

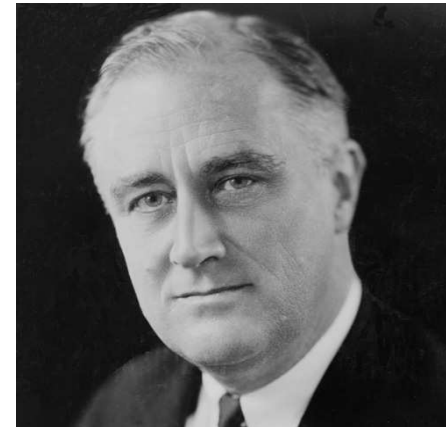
# SECURE – ASSESSMENT OF POTENTIAL THREATS FOR EU GAS SECURITY NATURAL GAS REGIONAL STAKEHOLDER MEETING, MOSCOW



# SECURE

“Competition has been shown to be useful up to a certain point and no further, but cooperation, which is the thing we must strive for today, begins where competition leaves off”.

- Franklin D. Roosevelt



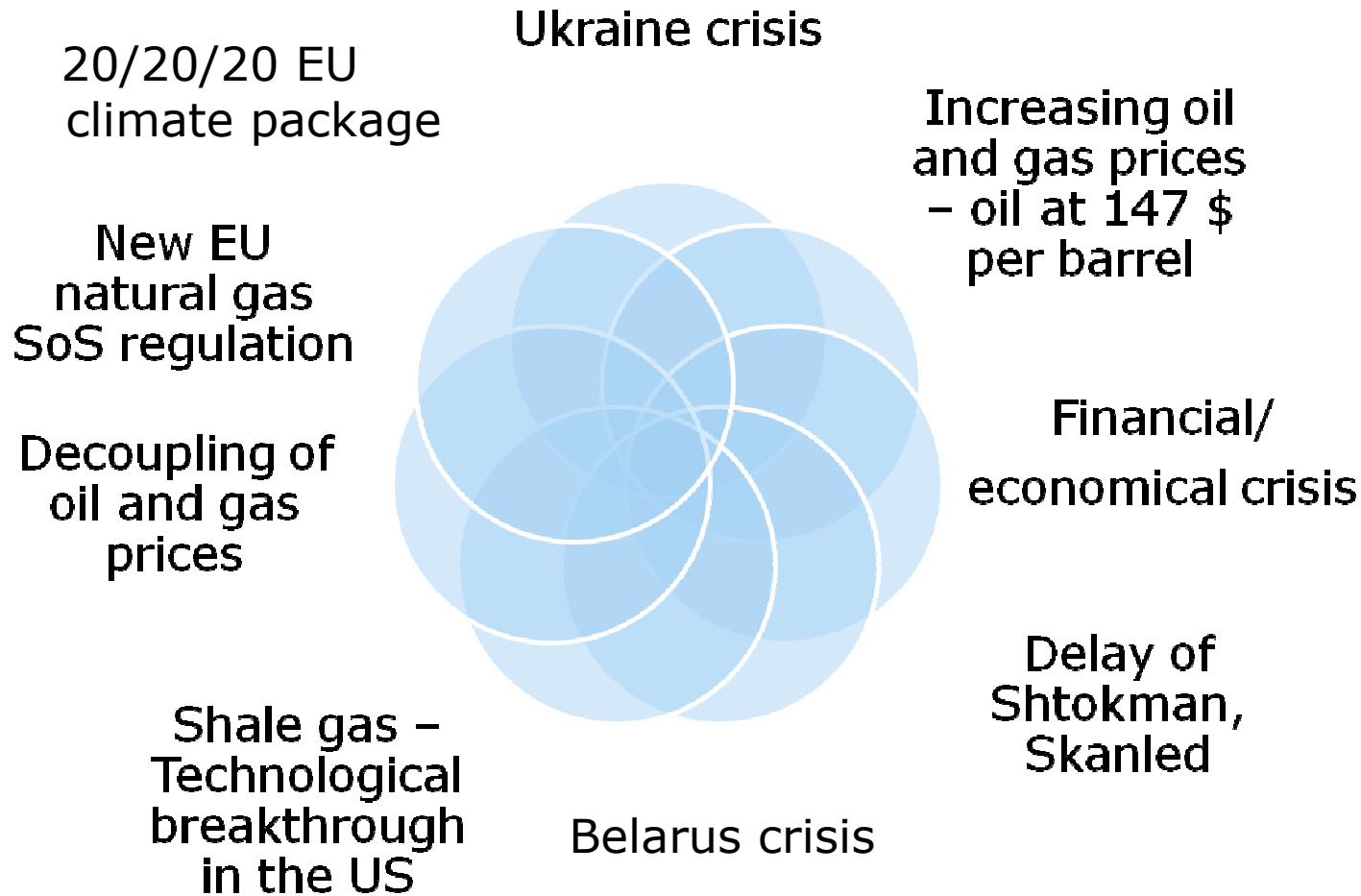
# AGENDA

- Scope of SECURE Natural Gas
- Recent dynamic issues in security of supply and gas markets
- Security of Supply Index
- SECURE's main conclusions and recommendations
- The EU's and Russia's roles in enhancing security of supply

# BROAD SCOPE OF STUDY

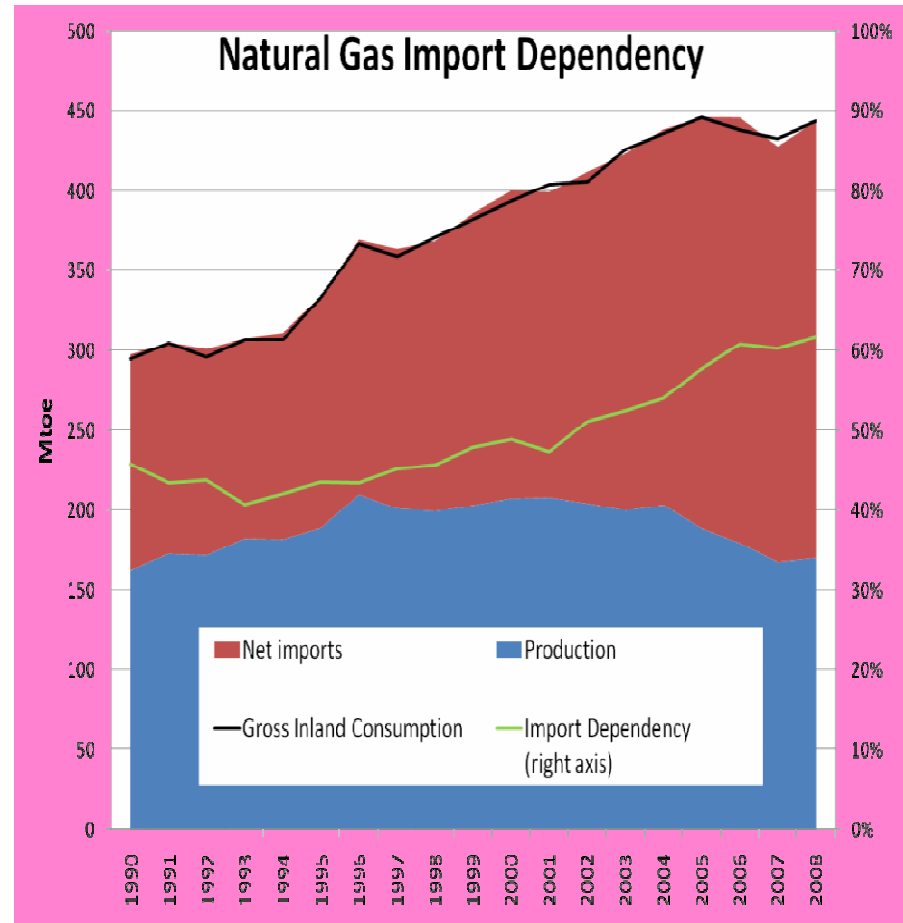


# DYNAMIC AND RECENT ISSUES IN SECURITY OF SUPPLY



# Long term security of supply - Uncertainties about future gas import needs

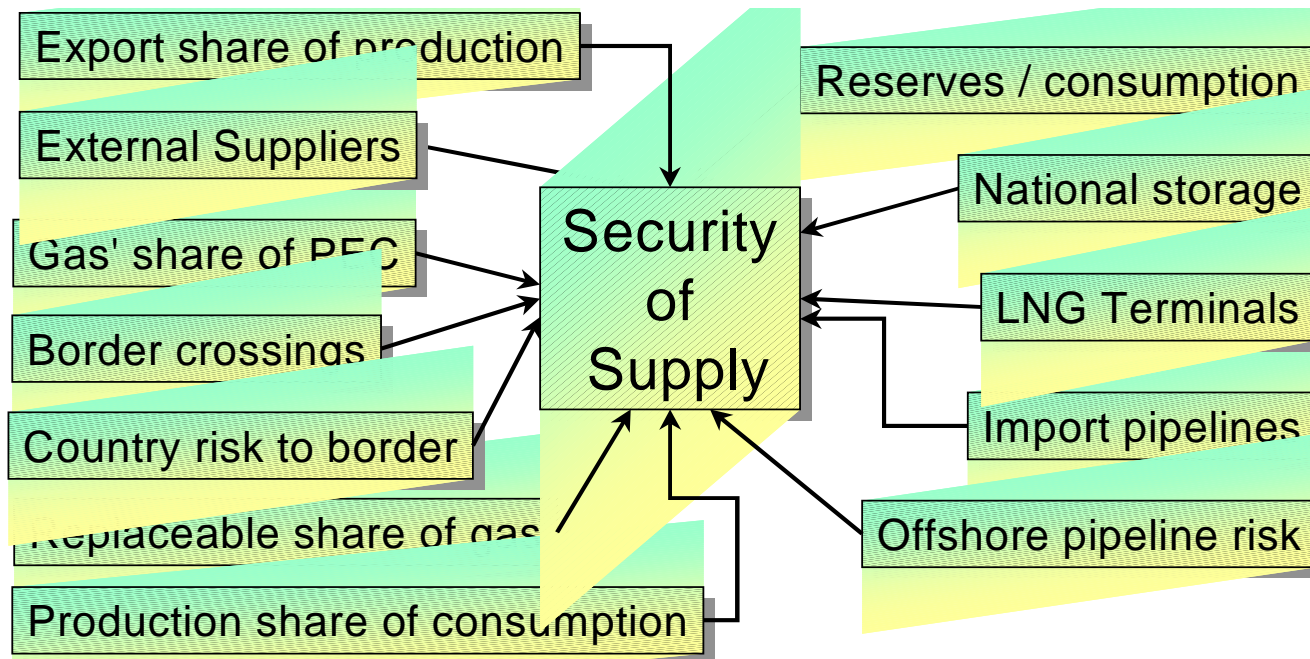
- EU gas production passed its peak in 1996 and since 2004, production has entered a long term decline
- Gas demand forecasts:
  - The EC and IEA forecasts over the past 5 years show downward revisions
- Volatility of energy prices
- Transit issues
- EU's energy policy (e.g. 20/20/20 targets)
- Worldwide financial and economic turmoil
- Role of unconventional gas



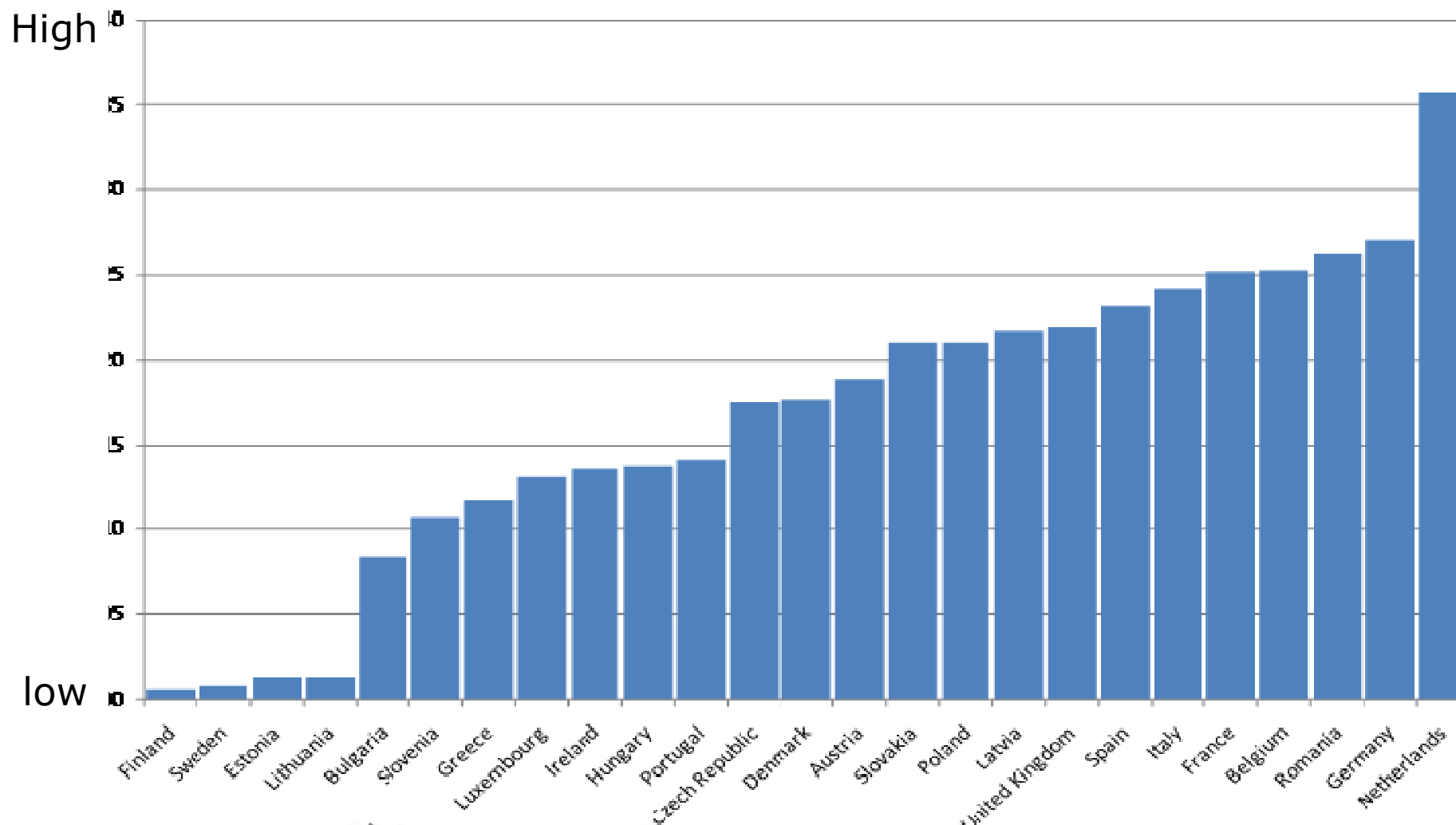
The EU and its suppliers need to reduce this uncertainty together

# CREATION OF A SECURITY OF SUPPLY INDEX

- Index allows for country specific characteristics
- Allows for assessment of SoS impact of new investments and policies
- Allows for analysis of scenarios



# THE PRESENT SITUATION OF SECURITY OF SUPPLY IN EUROPE?

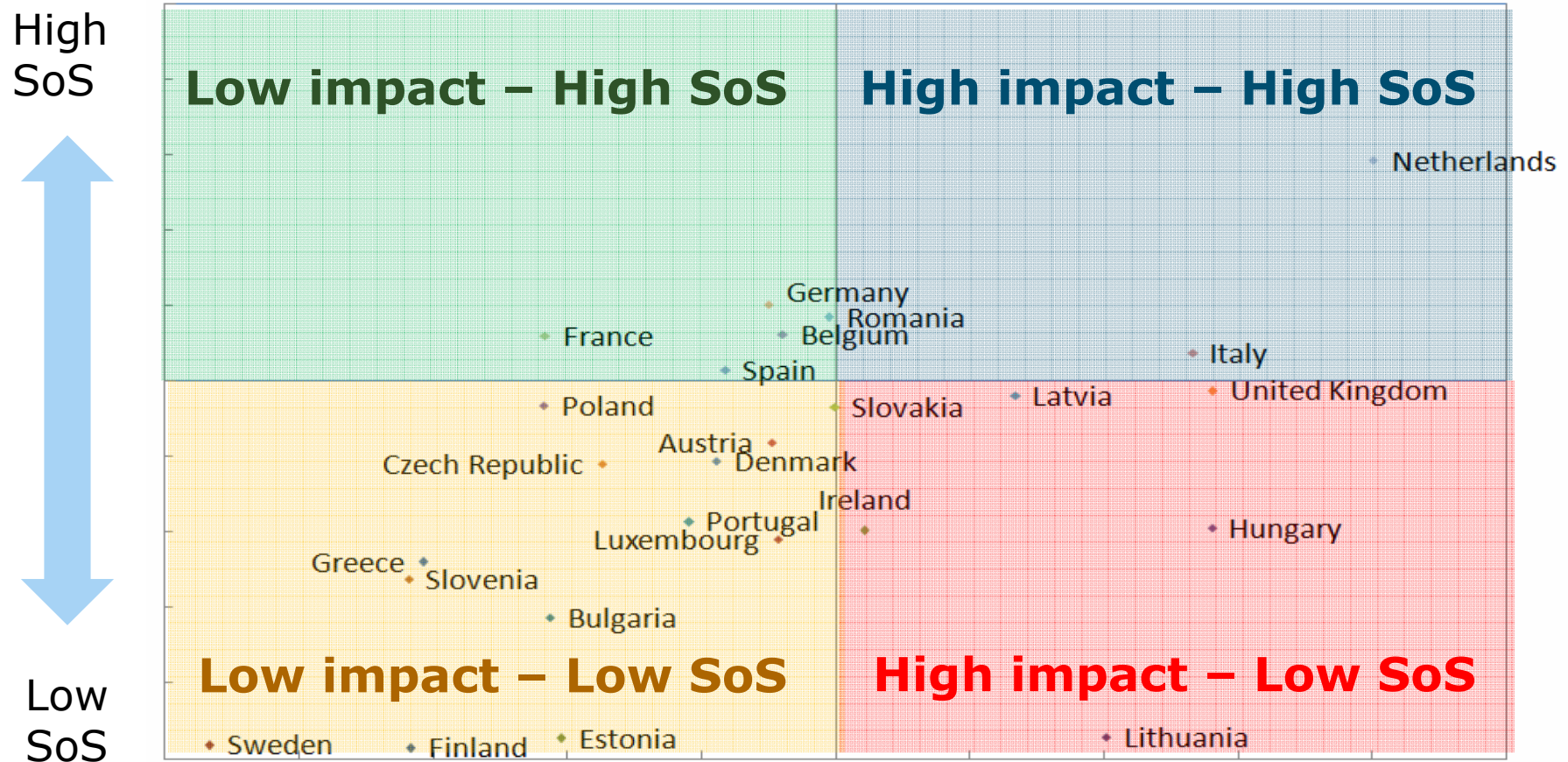


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Source: Ramboll SoS index



# SECURITY OF SUPPLY IN THE EU – RISK AND IMPACT 2050



Low impact ← → High Impact

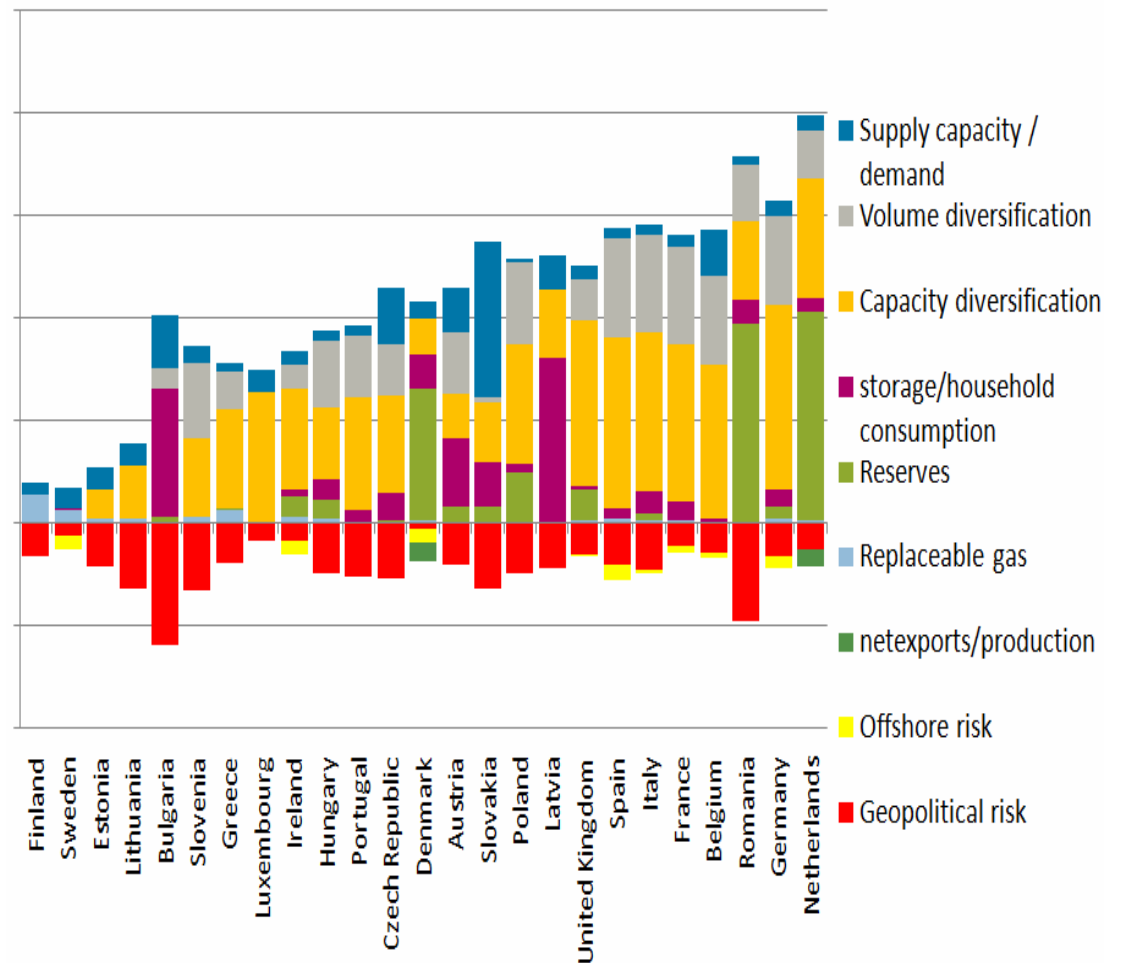
**RAMBOLL** Security of Energy Considering its Uncertainty, Risks and Economic Implications

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Source: Ramboll SoS index

# THERE IS NO SIMPLE BASIS FOR SOS NOR RESPONSE TO SUPPLY DISRUPTION.

- Natural gas security is not only a question of the external dimension such as diversification of supply sources and routes. Demand side and internal factors are as important.
- Many parameters are at play – and these parameters can change over time e.g. as the consequence of policy
- Thus securing supply is a mix of measures and forward looking policies.

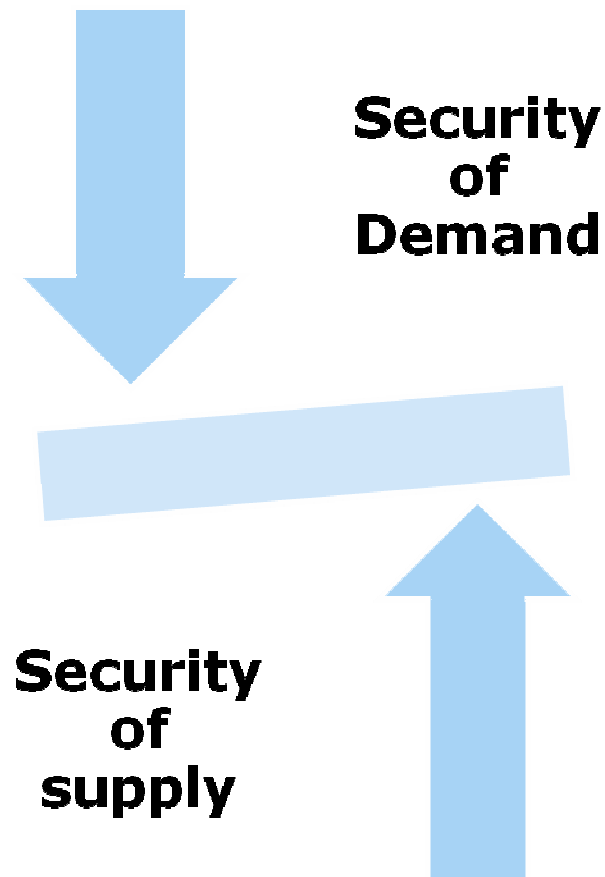


Source: Ramboll SoS index

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# SECURITY OF SUPPLY/SECURITY OF DEMAND



- Security of Demand
  - Long term contracts
  - Clear EU signals and policy on natural gas

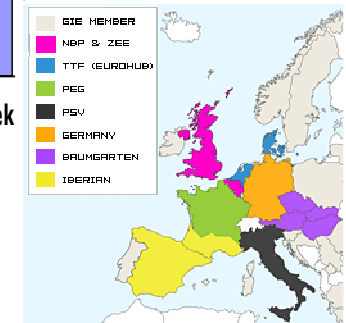
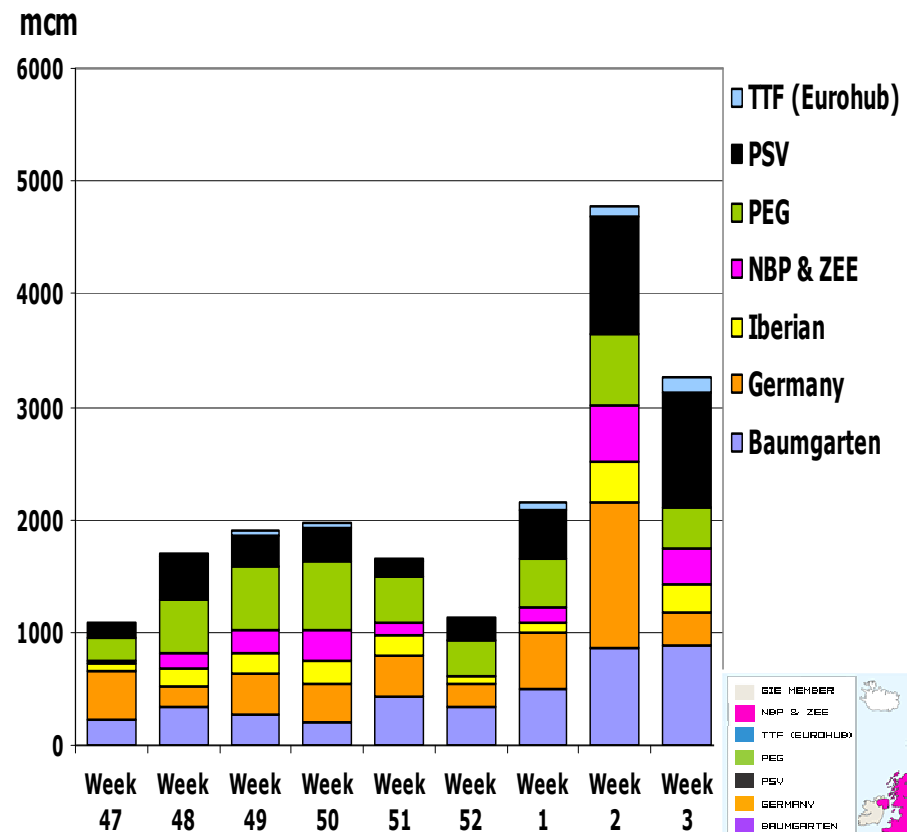
Gas prices should reflect supply and demand in the long run

- Security of supply
  - Flexibility
  - Diversification
  - Interconnection
- Security of transit
- Security of regulation

# MARKET DEVELOPMENT AND SECURITY OF SUPPLY – TWO SIDES OF THE SAME COIN

- Improving markets will also lead to improved SoS and vice versa
  - Allowing gas to flow where it is needed, when it is needed
- Allow for solidarity between consumers AND between consumers and producers
- Financing SoS
  - Users or beneficiaries
  - Alignment of EU policy and funding mechanisms

Gas market storage withdrawal during Ukraine crisis



# BUT... WE NEED REGULATION AND PRODUCER AND CONSUMER COOPERATION

- Markets do not know the true costs and risks adhered to SoS
- Markets value future events lower than governments
  - Quicker depletion rates.
  - Lower value of SoS measures.
- Markets require unbundling – SoS prefers vertical integration
- Some SoS tools are counterproductive for markets e.g. strategic storage



# UKRAINE CRISIS – INTERNAL LESSON LEARNED

- Lack of Reverse flow
- Internal bottlenecks
- Increase interconnection to allow markets to function
  - Storage
  - Fuel switching
  - Increased production
  - Alternative imports
  - More a capacity issue than volume issue

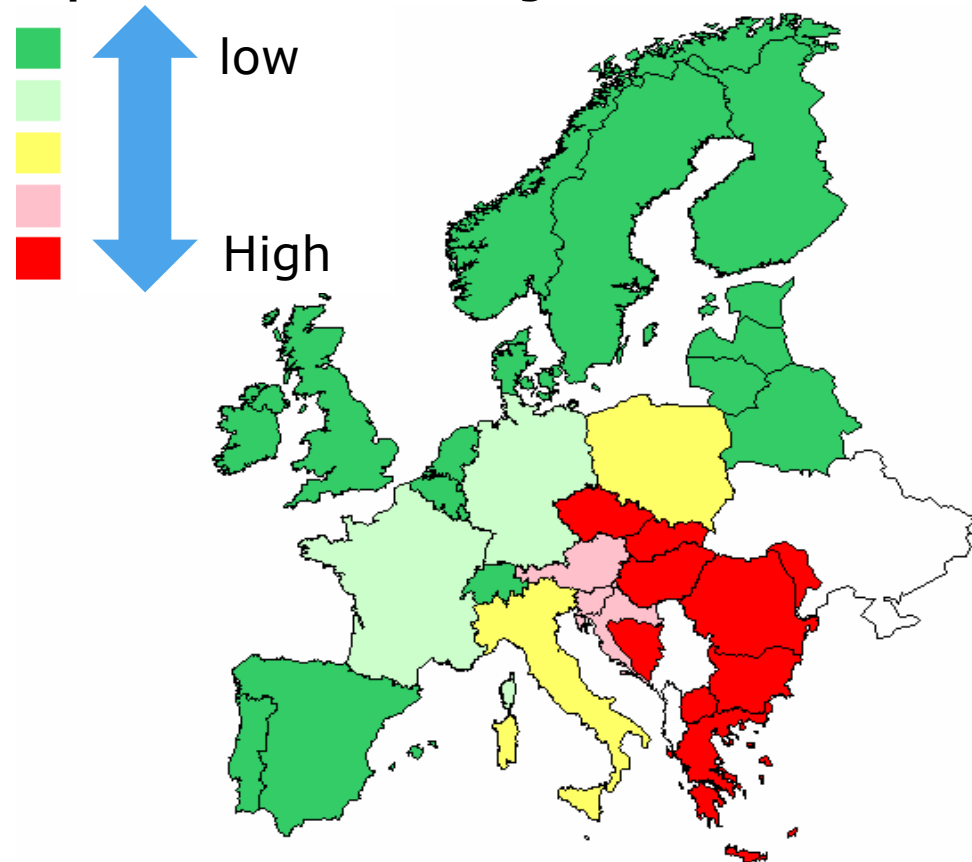




# UKRAINE CRISIS – EXTERNAL LESSON LEARNED

- Independent Transmissions operator
  - Tripartite setup consisting of Ukraine, EU and Russia
  - Metering
  - Ensure investment
- EU-Russia Early Warning Mechanism
- Alternative routes

Impact of 2009 Ukraine gas crisis on countries



# THANK YOU

“It is not the brains that matter most, but that which guides them -- the character, the heart, generous qualities, progressive ideas.”

- Fyodor Dostoyevsky

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# SECURE – NATURAL GAS ROUNDTABLE DISCUSSIONS

## REGIONAL STAKEHOLDER MEETING, MOSCOW



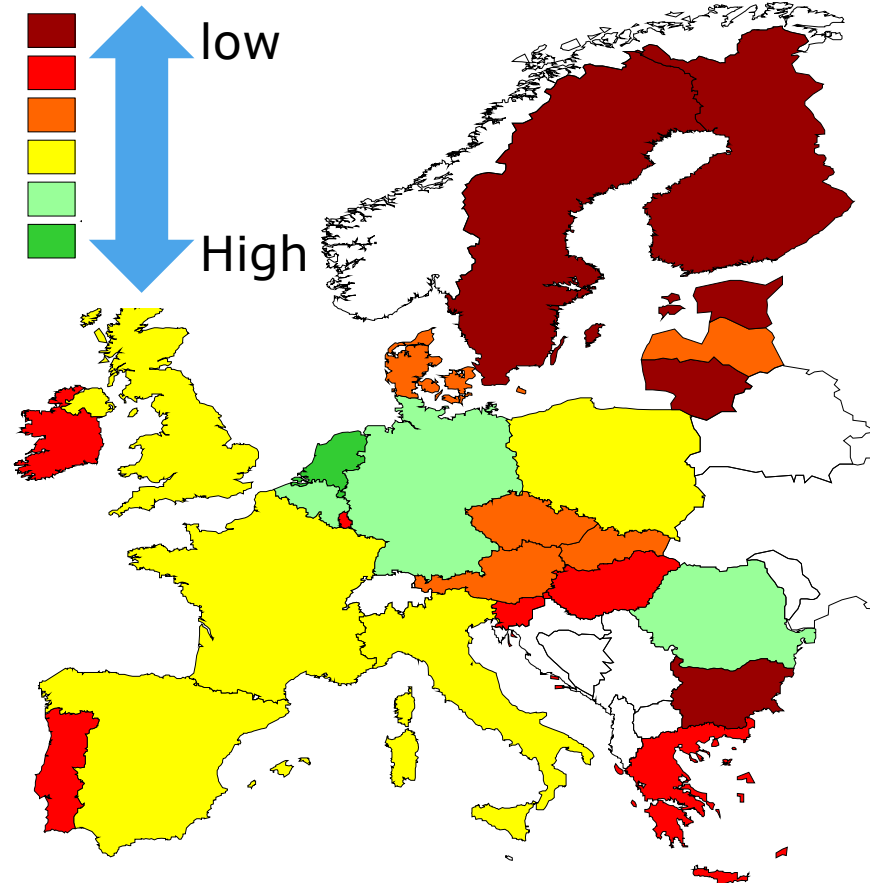
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# Conclusions

- There is enough gas around Europe to secure the EU gas supply to 2030 – the issue is investment upstream as well as infrastructure
- But what about after 2030?
  - Will the EU be prepared for a post gas peak in most of its current suppliers, and how?
- Gas security has to be addressed in a global perspective, and throughout the gas chain.
- Need to promote healthy relations between producers, consumers, transit countries and between national and international companies.



Level of Security of supply in EU



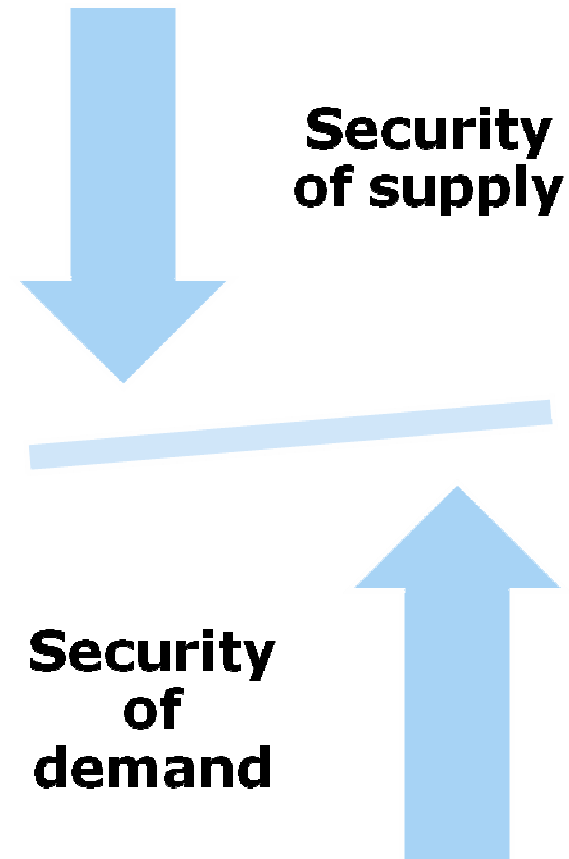
Source: Ramboll SoS index  
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# SECURITY OF SUPPLY AND SECURITY OF DEMAND – TWO SIDES OF THE SAME COIN

- Internal market development
  - Reverse flow and removal of bottlenecks - To allow the gas to go where it is needed
  - To optimise utilisation of SoS measures
  - Allow for solidarity between consumers and between consumers and producers
- External dimension
  - Develop a external infrastructure policy
  - Focus on stable diversified gas import and transit
  - Clear EU signals and policy on natural gas
  - Long term contracts
- Gas prices should reflect supply and demand in the long run

**RAMBOLL**



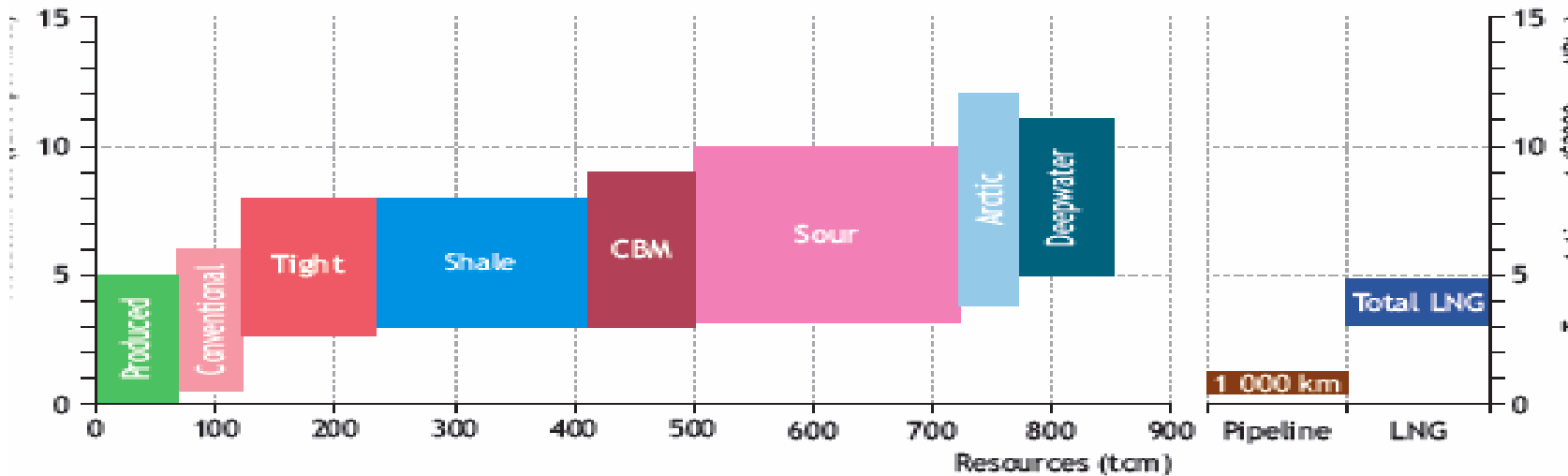
# EXTRA

RAMBOLL



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# GAS PRODUCTION COSTS



Source: WEO 2009

- Conventional gas may be cheaper than unconventional – but large uncertainty
- Uncertainties of potential for unconventional in Europe
- Security of supply – what is the potential – short and long term
- Costs for gas production should be studied to evaluate the potential of resources in and around the EU

# THE UNCONVENTIONAL REVOLUTION STILL HAS A LONG WAY TO GO IN EUROPE

- No lack of potential resources in Europe but unproven
- Lack of knowledge and technology
- Complex resource
- Wells cheap in US but expensive in Europe
- Not the same 'wide open plains'
- Stringent legislation
- And also fundamentally we have the gas and reliable partners

