

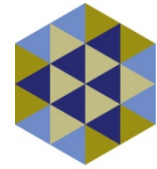
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# Developing demand side markets

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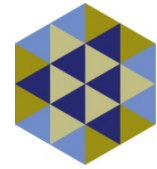
# Context



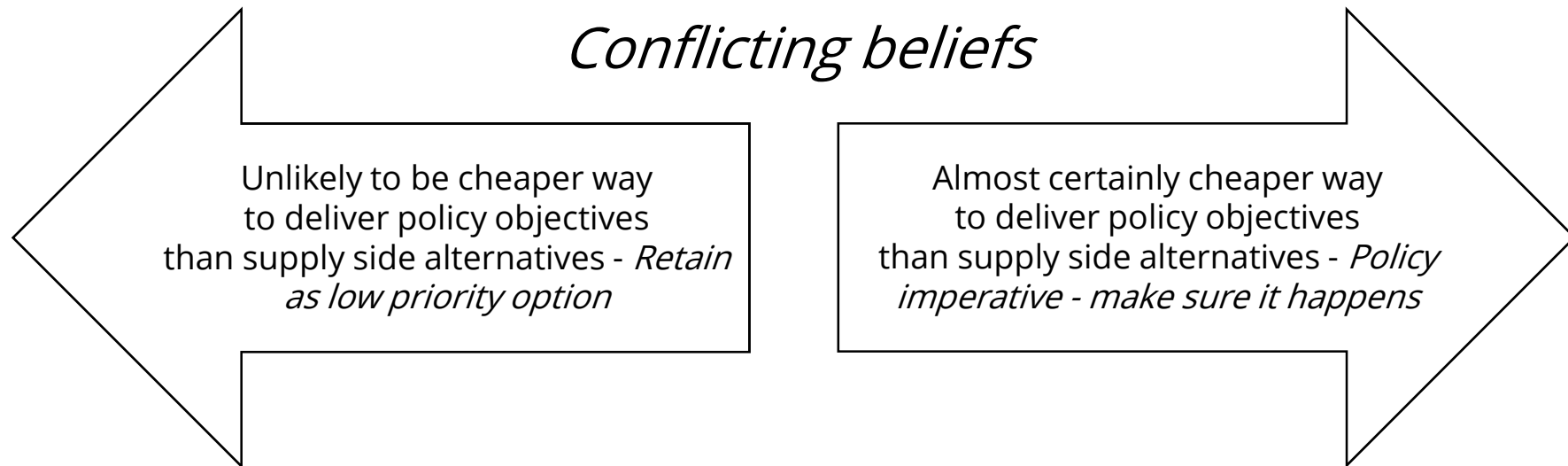
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- The desire to promote a more engaged and active demand side to European energy markets is an objective that is widely shared by politicians, regulators and many within the industry.
- However, no policy measures have hitherto proved effective in delivering the desired changes in consumer behaviour and market outcomes.
- Moreover, despite the emergence of many businesses offering consumer facing products and services, their voice in policy debates is often lost against the clear and sophisticated messaging of incumbent industry players.
- These slides review the extent of the challenge and why it has been difficult for a coherent voice to emerge from new industry players. Also, some initial thoughts on the future policy agenda are presented.

# Why are demand side markets important?

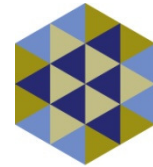


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Most analysis and international evidence suggests that demand side solutions are likely to be cheaper than supply side alternatives. However, these potential benefits are not reflected in market penetration to-date.

# How ambitious should we be?

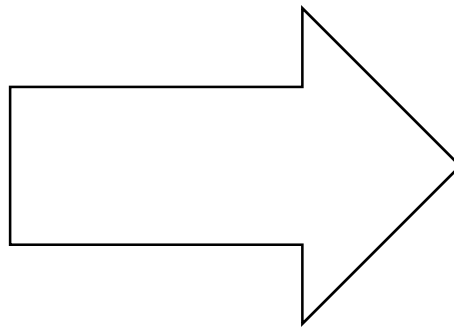


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**Engagement by few  
price motivated  
consumers**

*Reform:* Incremental

*Process:*  
Bottom up



**Engagement by wide  
spectrum of  
consumers**

*Reform:* Fundamental

*Process:*  
Top down

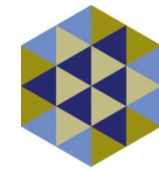
*Why seek more challenging goal?*

- Analysis shows huge gains in resource efficiency
- Potential to help make people's lives better as part of IT-enabled future

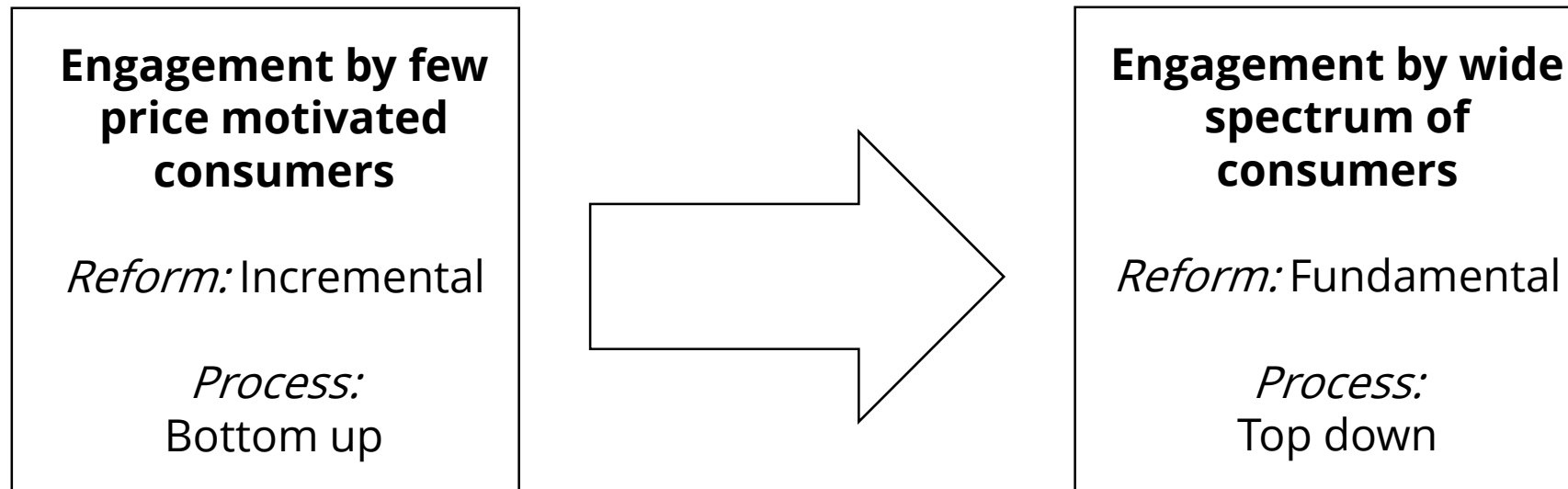
*What obstacles need to be overcome?*

- Many consumers do not act on the basis of narrow economic incentives
- Utility commercial imperative is not aligned to public interest

# Where is the clear and coherent policy message from demand side industry?



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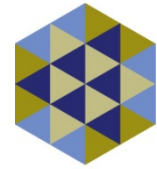
Existing businesses wanting to make a return now

VS

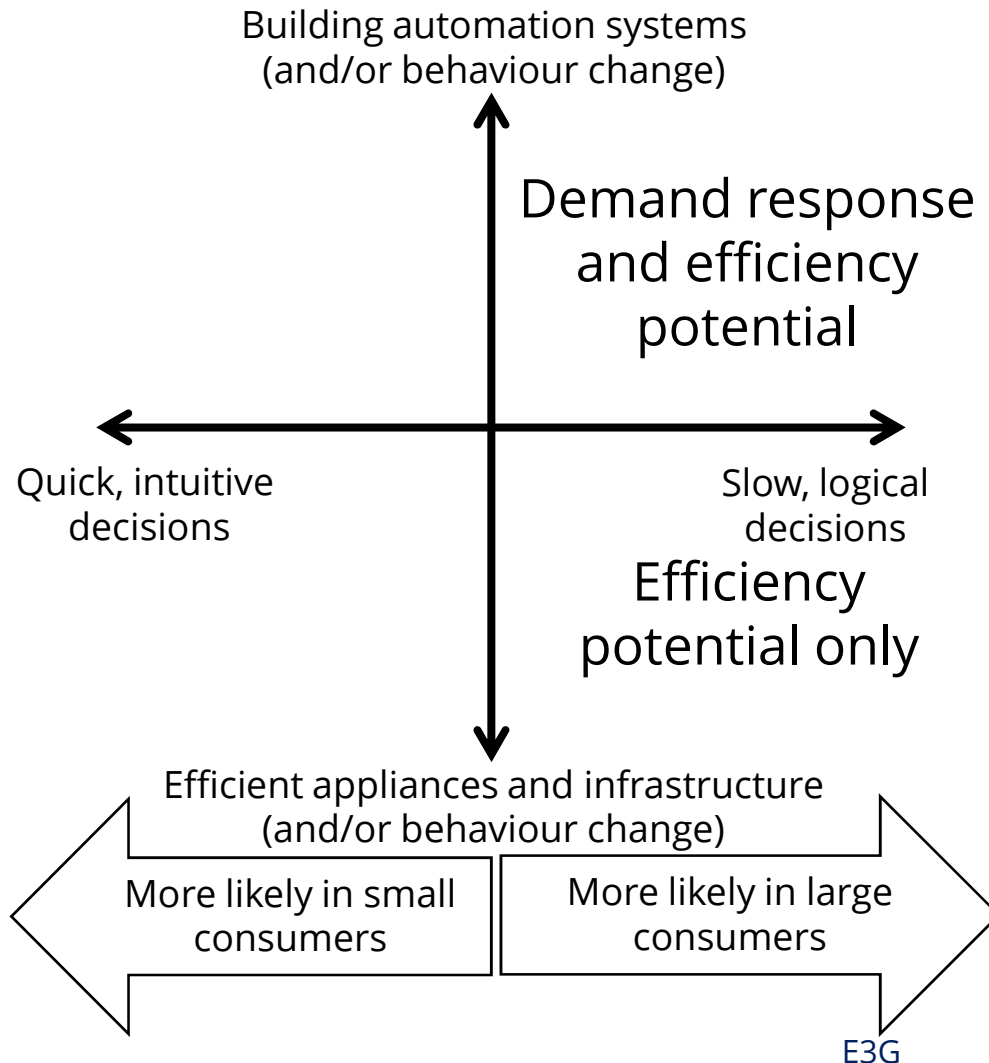
Technology companies wanting to change the world of power

*Both are important – but where is the clear and single narrative?*

# The customer challenge

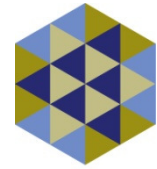


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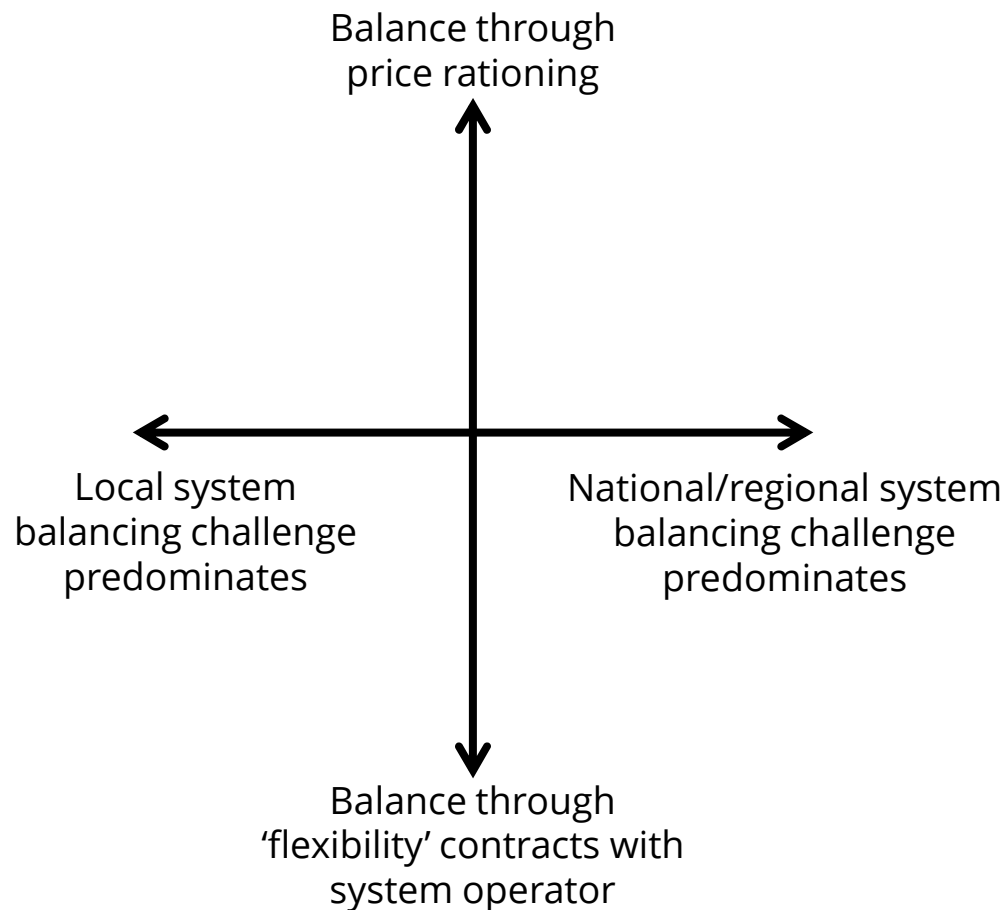


Many large business customers are already exploring the potential to use building automation systems to reduce costs but this has yet to deliver significant demand response. The size of the challenge with smaller customers will be that much greater.

# Market design

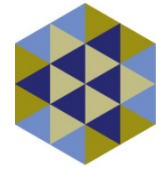


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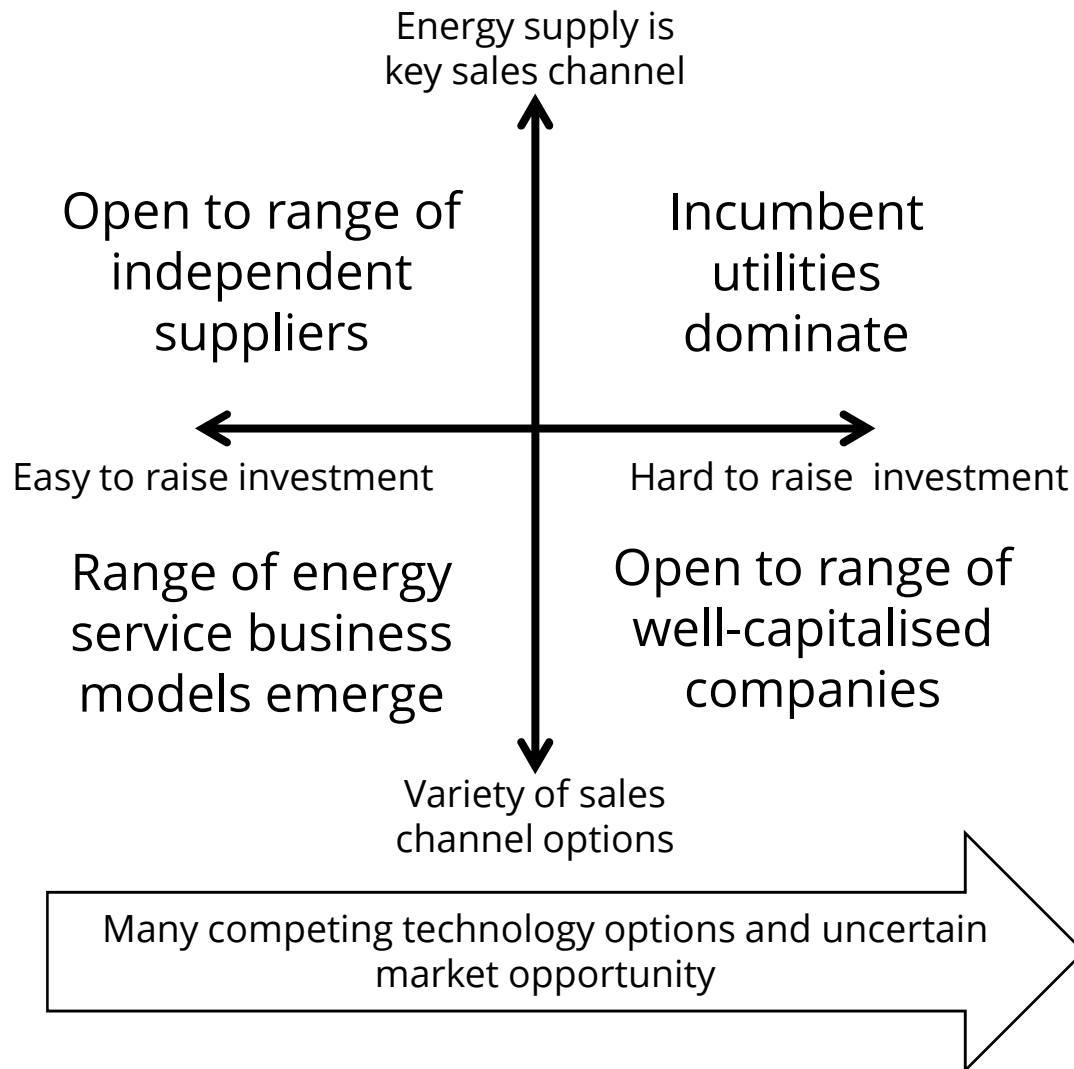


Local system balancing challenges are likely to increase but wider system challenges will remain. There is no clear market design vision for this two tier situation – let alone how to benefit from co-optimising commodity and network investments. Customers are not interested in these complexities – all they will care about is maximising the value of their ability to change consumption.

# Implications for business models



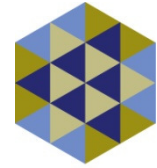
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Basic market conditions suggest that demand side markets will need to be driven by large companies but this will not happen unless they have a clear business imperative. It may require regulatory measures to align commercial and public interests.



# Current reform process

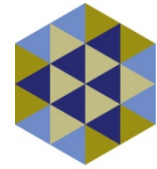


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- There are numerous policy groups looking at various aspects of demand side markets – these discussions are detailed, bottom-up and dominated by industry experts.
- In particular, these discussions are focused on:
  - Removing barriers to entry (e.g. demand aggregation)
  - Protecting industry players given multi-party impacts of demand response
- It is assumed that no action is necessary on driving industry structure and this can be left to the ‘market’.
- There is no evidence that mechanisms are being developed that will allow ‘co-optimisation’ of energy and system balancing at operational and investment timescales.

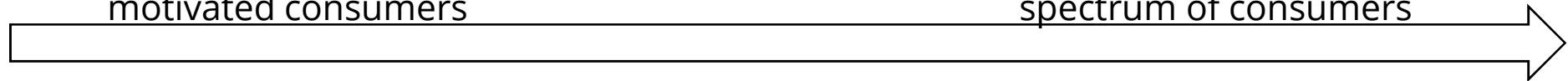
# Policy steps



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Engagement by few price motivated consumers

Engagement by wide spectrum of consumers



## Enhance value case

- Deploy technology to allow demand to participate (e.g. smart meters)
- Ensure wide market access
- Develop rules and regulations that allow co-optimisation of energy and system costs in both operational and investment timescales

## Cost transparency and remove entry barriers

- Subsidies to support deployment of certain technologies
- Obligations on industry parties to procure demand response
- Define building and appliance standards that make automatic control systems non-discretionary costs

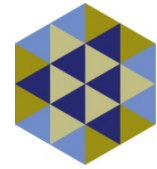
## Structural reform

- Reform basis of retail market competition
- Re-integrate retail energy sales and local network operation
- Introduce behavioural 'nudge' techniques to maximise provision of demand response (e.g. need to opt-out rather than opt-in)

Current scope of policy work

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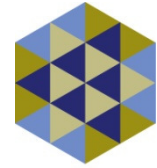
# Where our thinking has got to.....



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- We can't rely on the current bottom-up processes. Top-down mandate and direction are needed.
    - Although there is no political appetite for fundamental reform at the moment
  - Development of market rules should focus on maximising the value available to customers through combining energy and system benefits over both operational and investment timescales.
  - Relying on simple economic incentives is not enough.
  - It is necessary to define a new regime of subsidies, obligations and standards to enhance the value case and provide more certainty over the market opportunity for service providers.
  - There is no guarantee that even these changes will deliver the revolution we are seeking and maximise the value of the demand side resource.
    - We should be open to a review of the operation of competitive retail markets with a view to implementing a structural overhaul focused on promoting resource efficiency

# Demand side policy agenda – EU level



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- **Targets**

- Pan-EU target for the proportion of electricity demand that is able to respond dynamically to a price signal.

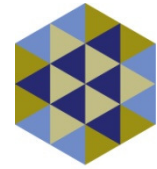
- **Standards**

- Framework of building, appliance and large electrical equipment standards that will make it as easy as possible for consumers to provide price responsive demand services.

- **Market design**

- New target model for the IEM that supports the widespread adoption of demand side services.

# Demand side policy agenda – national level



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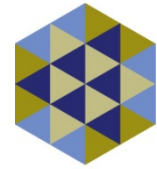
- Regulatory framework

Network investment plans must utilise demand services to minimise infrastructure costs. This includes investment in controls and instrumentation ('smart grid') and developing the value proposition for providers of demand side services such that they can easily capture the maximum value from services that support energy balancing and offset network investment at local and national levels .

- Obligations

- On suppliers: minimum proportion of peak demand traded as demand response.
- On TSO: minimum percentage of system support services provided by demand side.
- On DSOs: minimum percentage of demand procured to provide services to help manage network operation.

# Summary



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- Promoting the development of demand side markets is a key challenge for policy makers and they need to set ambitious goals.
  - There is a difference between engaging the proportion of consumers that is price responsive and engaging a wide spectrum of consumers.
  - Both are important and neither will be easy – we need a policy agenda that delivers the ‘low hanging fruit’ of price responsive consumers along with the long term transformation of the market that embraces a wide spectrum of consumers.
  - There will be a role for:
    - The EU in setting a framework of targets, standards and integrated market design.
    - National governments in defining the approach of regulators and setting obligations on licensed players.