






04/03/2020

## Task 2: Markets

**First stakeholder meeting**

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## Task 2 - objective

The objective of Task 2 is to present an economic and market analysis including:

- » to provide **basic economic information** (subtask 2.1)
- » to provide **market size and cost** inputs for the EU-wide environmental impact (covering the period from 2005-2050) assessment of the product group (subtask 2.2)
- » to provide insight into the latest **market trends** to help assess the impact of potential Ecodesign measures with regard to market structures and ongoing trends in product design (subtask 2.3)
- » to provide a practical **data-set of prices and rates** to be used for the Life Cycle Cost (LCC) calculations (subtask 2.4) *Note - further price information will also be supplied in Task 4*

## Task 2.1 – generic economic data

In the MEERp generic economic data refers to data that is available in official EU statistics (e.g. PRODCOM) and the aim is to identify and report:

- » EU Production
- » extra-EU Trade
- » intra-EU Trade
- » and EU sales and trade = production + import – export

Ideally, the information required for this subtask should be derived from official EU statistics so as to be coherent with official data used in EU industry and trade policy



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3

## Task 2.1 – PRODCOM data

Ordinarily PRODCOM data is used to determine market volumes of products considered for Ecodesign measures; however, in the case of BACS:

- » there are a wide range of BACS products and consequently of applicable product codes in PRODCOM
- » a screening exercise was done for the BACS scoping study and revealed as many as 141 products that could contain BACS functions
- » these are product categories that might contain BACS but can also serve other functions, or have no BACS function at all
- » this remains a very generic list that does not contain sufficient disaggregation of BACS to provide useful data and therefore is not suitable for the Task 2 analysis

**Therefore, another approach is needed**



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4

## Task 2.1 – Other generic economic data

Other relevant data include:

- » **building stock information** (floor area by type, stock, new build, renovation rates etc.) which is mostly available from DG ENER's **Building Stock Observatory**
- » this data also includes information on shares of certain types of TBSs, U-values and other energetically relevant information
- » economic and census data (GDP, population etc.)
- » This data helps to frame the demand for BACS and informs energy savings and economic calculations in future tasks

## Task 2.2 – market size and cost inputs

The objective of this task is to compile BACS market and stock data in physical units for the EU-27 for the reference year 2010, combined with a forecast for presumable entry into force of measures for 2020-2030 (forecast, years in which all newly pending Ecodesign actions will be absorbed by the market). Therefore, the following parameters need to be identified:

- » installed base ('stock') and penetration rate
- » annual sales growth rate (% or physical units)
- » average product life (in years), in service, and a rough indication of the spread (e.g. standard deviation)
- » total sales/ real EU-consumption (also in euros, when available)
- » replacement sales (derived)
- » new sales (derived)

## Task 2.2 – market value estimates

In the **absence of data on physical units sold** we initially focus on trying to get the overall **market value** figures

- » public domain sources or data supplied to the study team were analysed (see Task 2 report)
- » the conclusion is that it seems likely that the value of the EU-27 BACS market including both residential and non-residential applications is of the order of **€3.7 to €3.8 billion** and the wider European market at **€4.7 billion**
- » this figure includes residential and non-residential – the results seem to match very closely with the value reported on the eu.bac website

## Task 2.2 – market value estimates

Questions to stakeholders:

- » **Does this estimate seem reasonable?**
- » **What market shares are taken by BACS related to access, security and fire safety?**
- » **Does the presumption (from the reconciliation of German data) that non-residential BACS market is 44% of the whole building stock BACS market seem reasonable?**

## Task 2.2 – market value by element

The study team has received data that it has processed to determine provisional market value shares as a function of the final BACS system sales value, which gives the following **installed system** market value break-down estimates:

- » BACS product = 42%
- » Engineering, installation, wiring etc. = 27%
- » Additional 3rd party services = 31%

In addition, service and maintenance is valued at 18% of the installed systems market value. This elevated value, compared to other product groups, is potentially explained by the much greater importance of the BACS as a service business model whose value is incorporated in the higher figure.

**Do these figures seem correct?**



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9

## Task 2.2 – market stock and cost estimates

The approach the study team intends to follow entails the following:

- » determination of typical BACS solutions and reference cases, per the discussion in the draft Task 4 report
- » mapping of BACS hardware and costs to this to derive a mix of the following:
  - average bill of hardware required e.g. a breakdown of the number of each principal components required such as actuators, valves, sensors, meters, displays, controllers, etc. for each typical reference case solution
  - the average cost of each hardware element within the bill of hardware
  - typical average hardware costs per unit area per BACS reference case
  - comparison of the bottom-up unit area costs derived above with data on typical project costs for projects that match the reference cases and adjustment to ensure consistency



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10

## Task 2.2 – market stock and cost estimates

- » In the weeks following the 1<sup>st</sup> stakeholder meeting the study team proposes to circulate and process a survey to help acquire the data necessary to do this exercise and hence to derive all the required stock and cost data necessary to apply the MEErP in the subsequent tasks.
- » Stakeholders are invited to comment on this approach, to volunteer relevant data they may have access to and to volunteer to be included in the proposed survey

## Task 2.3 – market trends

The objective of this task is to identify market trends such as:

- » general market trends (growth/ decline, if applicable per segment), trends in product-design and product-features
- » market channels and production structure; identification of the major players (associations, large companies, share SMEs, employment)
- » trends in product design/ features

## Task 2.3 – market trends

Relatively recent developments that are already having a major impact on the nature of BACS technologies are:

- » the advent of enhanced energy efficient, environmentally conscious and indoor environmentally conscious data management and analysis capabilities
- » control of BACS through smart devices
- » networking of BACS on the cloud
- » converged technology allowing all devices to be controlled using a single IP-based communication control

In the near future, it is said these are likely to be joined by AI and voice-over-control technologies that will facilitate greater user interaction with the BACS. Predictive capabilities allowing better performance optimisation are also set to improve.

## Task 2.3 – market trends

Other trends include:

- » evolution of **sales by BACS energy performance class** (starting point is to draw upon data reported in WSE 2019 study for eu.bac)
- » **sales value trends** - all market projections in the trade press are positive with annual average growth value of between 2.6% and up to 7% being reported, thus, there seem to be a range of projected growth rates and the actual trend will likely depend on the strength of the drivers and inhibitors for sales
- » **key drivers** are thought to be: energy efficiency policies, GDP/capita, new build + major renovation rates

**The study team will probe these further before settling on most likely and high/low values for the Task 7 analyses, but stakeholders are invited to share information they may have on the market outlook**

## Task 2.4 – prices and rates

The objective of subtask 2.4 is that for each of the product categories defined in Task 1 (and subsequently Task 4) this task will ultimately establish:

- » *average EU consumer prices, incl. VAT (for consumer/procurer prices)/ excl. VAT (for B2B products), in euros*
- » *consumer prices of consumables*
- » *repair and maintenance costs (euro/product life)*
- » *installation costs*
- » *disposal tariffs/ taxes (euro/product)*

This is intended to provide a practical data-set of prices and rates to be used for the Life Cycle Cost (LCC) calculations. *Note - further price information will also be supplied in Task 4*



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15



## Discussion of approach and applicable market data to scale-up the base cases to derive the EU27 impact

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3<sup>rd</sup> of March 2020



## Issues – mapping to Task 4 reference cases

- » To be able to scale the energy, economic and environmental impacts of the reference cases examined in Tasks 4 to 6 we first need to be able to map the reference cases to the relevant segments of the entire BACS market
- » The market can be defined in terms of its overall value, but this can then be broken down by building type, sales channel, product and services
- » When differentiating by building type we need to establish the market values by residential and non-residential (then by sub-types within each) and also establish the value shares for new build, major renovation and retrofit
- » We also need to establish the share of the installed systems costs that are due to BACS product; engineering, installation, wiring etc.; additional 3rd party services as well as the relative value due to service and maintenance (note, these shares will likely vary by building type too)



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17

## Issues – reference case mapping to projections

- » Once the value mapping to market segment is complete, we can then map the Task 4 reference cases to the relevant parts of this market segmentation
- » As these reference cases do not cover all types of BACS solutions, we will also need to make best estimates of the proportions of the market they do not cover and identify proxies i.e. how the other solutions can best be mapped to the reference case solutions in terms of costs, efficiency gains etc. and applied to those other segments
- » Once this is done the segmented values can be projected into the future as a function of key drivers: floor area (new build, renovation, retrofit); GDP, GDP/capita, etc.



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18

## Issues – reference case mapping

- » For each reference case there is a need to derive the installed system cost breakdown due to product; engineering, installation, wiring etc.; additional 3rd party services as well as the relative value due to service and maintenance
- » For each of these cost buckets its then necessary to establish how they are expected to vary as a function of the BACS energy performance class being installed
- » Our aim is to derive consensual estimates of each of these costs per m2 for each reference case, after which it becomes possible to use the mapping exercise
- » For each reference case we would also like to determine a typical bill of products per m2 (e.g. actuators, valves, sensors, meters, displays, controllers, etc.) which helps inform the cost analysis but also the environmental impact analysis

## Process – seeking your help

- » In the weeks immediately following this meeting we will circulate a survey to stakeholders seeking inputs on these values
- » At one level we need to compile typical costs and bills of hardware per reference case solution as a function of BACS energy performance class
- » At the other we need to compile the necessary market value segmentation information and best estimate proxy mapping
- » If successful we can derive the inputs needed for the Task 4 to 7 analyses

Questions:

- » **Is this the best way to proceed?**
- » **Can you help?**