

Fifth UNECE Gas Centre Industry Forum

Panel 2:

The Role of Natural Gas in the International and European Energy Mix: Finding the Right Priorities

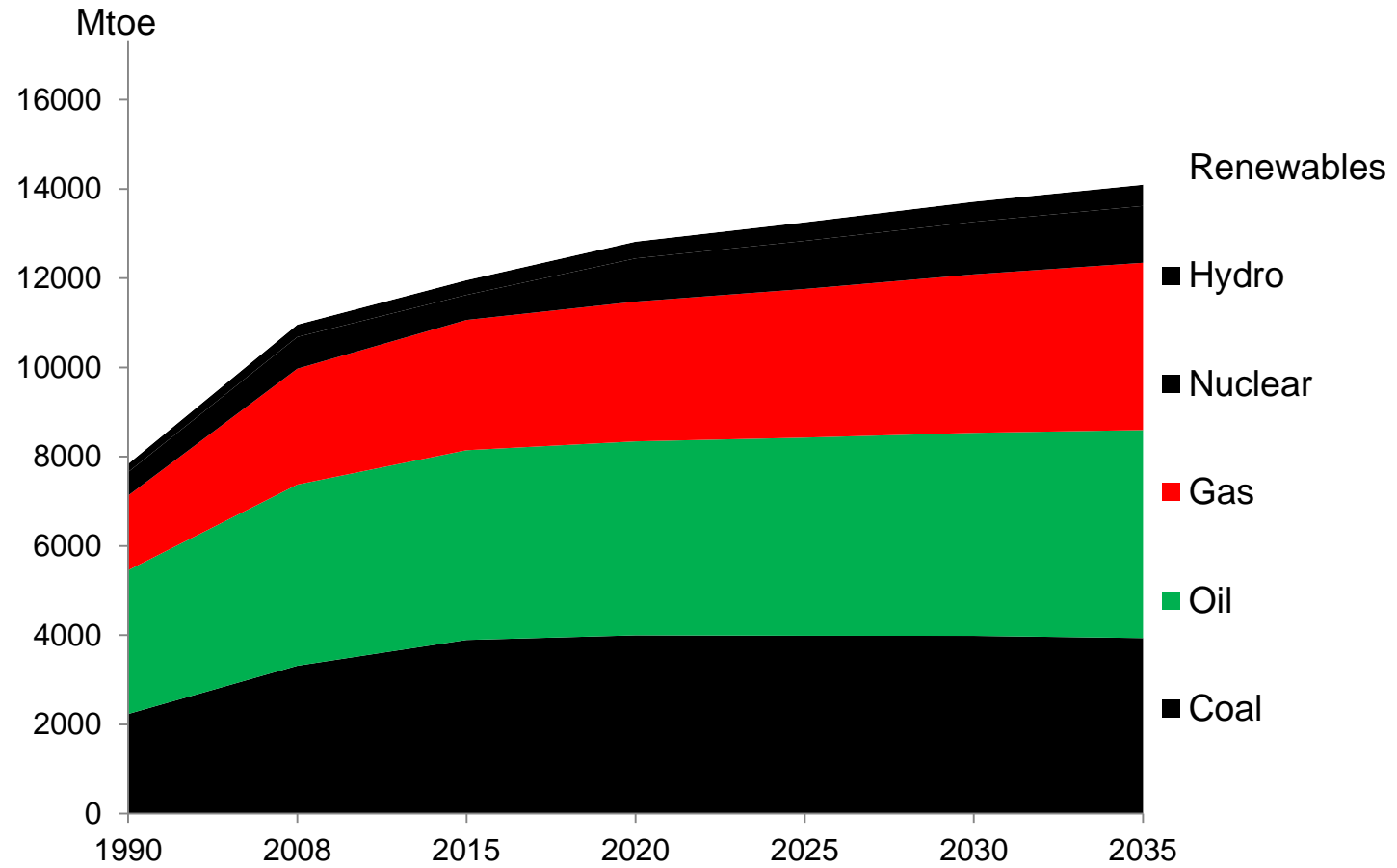
United Nations, Geneva

19 January 2015

Cornelia Meyer

Global View

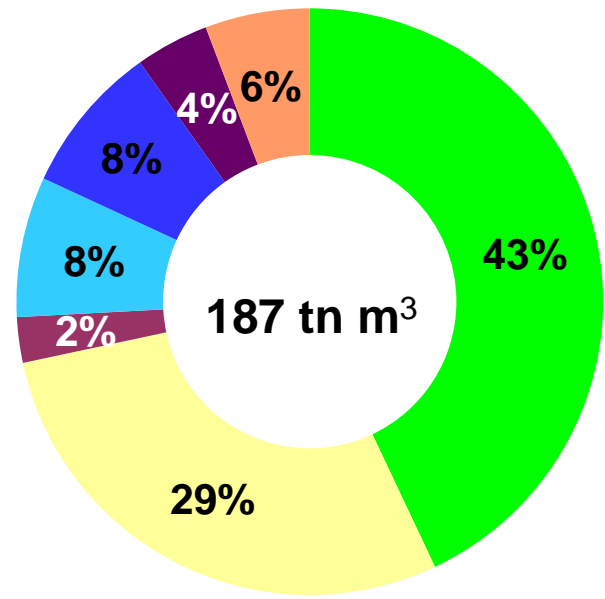
Demand Growth by Fuel Source



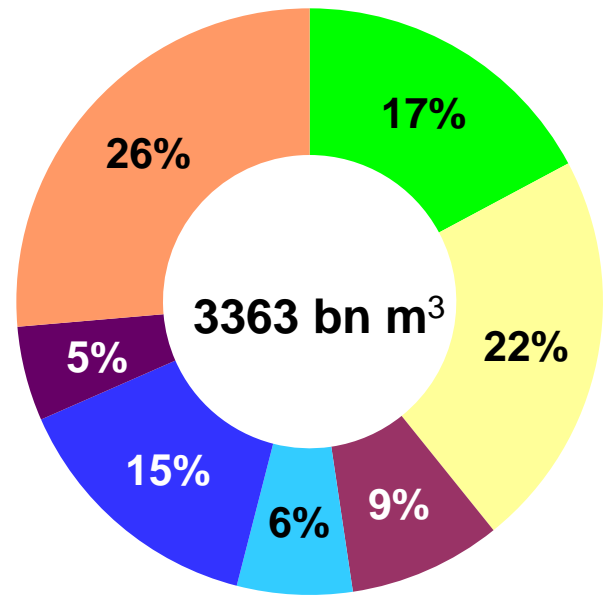
Fossil Fuels Remain The Dominant Source Of Energy

Geographic Diversity: Gas

Reserves



Production

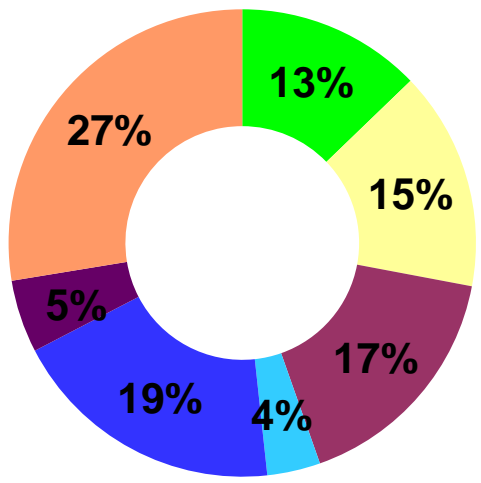


■ Middle East
 ■ Europe
 ■ Russia & CIS
 ■ Africa
 ■ South & Central America
 ■ North America
 ■ Asia Pacific

***Shale Gas = Game Changer
In NA NOT IN Europe***

Geographic Diversity: Gas

Consumption



3345 bn m³

- Middle East
- Europe
- Russia & CIS
- Africa
- South & Central America
- North America
- Asia Pacific

***Europe : Consumption Down
US & Asia Consumption Up***

A Tale Of Three Stories

- **Europe: Gas Consumption Down:**
 - Renewables policies
 - Erosion in CO2 price ETS 28 E/t → 8 E/t
 - Cheap Coal
 - Fukushima → Energiewende
 - Geopolitical tensions
- **US: Shale Gas Revolution**
 - Reserves up by 60% (32 bn tcf)
 - Consumption up > 4.7% year on year
- **Asia: Consumption Up**
 - Fukushima
 - Environmental Concerns in China (2012: 4.9% / 2015: 8%)

Conflicting EU Policies → Gas: Less A Fuel Of Choice

Europe Reality

EU Energy Security Strategy (May 2015)

- **Capacity to overcome disruptions**
(gas co-ordination group / additional supplies / stress tests)
- **Energy solidarity**
(oil stocks / mitigate supply risks / critical infrastructure)
- **Moderating energy demand (20% by 2020)**
- **Integrated internal market**
(gas & electricity market / interconnectors / oil market)
- **Increasing energy production**
(renewable energy / hydrocarbons & clean coal)
- **Developing technologies**
- **Diversification of supplies & infrastructure**
(Gas / uranium nuclear fuel)
- **Coordination of national policies**

Sensible; But Ambitious

The Issues

- Common Energy Policy **VERSUS** energy mix = national priority
- Ambitious emissions & renewables targets **VERSUS** challenges in meeting base load requirements & reserve margins
- ETS Pricing (*80% decline over less than a decade*) **VERSUS** CO2 Emissions
- Substitution of gas **VERSUS** existing infrastructure (*quick response time required*)
- 20/20/20 / “Energiewende”, etc. **VERSUS** cost effectiveness
- Political pressures **VERSUS** consistent regulatory frameworks

2015: 30 – 40 GW Of Installed Base (Gas) Mothballed

Prioritization Of Public Goods

	<i>Affordability</i>	<i>Co2</i>	<i>Security of Supply</i>	<i>Physical Security</i>
Gas	? <i>f (P CO2)</i>	✓	✓	✓
Coal	✓		✓	✓
Nuclear		✓	✓	
Hydro	? <i>f (P CO2)</i>	✓	✓	✓
Wind	? <i>f (subsidy)</i>	✓		✓
Solar	? <i>f (subsidy)</i>	✓		✓

Required: Consistent Policy Prioritization

Europe: Myths

Three Myths

- **Easy Substitution of Russian Gas:**
 - Azeri gas 2020: 10 bcm
 - UK, Netherlands & Norway declining fields
 - → Need ~ 100 bcm Russian by 2030
- **European shale gas revolution / not the same conditions as in US:**
 - Ownership of minerals
 - Deregulated market
 - Company structures /financing
 - Equipment
- **LNG: feasible, but:**
 - Infrastructure bottlenecks despite reverse flow capability
 - West to East & North to South flows
 - Can be overcome

Capital Intensive, Long Cycle Business: Flexibility Difficult

Europe: Future

Gas Consumption in Europe

- 2008 – 2013: -9.9% (*Exeptions: Turkey & Poland*)
- Share of gas in power generation:
 - 2010: 23%
 - 2020: 19% } *2010 – 2020: - 2.5% p.a.*
 - 2030: 24% } *2020 – 2030: + 1.5% p.a.*
- Gas Fired Power: 2010 (202bcm) / 2030 (186 bcm)

There Is A Future For Gas; But No New Dash For Gas

Conclusion

Conclusion

- **Gas will have a bright future in the US and in Asia**
- **Europe – the future of gas depends on:**
 - CO2 pricing / ETS
 - Gas market
 - Coordination of energy policies / mix of EU 27
 - Implementation of policies e.g. 20/20/20, “Energiewende”, etc.
 - Regulatory frameworks
 - Affordability (especially vis a vis coal)
 - Installed base and grid capabilities
 - No quick & easy substitution for Russian gas

***Future Of Gas In Europe: More Complex Than Elsewhere
(Reasons: Regulatory & Policy)***