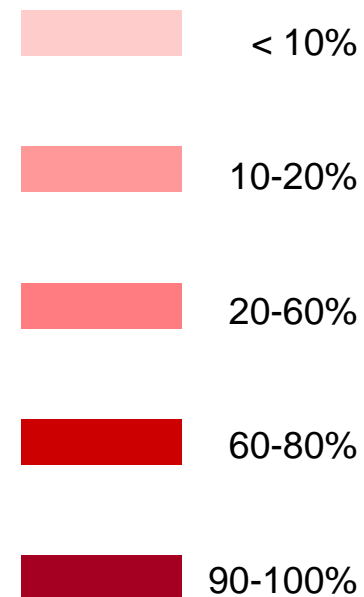
- The GIE Task Force on Security of Supply has worked in close cooperation with ENTSOG on the stress tests:
 - Validation of the various assumptions related to gas infrastructures in the modelling tool of ENTSOG
 - Joint analysis of the results of the simulations
 - Discussion and validation of the short term measures that could be implemented for winter 2014/2015

- GIE (Task Force on Security of Supply) is working on short term, medium and long term measures that could help mitigating the impact of a supply crisis, including proposals for reviewing regulation 994/2010

Ukrainian Disruption Potential Impact



Disrupted demand:



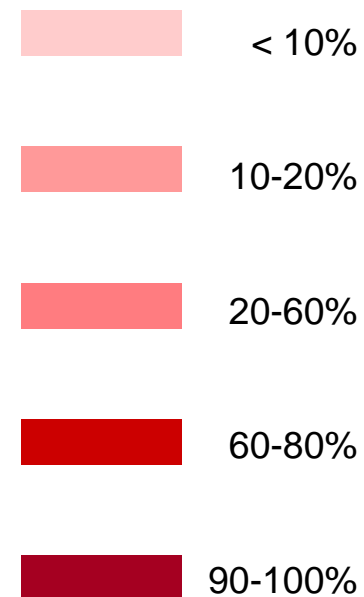
1 month + full solidarity
Disrupted demand: 9 TWh

Source : ENTSOG

Ukrainian Disruption Potential Impact



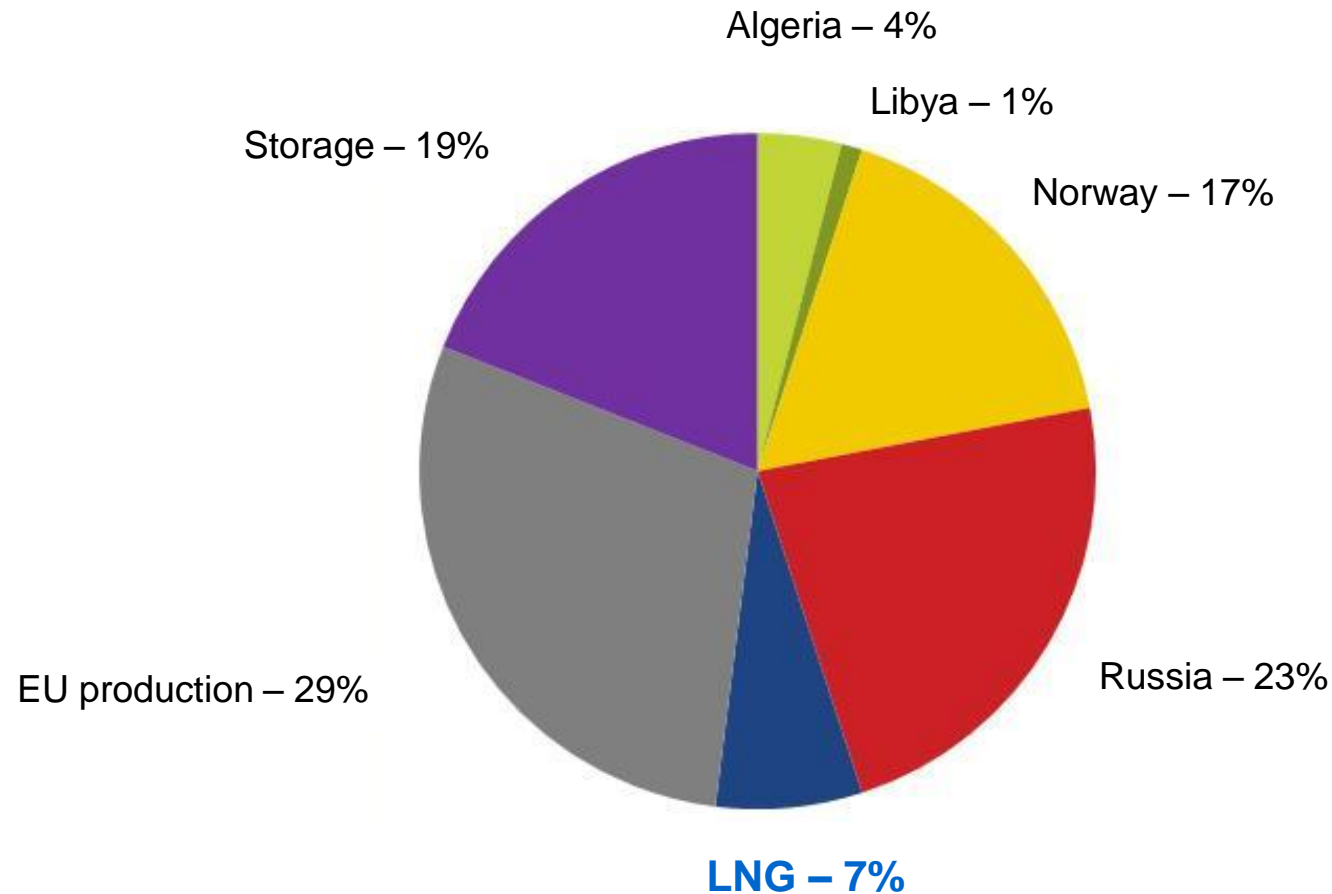
Disrupted demand:



6 month + full solidarity
Disrupted demand: 55 TWh

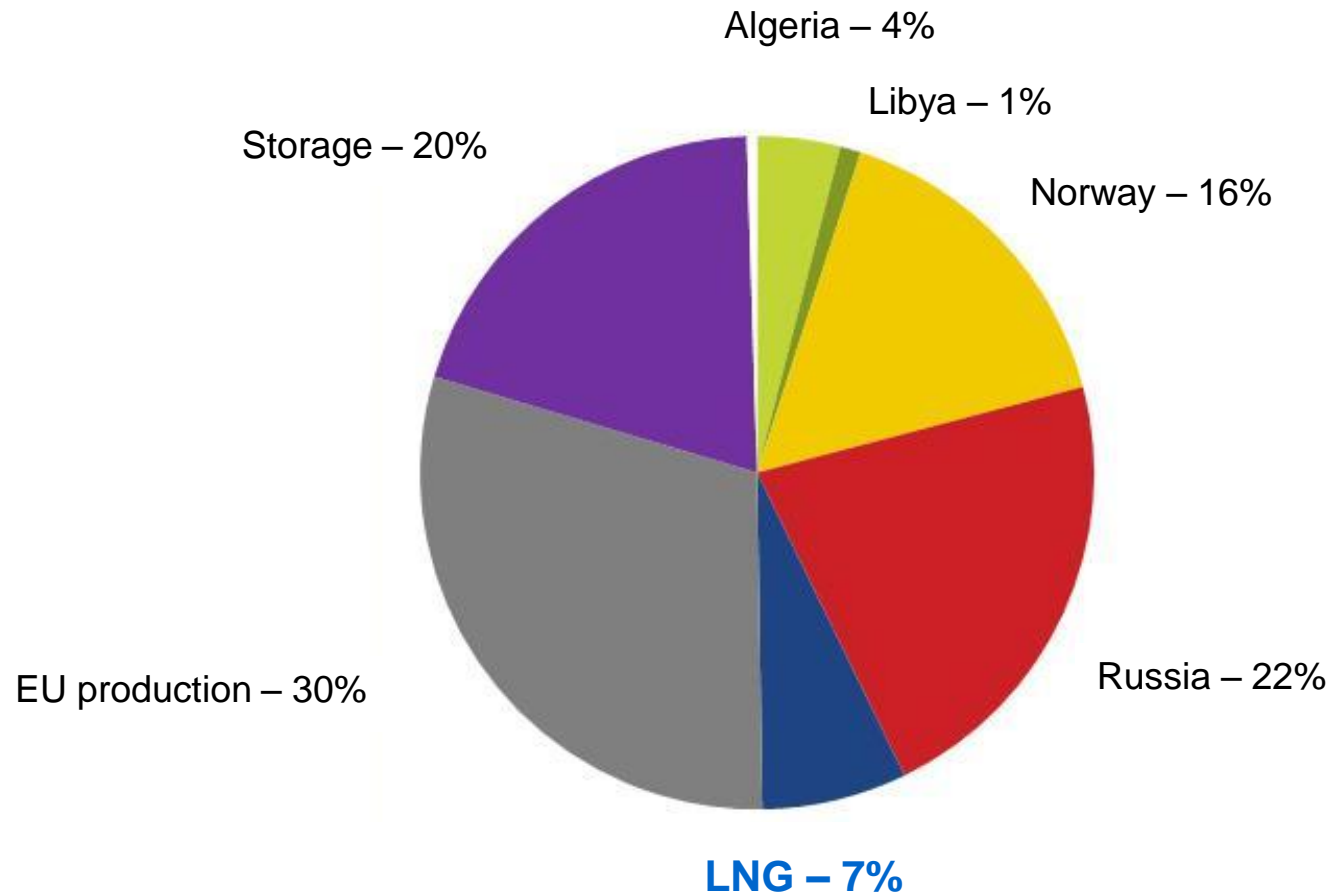
Source : ENTSOG

Ukrainian Disruption Potential Impact



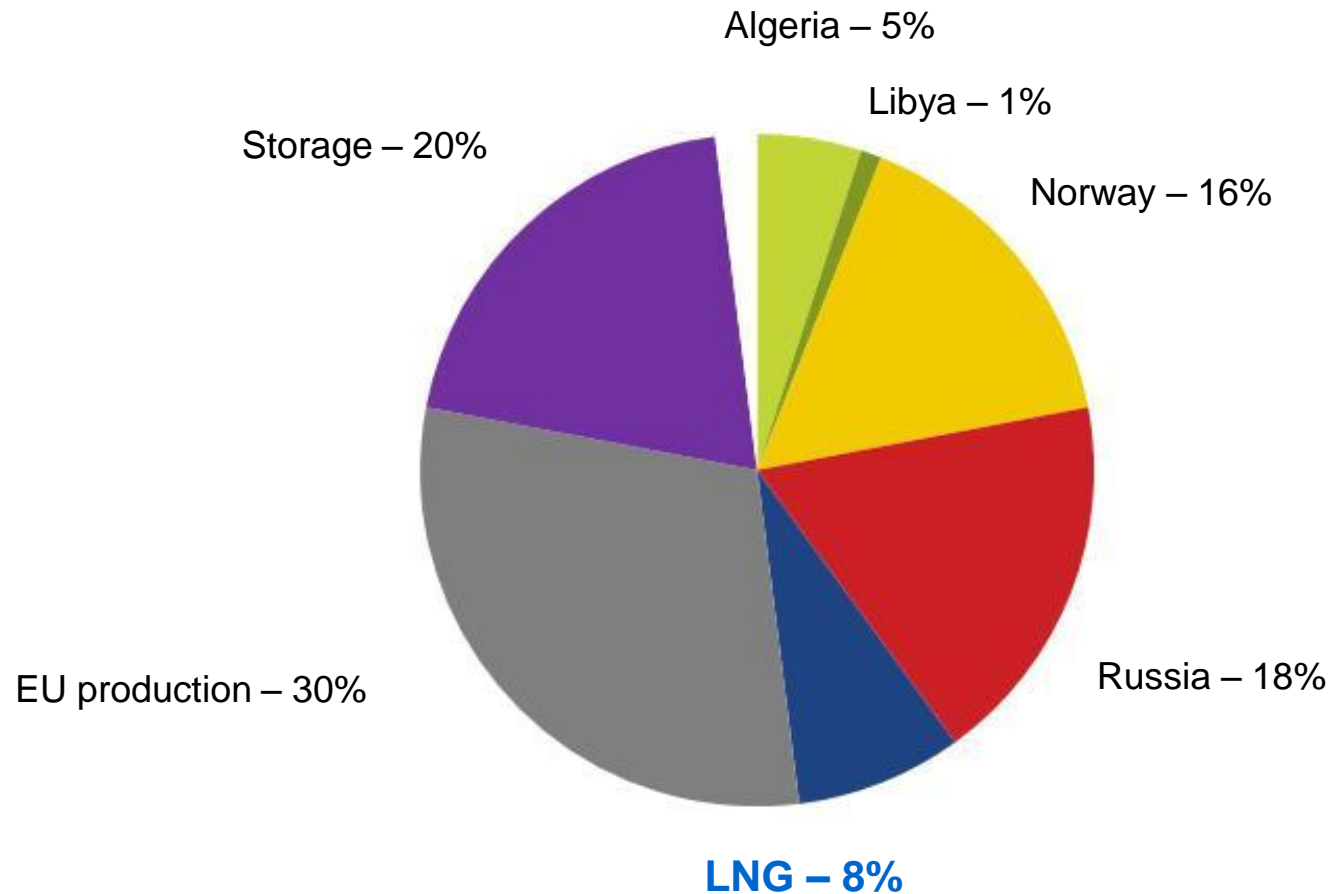
No disruption
(reference case)

Ukrainian Disruption Potential Impact



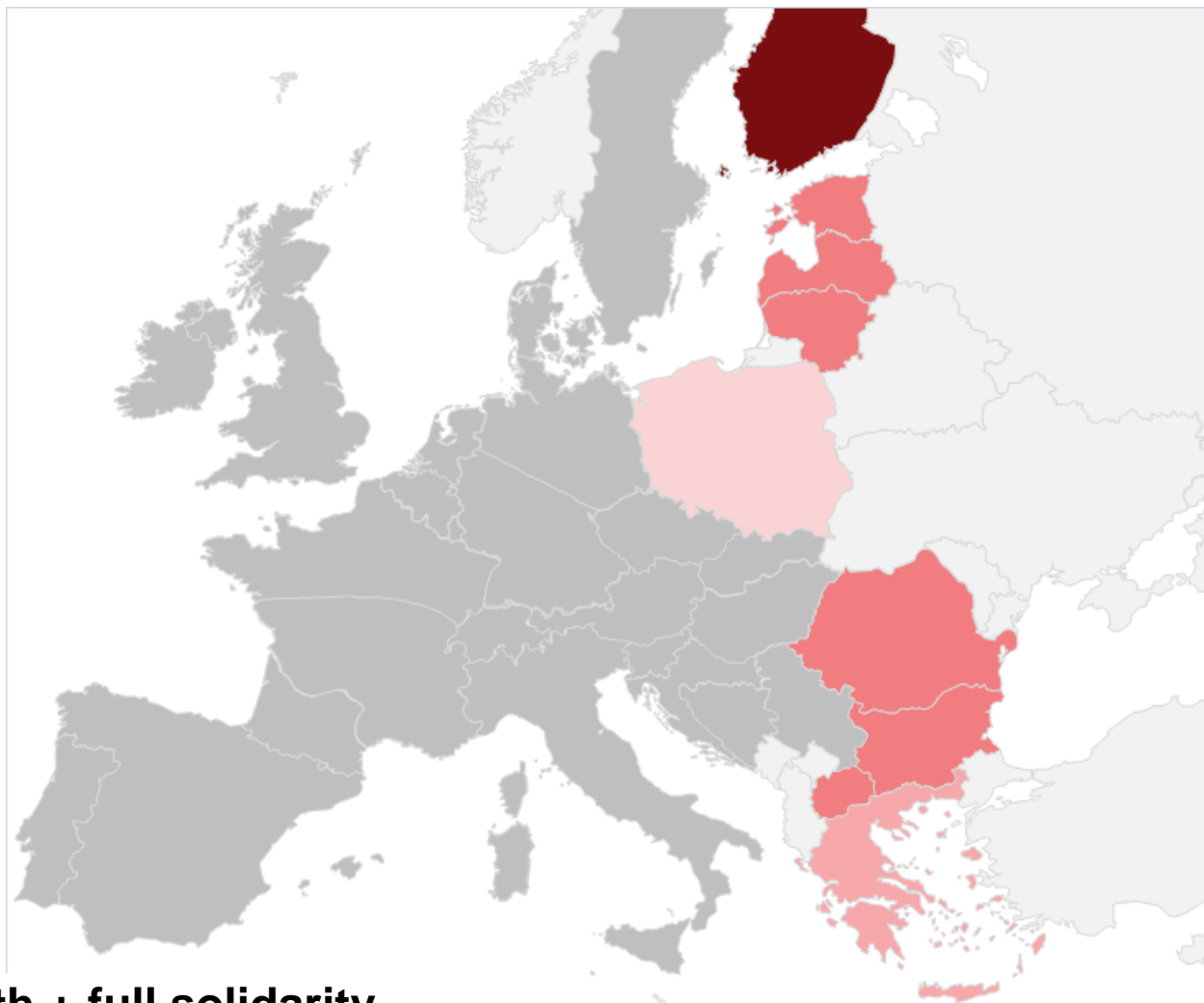
1-month disruption
Disrupted demand: 9 TWh

Ukrainian Disruption Potential Impact

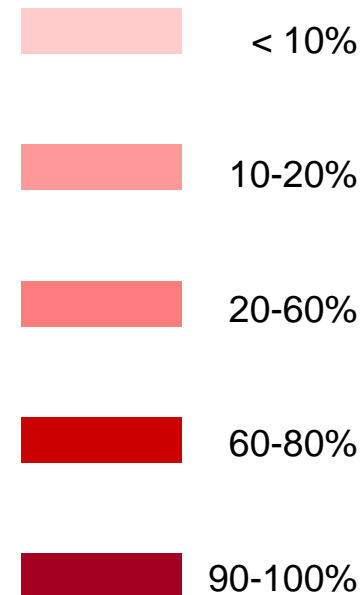


6-month disruption
Disrupted demand: 55 TWh

Russian Disruption Potential Impact



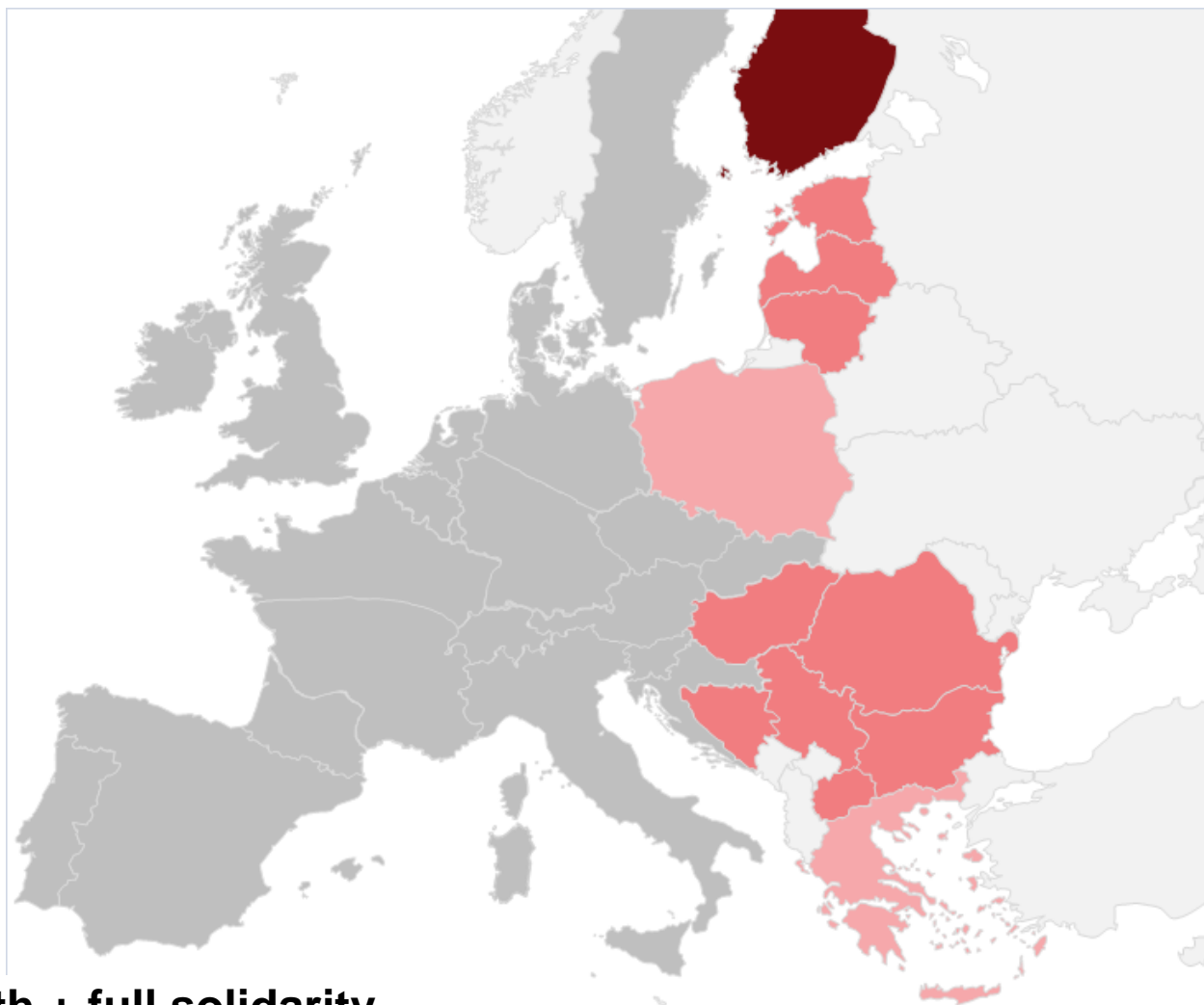
Disrupted demand:



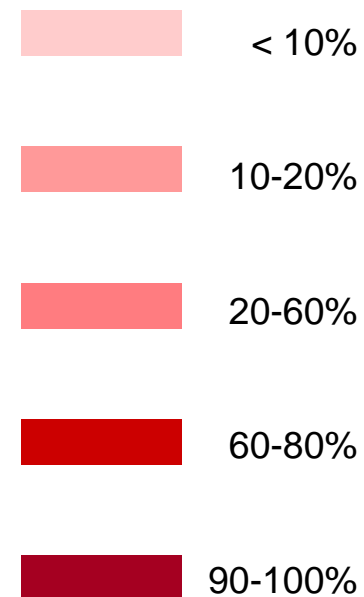
1 month + full solidarity
Disrupted demand: 17 TWh

Source : ENTSOG

Russian Disruption Potential Impact

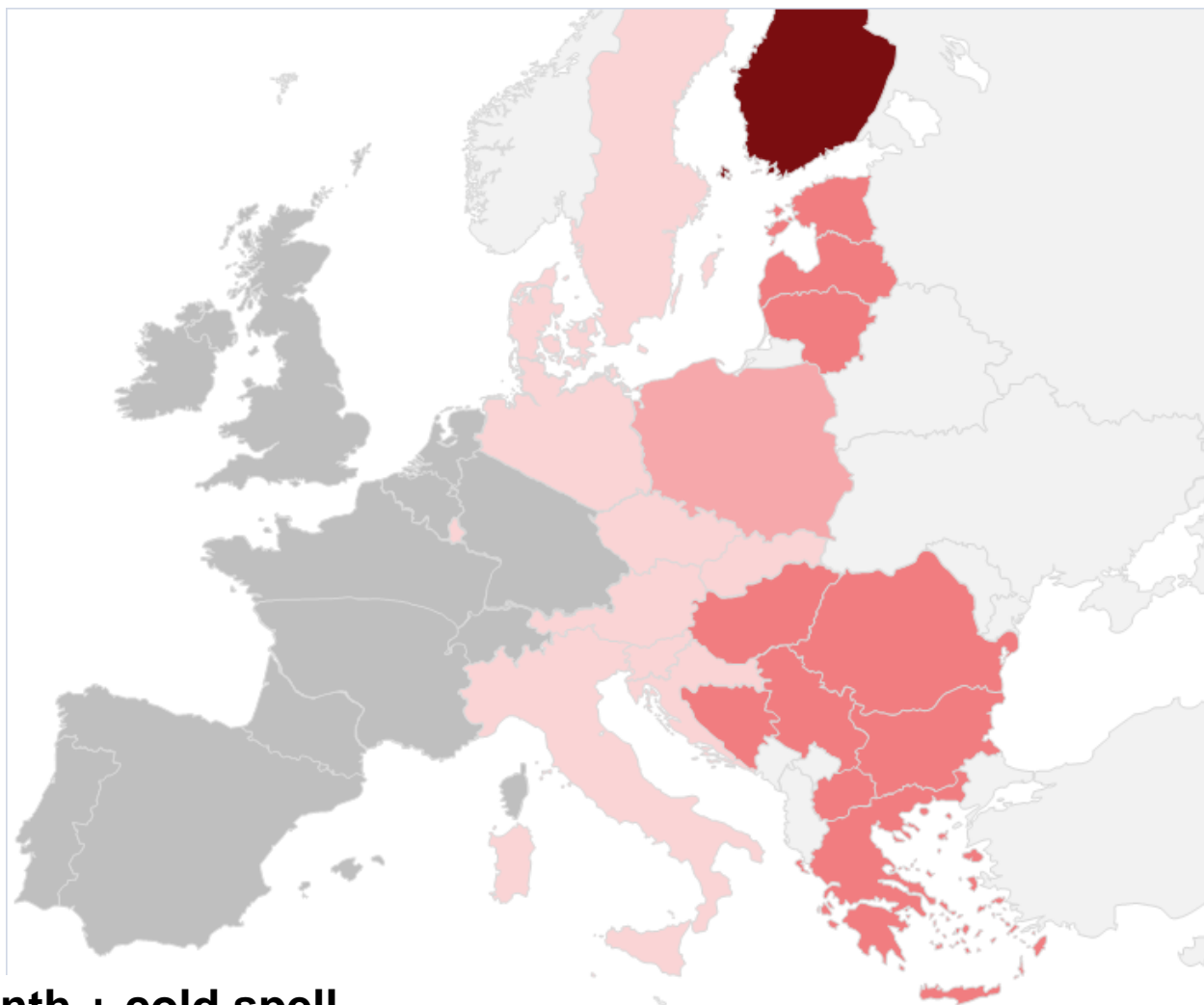


Disrupted demand:

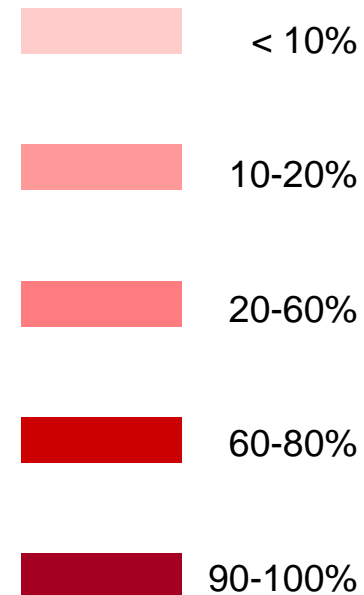


6 month + full solidarity
Disrupted demand: 95 TWh

Russian Disruption Potential Impact

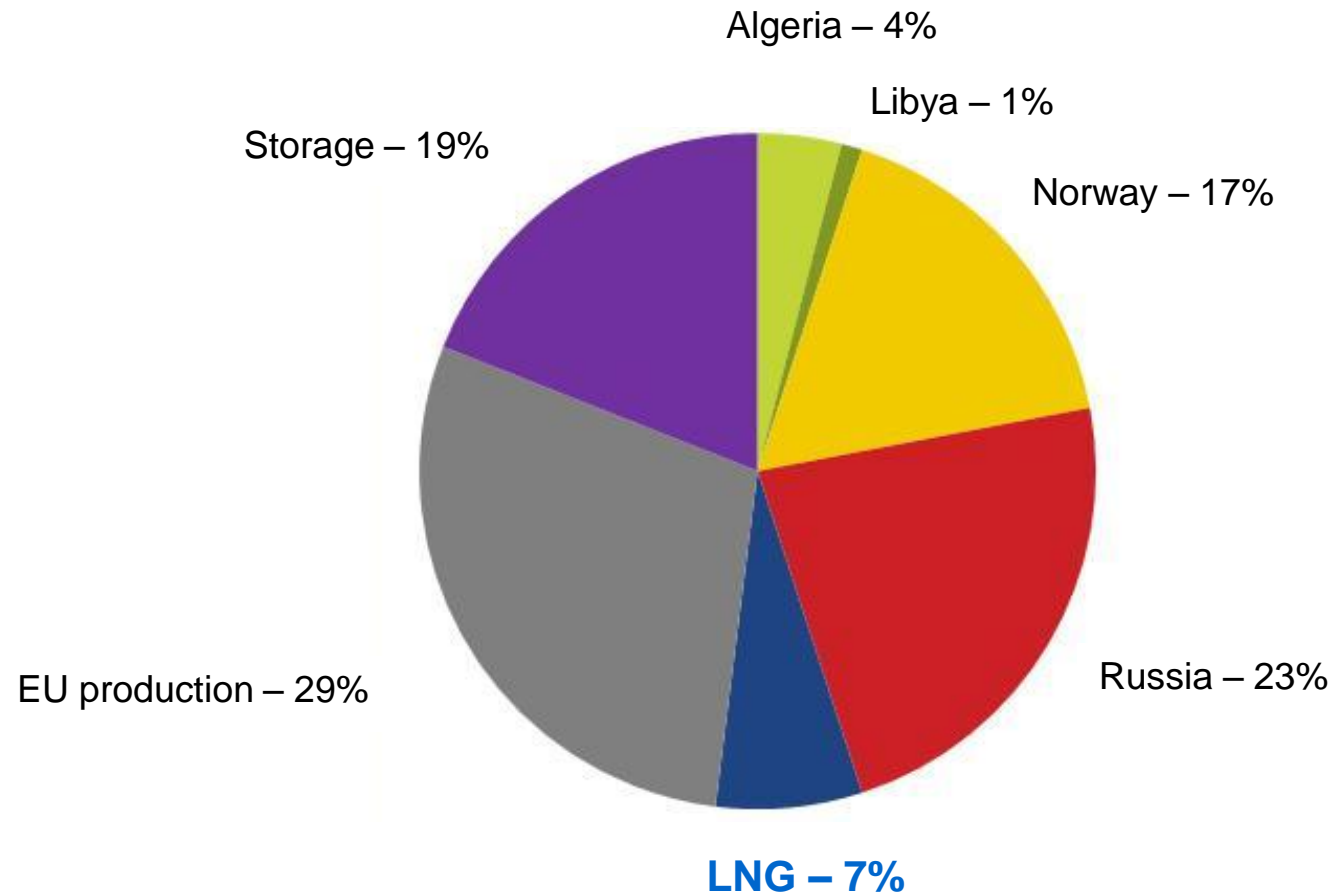


Disrupted demand:



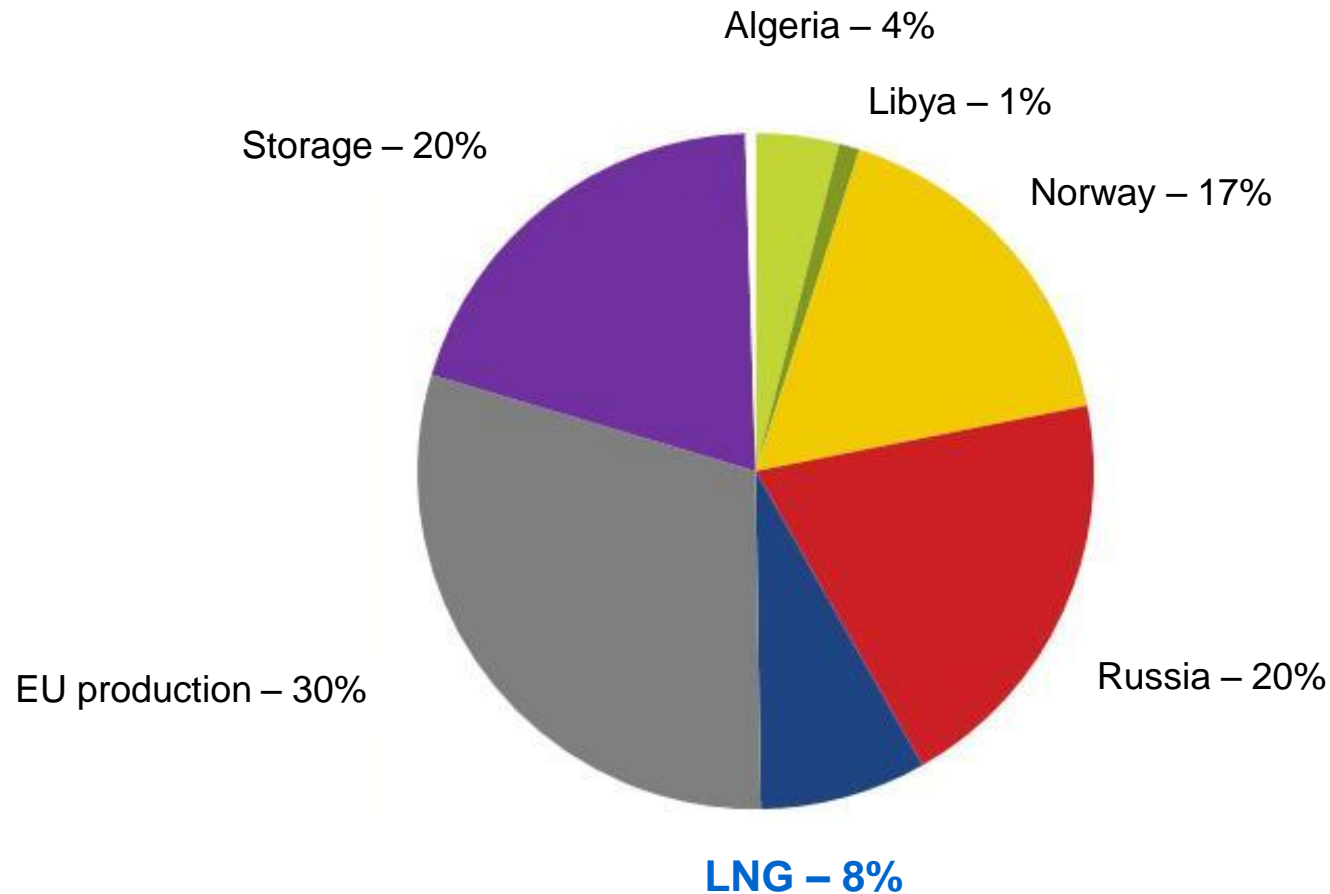
6 month + cold spell
Disrupted demand: 105 TWh

Russian Disruption Potential Impact



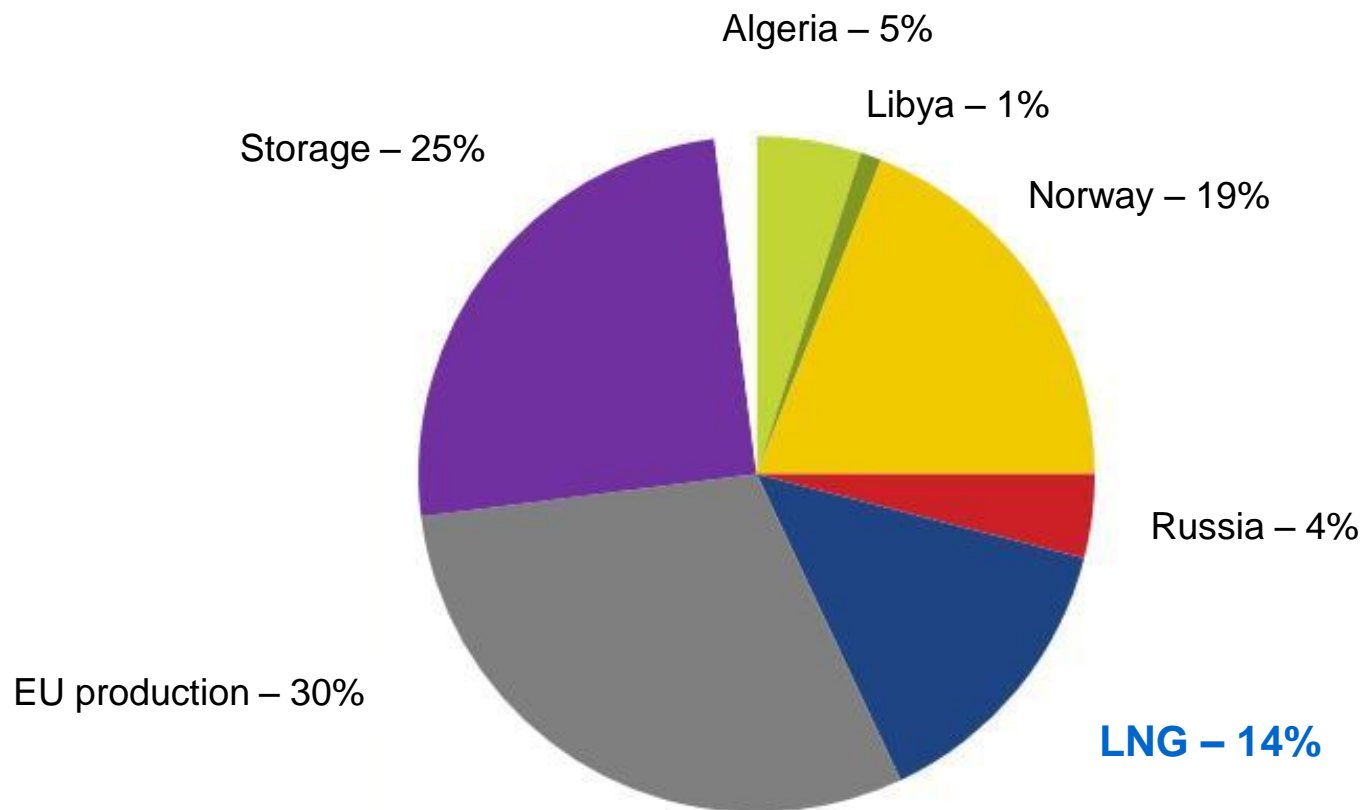
No disruption
(reference case)

Russian Disruption Potential Impact



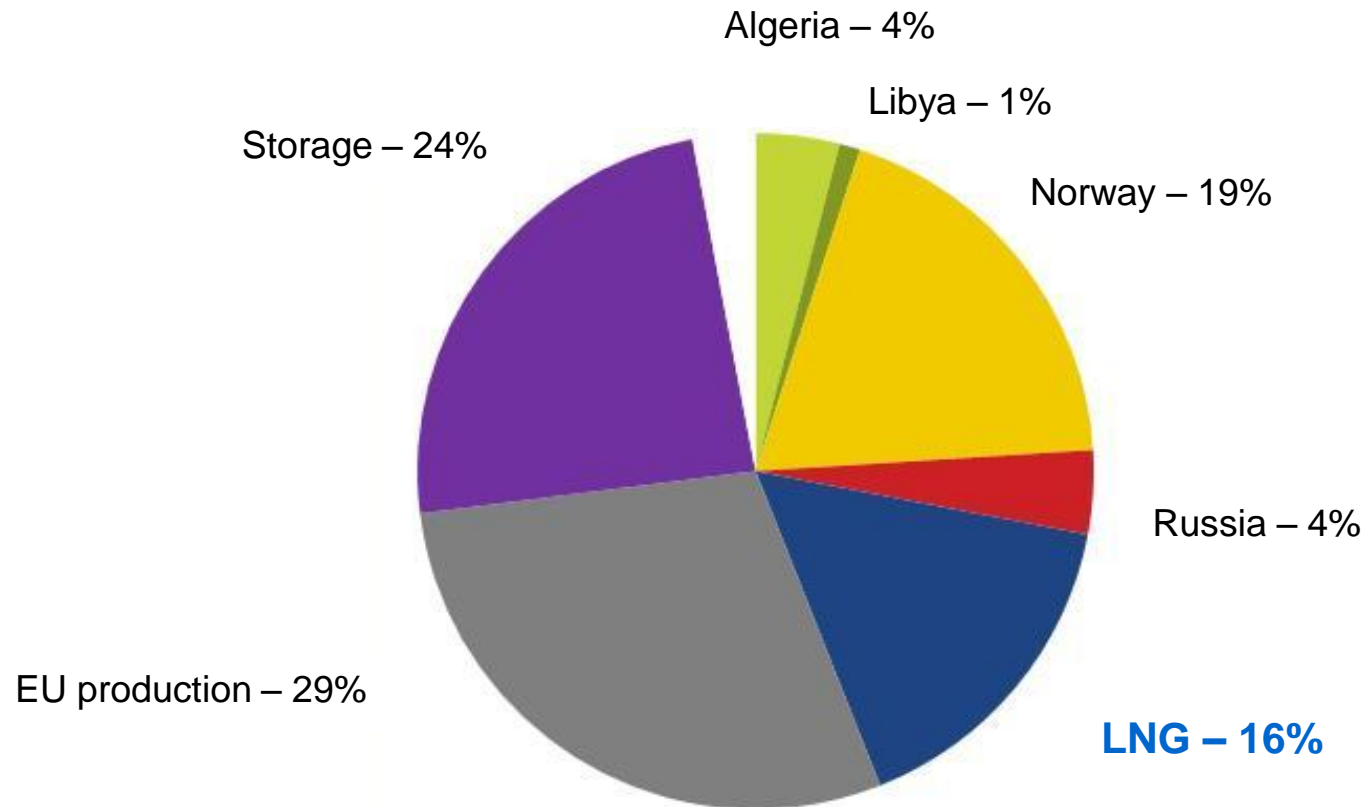
1-month disruption
Disrupted demand: 17 TWh

Russian Disruption Potential Impact



6-month disruption
Disrupted demand: 95 TWh

Russian Disruption Potential Impact



6-month + cold spell
Disrupted demand: 105 TWh

- Thanks to a **higher level of gas in storages on 1st September 2014** compared to 2013 (87% vs. 67%), the potential impact of a Russian / Ukrainian crisis has been significantly limited (**less countries impacted**):
 - ✓ Bosnia, Bulgaria, Former Yugoslavian Republic Of Macedonia, Greece, Hungary, Romania and Serbia in case of Ukrainian crisis
 - ✓ Poland, Finland, Estonia, Latvia, Lithuania in addition, in case of Russian crisis
- The **full use of the existing Greek LNG terminal** (90% of the total send out capacity) and the commissioning of the **new LNG terminal in Lithuania** (3rd December 2014), will reduce disrupted demand in the Balkan region and in Baltic countries in case of crisis. The commercial operation of **the new LNG terminal in Poland** will start after the winter period and is not taken into account for the time being

- The **new gas pipeline connecting Slovakia to Hungary** is already technically available on the Slovak side (commercial operation as of January 2015) and will allow for additional supply to Hungary (500.000 m³/d from Slovakia to Hungary)
- Thanks to the **reverse flow from Greece to Bulgaria**, 1 mcm/d firm capacity is available and 2 mcm/d interruptible capacity could also be used in case of a Russian / Ukrainian crisis. As of January 1, 2014 Bulgartransgaz EAD provided technical capability of reverse flow from Greece to Bulgaria amounting up to 4,2 mcm/d at 35 bar pressure at IP Kulata/Sidirokastro and 6.0 mcm/d at 40 bar pressure at IP Kulata/Sidirokastro
- If gas is exported to Ukraine & Moldavia **in case of a Russian gas crisis**, additional EU Member States could be impacted:
 - ✓ Austria, Czech Republic, Germany (Gaspool), Denmark, Croatia, Sweden, Slovakia

- If no transit through Ukraine during 1 month, no need of additional LNG. If **no Russian supply** during 6 months, **additional need of LNG around 240 TWh** over the period
- **Cooperation between Member States** will not reduce the total amount of disrupted gas demand, but **will facilitate the management of the crisis in each country**, due to a lower percentage of gas disruption that can be better born by flexible gas consumers
- **Real situations could be worse than the simulated ones**, especially in case of cold peak days (to be compared to the assumption of a monthly average consumption)

- **One modelling tool**: ENTSOG – to be used / check consistency of data with Members States and Infrastructure operators
- In Balkan & Baltic regions, to implement incentives / **measures for consumers that can reduce their gas consumption** or use alternative fuels – to have a specific focus on gas fired power plants that could be shut down and compensated by imports of electricity
- Promote measures (targeted according to the country / GSE Toolbox) that give the **right incentives to use storage** and thereby a physical backed supply source
- Interconnection capacities / **reverse flows** : some administrative barriers have been reported and should be removed if confirmed (Croatia/Hungary interconnection point and Romania / Hungary interconnection point)

- Due to the **risk of tightness of LNG market**, countries / shippers of the relevant areas (Balkan and Baltic regions) should **secure** as soon as possible maximum **deliveries** for the winter (e.g. by purchasing future contracts of LNG cargoes, or by purchasing and keeping LNG in storage tanks...)
- In addition it could be envisaged to **move existing Floating Storage and Regasification Units** to a relevant area in the Balkan region (1 year implementation)
- **Coordination between infrastructure operators and Members States** of the Balkan and Baltic regions should be prepared (regional coordination of dispatching centres / Early Warning System & Team in Eastern Europe)
- No specific measure has been identified for increasing domestic gas production



GIE is proud to support



Gas Naturally

GN is a campaign to showcase the essential role of natural gas in the forthcoming energy revolution. The mitigation of climate change has become one of the most important issues for the gas industry.

GIE - Gas Infrastructure Europe

Avenue de Cortenbergh 100
1000 Brussels, Belgium

www.gie.eu

