



THE OXFORD  
INSTITUTE  
FOR ENERGY  
STUDIES

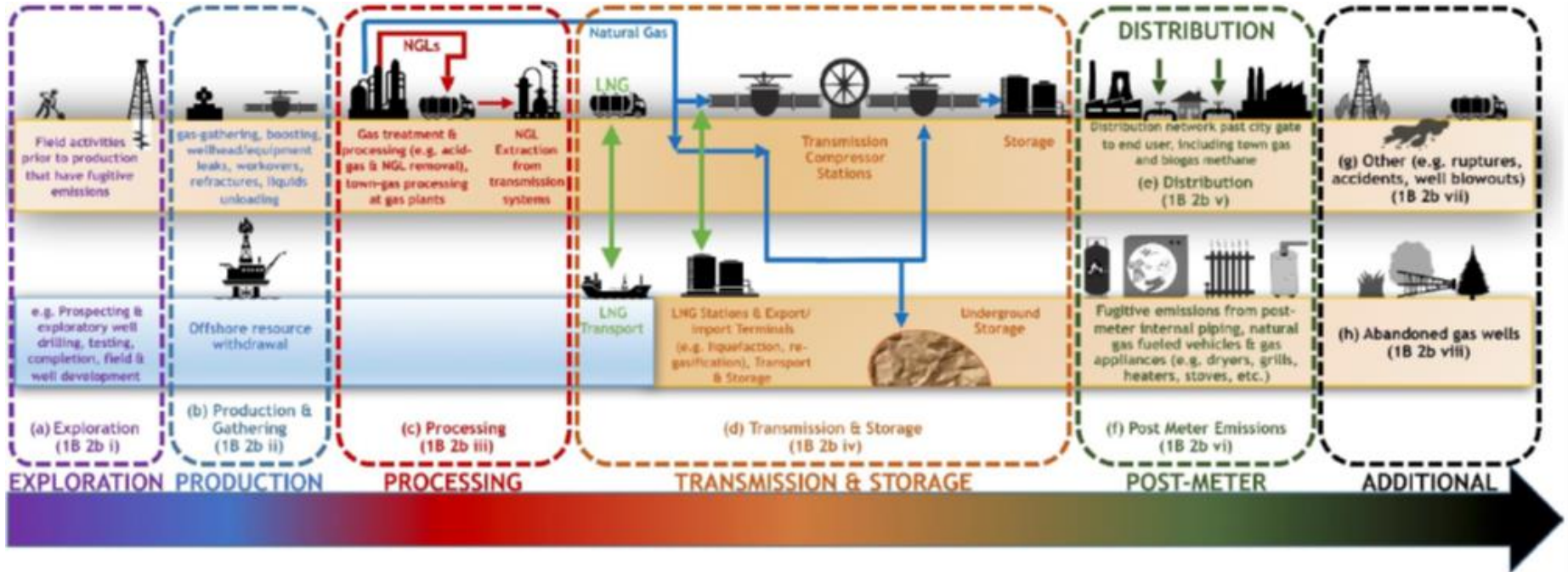
# Methane Emissions from EU Pipeline Gas and LNG Imports: an increasingly urgent issue for the future of gas in Europe

Professor Jonathan Stern



# Methane Emissions from the Natural Gas Value Chain

## National Methane Emissions:



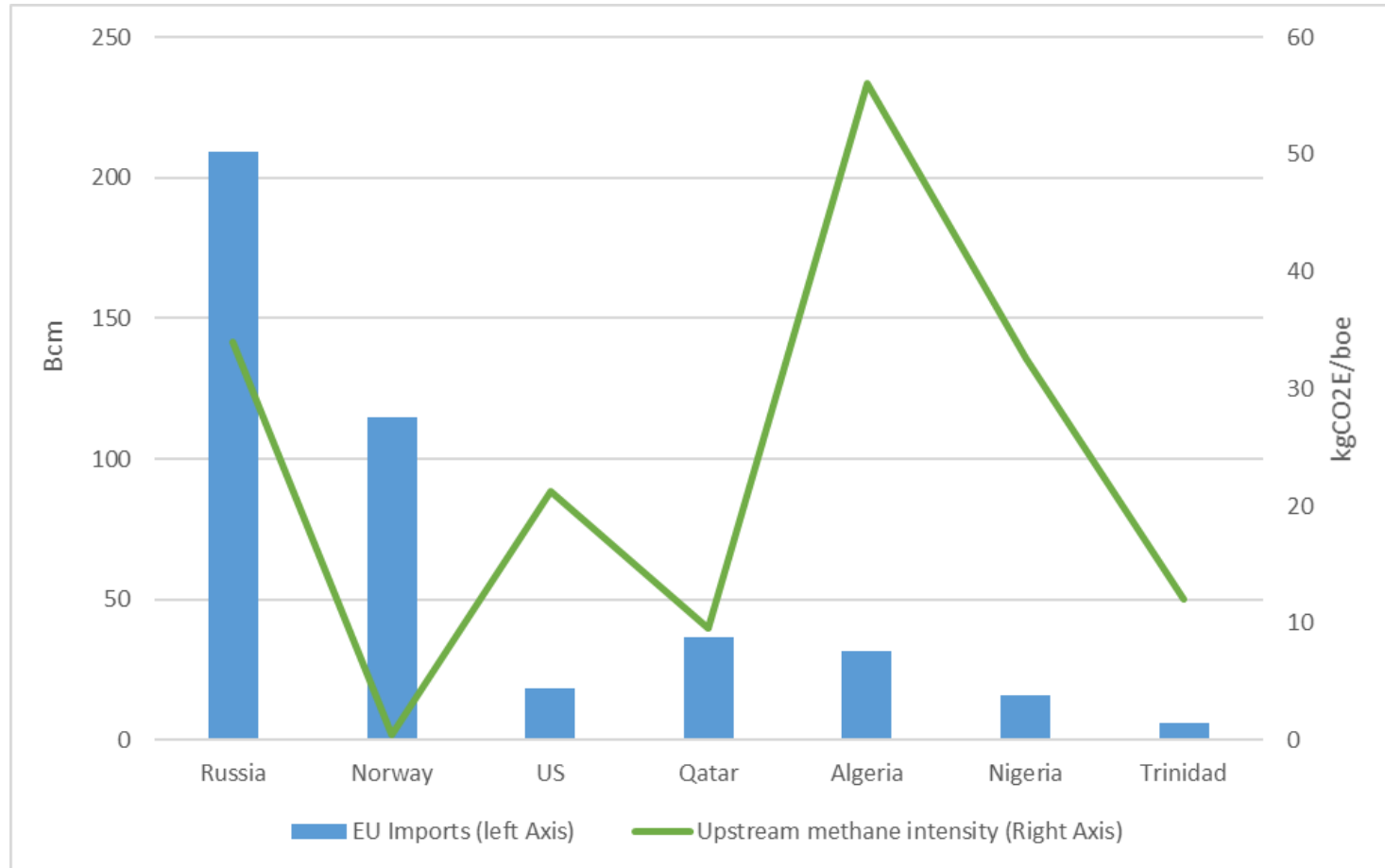
IPCC (2019)

**The focus of the Methane Observatory: methodologically and statistically complicated, open to interpretation and will take time to establish**



# Average Upstream Methane Intensity (GWP 28) of Major Gas and LNG Exporters to EU Countries (2019)

Source: Stern (2020) based on IEA Methane Tracker



**This is national (not export) intensity from oil and gas exploration and production only; data are very complicated to interpret**



# The Focus of the EU Methane Strategy is Emissions from Imports of Pipeline Gas and LNG

---

- Emissions from imports are likely to be very different to national emissions from oil and gas (and coal) industries
- For some countries there will be different import emission profiles depending on the source of production and the route to the EU Border:
  - Russia: compare Nord Stream gas with gas through Yamal-Europe pipeline or Ukraine pipeline corridors; Yamal LNG
  - US: compare LNG deliveries from different supply sources (Permian, Gulf of Mexico, other) arriving through different pipelines to individual liquefaction terminals (Sabine Pass, Cameron, Freeport)
  - Algeria: compare pipeline and LNG deliveries from Hassi R'Mel and Hassi Mesaoud via different pipelines (trans-Mediterranean and GME) or different LNG terminals (Arzew, Skikda)

**Emissions from gas and LNG delivered via specific export supply chains likely to be much easier to agree**



# The International Dimension of the EU Methane Strategy: persuasion versus compulsion

---

**IMPORTERS:** A coalition of fossil gas importers (China, Japan, South Korea) to 'coordinate energy sector methane emissions'

**EXPORTERS:**

**Persuasion:** "The EU will lead a diplomatic outreach campaign to fossil fuel producer countries and companies... technical assistance.."

**Compulsion:** "the Commission will propose to use **a default value** for volumes that do not have adequate MRV systems in place..[it] will be applied where necessary until a compulsory MRV framework for all energy-related methane emissions..is implemented...In the absence of significant [MRV] commitments from international partners, the Commission will consider proposing **legislation on targets, standards or other incentives** for fossil energy consumed and imported in the EU."

**Persuasion is likely to work better (and faster!) than compulsion; compulsion means 'the lawyers' take over with much time spent on extra-territoriality/WTO discrimination arguments**





# Countries and Companies which delivered significant pipeline gas and LNG to EU (2019)

<b>COUNTRY</b>	<b>COMPANIES WHICH DELIVERED SIGNIFICANT VOLUMES OF PIPELINE GAS AND LNG TO EUROPEAN CUSTOMERS IN 2019</b>
	<b>MEDIUM AND LONG TERM CONTRACTS</b>
Russia	Gazprom, Novatek
Norway	Equinor
Algeria	Sonatrach
Qatar	Qatargas
Nigeria	Nigeria LNG
United States	Cameron LNG, Total, Cheniere
Azerbaijan	Socar
Trinidad	Atlantic LNG
* Libya	Libyan National Oil Company
<b>PORTFOLIO LNG SELLERS</b>	
Shell, Total, Centrica, ENI, Equinor, Iberdrola, Naturgy	

**The top six countries account for >90% of EU Imports; urgency is agreement with those countries/companies**



# Why the Urgency? Relevance of the GAC?

---

- Methane emissions reduction is 'low hanging fruit' for more aggressive EU GHG reduction targets for 2030 – time is pressing!
- EU indigenous fossil fuel production is falling and has relatively low emissions, hence the focus on imports

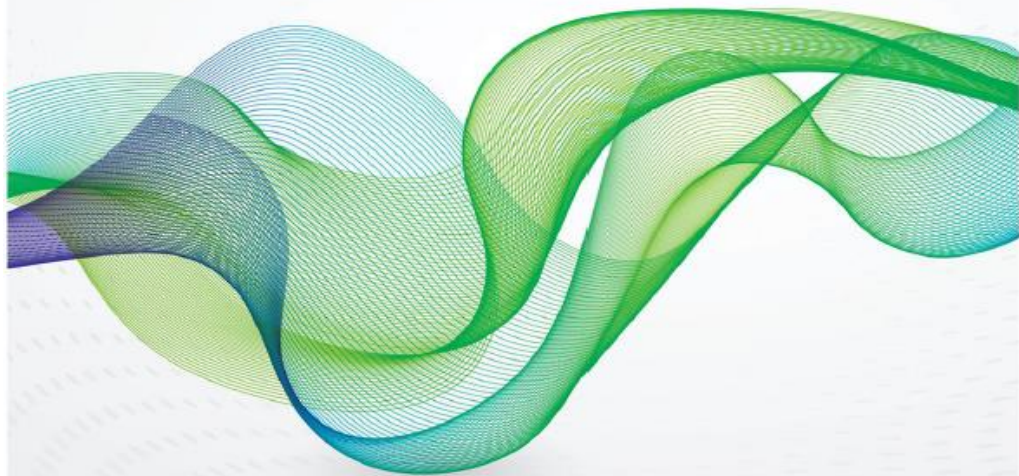
## THE GAC:

- Established channel of gas discussions with Europe's biggest supplier
- Experience of how to conduct productive (as opposed to unproductive) discussions on gas issues over a long period of time

**Methane emissions are a threat to the future of gas and LNG imports, and therefore a threat to the future of gas in Europe**

November 2020

**Methane Emissions from Natural  
Gas and LNG Imports:  
an increasingly urgent issue for  
the future of gas in Europe**



OIES PAPER: NG 165

Jonathan Stern, Distinguished Research Fellow, OIES

**Paper and Podcast at  
[www.oxfordenergy.org](http://www.oxfordenergy.org)**

[JONATHAN.STERN@OXFORDENERGY.ORG](mailto:JONATHAN.STERN@OXFORDENERGY.ORG)