

How to make the most of your ENTSO-E

# QUESTIONS FOR THE DAY

Group 1

**Scenario Workshop**

JUNE 2016



# Split per groups

Firstname	Last name	Group	Firstname	Last name	Group
Alexander	Scheibe	2	Kostis	Sakellaris	3
Alexander	Phillips	1	Manon	Dufour	2
Ali	Shahbazov	1	Marco	Gazzola	4
Andrei	Dumitru	3	Margherita	Salucci	1
Anton	Nordstram	3	Maria	Castro	4
Antonio	Gomez Bruque	2	Mark	Johnston	4
Celine	Heidreheid	2	marta	navarrete	2
Cliff	Simon	3	Michael	Joerg	1
Daniel	Hosp	3	Mikolaj	Jasiak	3
David	McGowan	2	Niels	Franck	4
Eugen-Costinel	Mihalache	2	Olivier	Lebois	2
Frida	kieninger	2	Pekka	Vile	4
Gabor Miklos	Dudas	4	Philipp	Thaler	1
George	George	4	Pieter	Boersma	4
Gianluca	Flego	4	Roland	Joebstl	1
Heiko	Stubner	4	Sanjeev	Kumar	4
Idoia	Lejona	2	Siobhan	Hall	4
James	Gudge	3	Sophie	Westlake	2
Jan	Kostevc	3	Stefan	Dunke	3
Jean-Francois	Fauconnier	2	Stefano	Astorri	1
Jerome	Le Page	3	Sylvia	AngyalovÃ;	3
Jon	Gibbins	1	Thomas	Rzeczyk	3
Jorgen	Apfelbeck	1	Stefanie	Scheidl	1
Juan	Lopez-Vaquero	3	Victor	Charbonnier	2
Julia	Platona	1	Volker	Schippers	1
Kees	Alberts	4	William	De Riemaeker	1

# Discussion about years and stories of scenarios

**Question:** Is it necessary to “connect the dots?” . To have one storyline all the way from 2025 to 2040? Pros and cons of the different of the different options? 10 min. per question

**A storyline from point to point all the way from 2016 to 2040 (b and c):**

**Pros:** higher probability to find outcome in the “middle” when you have straight storyline.

**Cons:** improbable because of “sudden” changes for policies/technologies, having different options is necessary etc; defining straight trajectory will limit your «imagination»

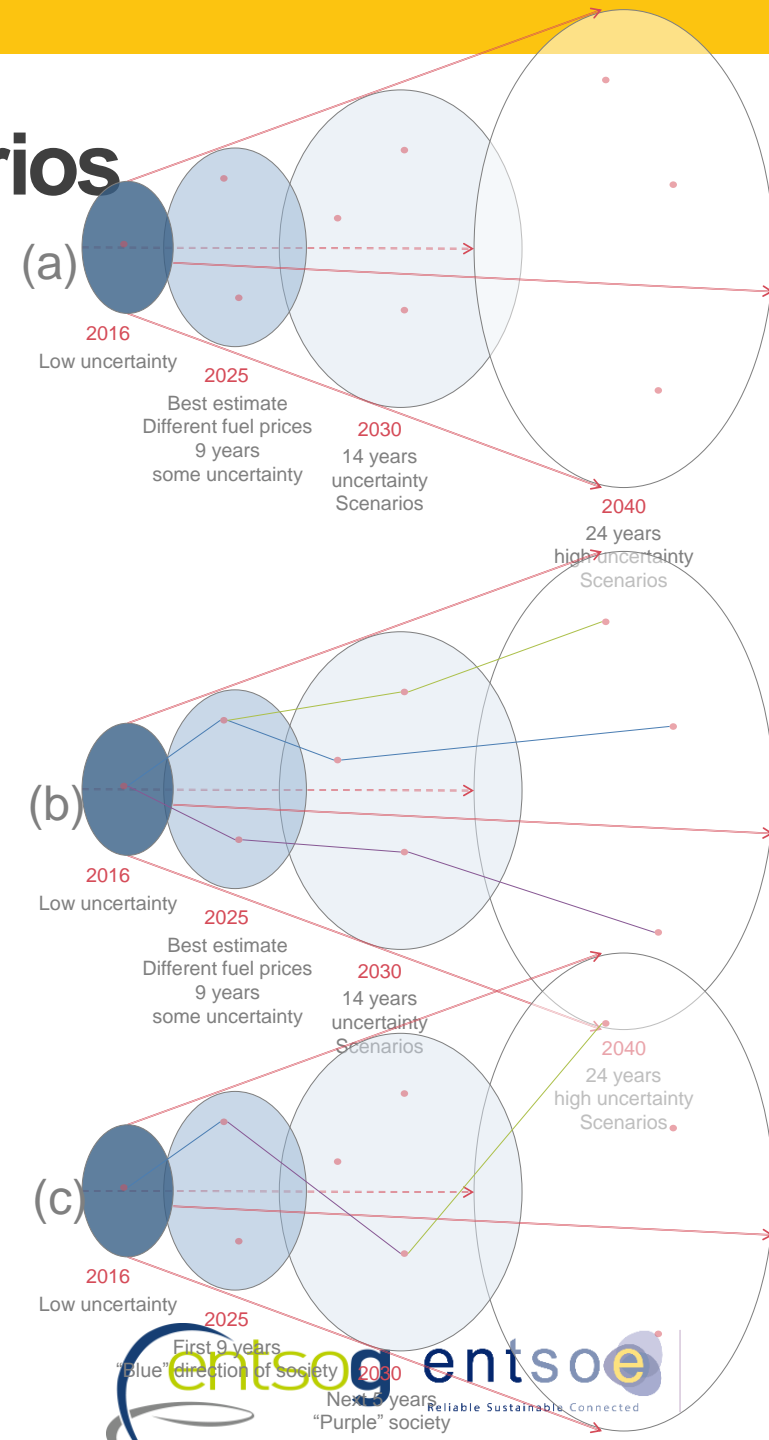
**No storyline from point to point all the way from 2016 to 2040 (a):**

**Pros:** due to complexity no need to have any trajectory at all but only some ranges; empirically extrapolation through backcast

**Cons:** depending on decision time (a trajectory is needed when investment decision has to be taken);

**Which assumptions are most uncertain for the near term (until 2025)?**

ETS , grade of distributed generation (potential field for new actors and new business model); distributed el. Storages development; conventional gas supply security; green gas (bio methane) has to be taken into account because versatile (for different uses); industrial energy consumption (in industrial sub-uses there can be different fuels competing while for others not), commodity price, economic growth; merit order





# How likely are these (drivers) to happen?

Strong effect	<b>ETS x 2</b> <b>Gas security of supply x 2</b>	<b>Economic growth x 3</b> <b>Oil price x 3</b> <b>Autoproducer x 3</b>
Little effect	ETS x 2 Biomethane x 2 Gas security supply x 2	Autoproducer Biomethane x 2 Oil price Gas security supply
	Not likely	Very likely

Industrial consumption

# Discussion about the use of coal and gas for power on the short time horizon (2025-2030)

What are the drivers towards gas being used before coal

## Groups

CO2 prices

Commodity price

Regulatory policies

Industrial consumption

Other gas (e.g. bio methane)

# Do we have coal in power generation, heat and industry in 2040?

CO2 prices

No coal in the next future (e.g. lignite from IEA) talking about 2040

Coal still possible with CCS

Security of supply coal may still be needed and the question becomes which coal

Flexibility needed in the future (i.e. technologies with faster rump-up)

Country decision

Votes:

COAL IN: 1

COAL OUT; 8

# Scenario "Green and strong economy" (Group 1)

## Narrative

- Title: green and strong economy
- Strong economic growth and local actions in metropolitan regions trigger technological improvements and transition of energy system. This supports the environmental agenda to be back on track (including ETS). In some countries even beyond the objective.
- Innovation driven by policy and economic growth

Factor		
Scenario name		Green and strong economy
Category	Criteria	
Macroeconomic Trends	Climate action driven by	Driven by ETS and ambitious policies
	EU on track to 2050 target?	At least on track with potential to go beyond
	Economic conditions	Strong growth
Transport	Electric and hybrid vehicles	10% electric and 10% hybrid cars, 5% gas cars, strong market penetration in urban traffic,
	Gas vehicles and shipping	
Residential / Commercial	demand flexibility	
	Electric heat pump	Equal growth with hybrid heat pumps, strong growth
	Energy efficiency	High growth
	Hybrid heat pump	Equal growth with electric heat pumps, strong growth
Industry	electricity demand	Overall stable/increasing; sector specific differences
	gas demand	Overall decreasing, because of efficiency
	demand flexibility	High,
Power	Merit order	Gas before coal
	Nuclear	Country specific reduction/phase out
	Storage	Daily/Intra-week local storage
	Wind	Total RES-E of 55%,
	Solar	
	CCS	
	Adequacy	
Gas Supply	Power-to-gas	Starting,
	Shale Gas	No
	Bio Methane	Local biogas potentials satisfy local demand (subsidies as part of the picture)
Other	Local actions in cities	Strong, prosumers
	District heating	Increased efficiency and integration of renewables