Goal of Task 7

- Identification of relevant regulatory elements:
  - Demand-side flexibility
  - Interoperability
  - Minimum energy efficiency
- Identification of policy approaches:
  - Legislation or voluntary agreements, labelling, promotion
  - Horizontal/vertical
- Selection of Ecodesign and/or Labelling policy options
- Scenario analysis of impacts of policy options on energy system, end-user and industry (= re-runs model Task 5/6 & qualitative analysis)
Policy Objectives – what do we want?

» Appliances in scope (of the regulation) should be **required to become DSF capable/interoperable**
  » In a specific way, defined in the regulation
  » As a general mandatory principle which industry needs to fill in via standardisation
» Appliances that are **marketed** as DSF capable/interoperable should fulfill certain requirements
» Appliances (marketed or not marketed as DSF capable/interoperable) should be required to provide **information** on any DSF features
» Appliances that are DSF capable/interoperable in the sense of the regulation should be **recognisable** as such e.g. via the energy label
» Appliances that are DSF capable/interoperable in the sense of the regulation should benefit from a **better energy efficiency class** on the energy label
» Appliances that are marketed as DSF capable/interoperable and/or benefit from recognition/national funding should follow a **defined test standard**

Potential Ecodesign requirements

» Specific requirements for appliances in scope to become DSF capable/interoperable
» Essential requirements to become DSF capable/interoperable
» Specific/essential requirements for appliances marketed as DSF capable/interoperable
» Specific requirements for maximum energy consumption of smart features of appliances
» Information requirements
Specific requirements for appliances to become DSF capable/interoperable

» Requirements for (so far non-DSF capable) appliances to become DSF capable and/or interoperable

» Likely linked to it: selection of interoperability standard that has to be implemented

» Impacts:
  » Non-DSF capable/non-interoperable appliances are banned from the market
  » DSF/interoperability feature is not subject to competition between manufacturers
  » Lower manufacturing costs and purchasing price because of economies of scale compared to non-legislative approach
  » End-consumer is required to purchase the additional functionality (pay higher price) even though he might not make use of it

Vis-à vis Essential requirements

» Essential requirement sets "higher - but mandatory - principle" e.g. "DSF capable appliances must be interoperable"

» Industry needs to substantiate the requirement through standardisation by a given date

» Impacts:
  » Only appliances meeting the DSF/interoperability standard will be allowed on the market (but non-smart appliances will not be banned from the market)
  » Lower manufacturing costs and purchasing price because of economies of scale compared to non-legislative approach
  » End-consumer has a choice between smart/non-smart
Specific DSF functional requirements for appliances

» Definition of essential DSF functionalities, supported by a harmonised test standard
» Possibly including specification of minimum capabilities
» Depending on the level of detail, this approach requires product-specific requirements (in existing or new vertical implementing measures)

‘Settlement support’ functionality

» Functionality to check contractual DSF obligations of end-user
» Which form: Energy reporting requirement? Mandatory standard for measurement? Leave it to the market?
» How: part of smart meter or in appliance?
Specific requirements for appliances marketed as "interoperable"

» Ensure level playing field enabling consumers to choose other brands

» General principle: strive to as little standards as possible, which as much as possible support the same data model

» Definition of essential elements providing interoperability across smart home devices/brands, supported by measurement standard

» Possibly linked to a common data model

» Possibly linked to common communication standard (transport layer)

» Horizontal approach

» Interoperability gap cloud architecture: recommendation that extended resource discovery is universal and integrated in standards

Energy Labelling: Measures to disclose and promote DSF capability/interoperability

» Goals: How to increase visibility? How to support/reward DSF capability/interoperability without lock-in?

» Incentivise via an EU harmonised logo/label

» Name protection: only use DSF capable/smart grid ready/interoperable if it has the label

» Possibility to link with financial bonus (national schemes)
**Energy Label visualising DSF capability**

» Various forms of positive rewarding are possible:
  » Visualise DSF functionality on the energy label by means of icon: horizontal for all appliances or vertical, incl/excl frequency control
  » Attribute higher class in energy label? Upgrading measures e.g. by awarding a better energy efficiency class?

» Impacts:
  » Give visibility to DSF capable appliances
  » Help consumers make an informed purchasing decision
  » Incentivise manufacturers to develop/offer DSF capable appliances
  » However, financial reward for consumer investment into DSF functionalities will depend on use of it and availability of remuneration schemes

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**Energy Labelling visualising interoperability**

» Possibly, icon on the energy label

» Different levels are possible:
  » Data model
  » Full interoperability (including communication standard) -> plug and play to reward interoperability if there are also proprietary solutions
**Voluntary agreements**

» Self-regulation by manufacturers or users
» In line with the Ecodesign Directive
» Option for types of product with small environmental impact?
» Risk for sectors with fragmented manufacturing structure:
   » Difficulties to gather sufficient support among market operators → higher transaction costs
   » Potential competitive advantage for free-riders and/or non-participants

**Conclusion**

» The more ambitious the (combination of) options:
   » The higher the economic value for the energy system
   » The lower the economic value/kWh
   » The higher the costs for end-consumer/industry
   -> Reasonable optimum to be found
» Selected (combinations of) policy options influence parameters in model:
   » Number of smart appliances taken up by the market
   » Flexibility profile
   » Manufacturing/purchasing cost of appliances
   » Efficiency of smart appliances: lower energy demand combined with lower level of available flexibility
» Re-runs of the model will be done to identify boundaries
Your input is welcomed

» Now – speak up 😊
» Written recommendations on Task 7 welcomed by end of June
» Written comments on Task 5 & 6 welcomed by 24 June (format for comments)

Thank you!