

## Regulation, Risk and Platform Transition

BP Biofuels a growing alternative

17 September 2014

## Regulation, Risk and Platform Transition

- Transport as an exemplar
- The drivers for action in the transport sector
- The challenge for business
- The challenge for the policymaker
- Concluding thoughts

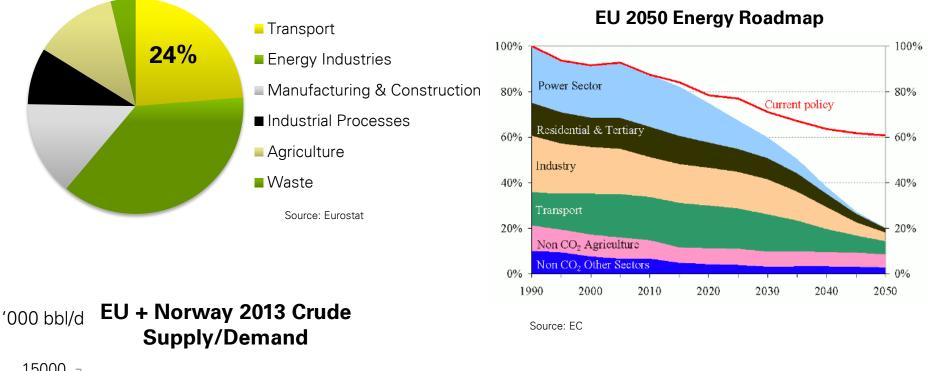




Attainment of the EU's GHG emission targets and meaningful improvements to security of supply require the transport sector to deliver its share.



### EU's 2012 GHG emissions

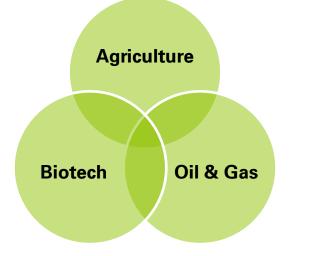




The challenge is not merely the deployment of new technologies but the creation of new business models.

Complexity

- Multiple Risks
  - Market
  - Technology
  - Regulatory
- High Cost / Long-term
  - Cost to first commercial gal: \$1- \$2 bill
  - Technology Lead Times : 10yrs+
  - Asset Economic Lifetime 30yrs
  - Time to Sector Scale-Up 30 yrs +







The aim of policy is therefore to create an environment that is an investable proposition



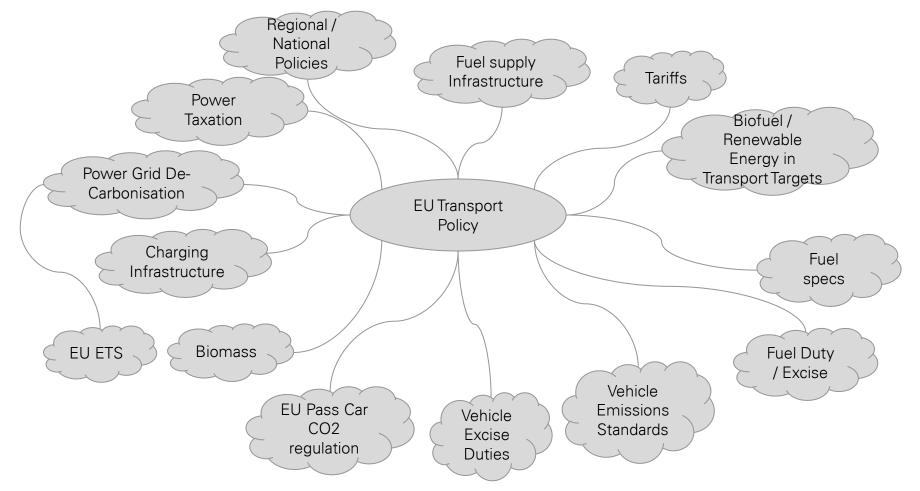
# Consistency

# Transparency

# Longevity

## Current EU Transport policy environment very disjointed.





## EU transport sector conundrums



#### • Fuels Taxation

Av. EU <sup>1</sup> Duty & VAT	€/m3	€/GJ	Implied Carbon Tax €/t CO <sub>2e</sub> ²
Diesel	722	19.8	237
Gasoline	854	26.5	316
Ethanol	839	39.6	900
Biodiesel - RME	751	22.4	431
BEV/Power <sup>3</sup> – UK, Grid average – UK, Coal		2.4	18 8.7

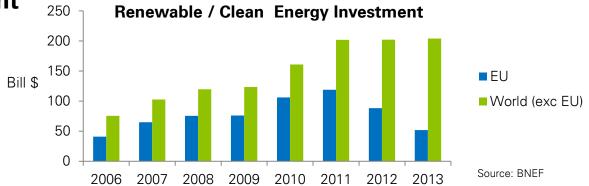
#### • EU Passenger Car Targets

Effective carbon prices 950 – 3800 €/te CO2.

1 Average Germany, France, UK, Italy, Spain, Poland 2 Based on typical life-cycle GHG emissions as defined in EU RED 3 Source: DECC based on 2013 VAT UK Grid Cl 2012 5 yr rolling average – 482.3 g CO<sub>2</sub>e/KWh.

Incentives of up to 30,000 € / car (< 50 g CO<sub>2</sub>/km - tailpipe)

#### • EU Investment



## To conclude ...



- Markets are inherently risk adverse, with the incumbent as the default setting.
- Re-positioning systems/ developing platforms entails significant investment not just in terms of technologies, but also in new business models.
- Highly complex systems, with high levels of interdependence. Risk of unintended consequences.
- Private sector increasing cost of capital.
- Regulation
  - Consistent
  - Transparent
  - Long-Lasting
  - Joined-Up



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