

TASK 7 OUTLOOK POLICY OPTIONS

viegand
maagøe
energy people

ARMINES

universität**bonn**

 **Wuppertal Institut**
für Klima, Umwelt, Energie
GmbH

Sarah Bogaert, VITO/EnergyVille

 **vito**
vision on technology

© 2014, VITO NV

1

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)

 **vito**
vision on technology

© 2014, VITO NV

2

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



© 2014, VITO NV

5

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



© 2014, VITO NV

6

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)



© 2014, VITO NV

7

‘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?



© 2014, VITO NV

8

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



© 2014, VITO NV

9

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)



© 2014, VITO NV

10

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

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

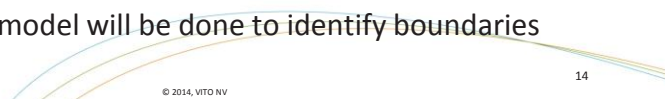


© 2014, VITO NV

13

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



© 2014, VITO NV

14

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!



© 2014, VITO NV

15