

Update on CPIs for SME Energy CheckUp

Project: SME Energy CheckUP

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Project description

The SME Energy CheckUp project is fully devoted to the SAVE – Businesses priority and targets small and medium sized enterprises in the sectors hotels, restaurants, bars, fastfood/ice-cream, retail food, retail non-food and offices. The project builds on an existing successful Dutch energy saving tool; used over 2000 times and used by a Province as the main tool in this area. The new step, the direct connection with local contractors, has already been implemented in a tool for households by our strong supporter Meer Met Minder. The target group is reached by SME representing partners and supporters in each country.

The major products of the project are:

- An energy saving tool, complete with benchmark, advice on energy savings measures, financing options, support module to ask for offers from contractors, library and a survey module (to monitor the impact of the project)
- Video's on energy saving measures (available on YouTube, used in the tool)
- A handbook that can be used to implement the project in other regions
- Articles on best examples in the project (ambassadors for the sectors)

The project is expected to lead to the following results:

- Approximately 6 000 SMEs will use the energy saving tool and 60 000 will visit the tool
- Approximately 600 SMEs will implement simple energy saving measures (no or very small investments)
- Approximately 600 SMEs will implement energy saving measures that can be implemented by SMEs who rent their building
- Approximately 150 SMEs will implement serious energy saving measures for which it is necessary to own the building.

The project aims at a yearly energy saving of 54 GWh in 2017 and 240 GWh in 2020.



Step 1 Define impacts and scope

The project focusses on SMEs at the sectors hotels, bars, restaurants, retail and offices. Together, these represent the majority of the companies in the service sectors. Hotels, bars, restaurants and retail already comprise 28% of all SMEs. Offices comprise all sorts of business services and have sometimes a warehouse. These sectors offer interesting energy saving options which are quite similar. The main energy use is needed for the indoor climate, including often air conditioning, and kitchen facilities. By focusing only on these sectors a more specific approach can be made. To get an idea of the potential, the following table gives an indication of the number of companies per country.

Country	Hotel and restaurants	Retail	SMEs	Micro SMEs	Small SMEs	Medium SMEs
Spain	289 000	814 000	2 408 662	2 245 771	145 279	17 612
Italy	284 000	1 224 000	3 762 921	3 557 818	186 027	19 076
Poland	63 000	590 000	1 552 965	1 495 325	42 337	15 303
Netherlands	36 000	164 000	577 575	518 490	50 349	8 736
Total	672 000	2 792 000	8 302 123	7 817 404	423 992	60 727

The SMEs expected to be using the tools are mostly small SMEs (10 to 50 employees) as can be expected by the average energy use of the SME using the Dutch tool in the past. The total number of small SMEs is 424.000 in the four participating countries. The goal of the project is 6 000 SMEs using the tool, represents approximately 1.4% of all small SMEs. It will be clear that here is enough potential to expand the project later on.

What is measured is savings on primary energy use and reduction of greenhouse gasses. Therefore two CPIs are important for this project:

- Primary energy savings
- Reduction of Greenhouse gas emissions

We use 'method 2', the top-down method, to calculate and update the CPIs.



Step 2 Set the baseline

The existing Dutch tool has been used by more than 1.000 SMEs and targeted as many as 23 sectors. When we zoom in on the sectors chosen for this project, the results in the Netherlands during the years 2009 - 2011 look like the following.

	Number of SMEs	Average primary energy use (MWh)
Hotels	30	2 043
Restaurants	41	342
Bars	22	167
Fastfood / ice cream	10	319
Retail food	74	2 986
Retail non food	94	565
Offices	161	488
Total	432	

In the Netherlands, the users in the targeted sectors by this proposal of the current Dutch energy saving tool had an average (initial) energy use of 691 000 kWh of primary energy. In Poland, the average energy use is estimated to be 275 000 kWh (based on data of both the Polish Agency for Enterprise Development and the Polish Statistics Office). For Italy and Spain we assume that the primary energy use of the SMEs filling in the tool will be around 50% lower than the use in the Netherlands. This is based on the fact that the gross inland energy consumption per capita for the Netherlands is two times higher than for Italy and Spain⁵. The lower energy use can be explained by the warmer climate.



Step 3 Short term impacts

We expect that 6 000 SMEs will use the tool. In the Netherlands, more than 2 000 SMEs have used the tool in a period of three years. Based on these numbers, we expect that 6 000 SMEs will use the tool during this project. There are several ways to implement energy saving measures. The measures has been categorized as follows:

Category	Description	Energy saving	SMEs
★	Energy saving due to behaviour or changes to installation settings	5%	10%
★★	Energy saving measures related to the interior of the building (energy saving measures that the user of the building can apply). Also includes ★ measures	10%	10%
★★★	Energy saving measures that will be taken by the owner of the building like insulation, heating/ventilation/cooling. Also includes ★★ measures	15%	3%

The expected energy savings due to the project are listed below. The number of SMEs that implement three-star energy saving measures in Spain is set lower due to the economic crisis that is still being felt. SBA factsheets from 2012 show that it is harder for Italian and Spanish SMEs to access finance. At the other hand, in Italy, SMEs tend to be less dependent on loans. The project will result in a yearly energy saving up to 54 GWh in 2017.

Country	SMEs that use the tool	SMEs that implement ★ energy saving measures	SMEs that implement ★★ energy saving measures	SMEs that implement ★★★ energy saving measures	Average primary energy use of SMEs	Yearly primary energy use saved (MWh)
Netherlands	1 500	150	150	45	691 000	21 766
Poland	1 500	150	150	45	275 000	8 662
Spain	1 500	150	150	15	435 000	11 092
Italy	1 500	150	150	45	435 000	13 702
Total	6 000	600	600	150	1 836 000	55 224



Step 4 Long term impacts

We have no new insights compared to the Grand Agreement when it comes to the use of the tool on the long term.

Cumulative investment

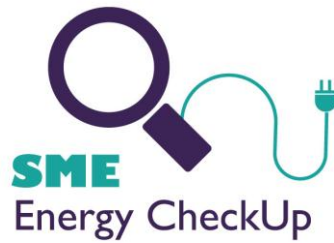
The average electricity cost for SMEs is approximately €0.072/kWh (primary energy). For natural gas, it is increased to approximately €0.052/kWh. It is assumed that the energy use (primary) of gas/electricity is approximately 50%/50%. We assume that it is easy to convince SMEs to implement energy saving measures with an average pay-back period of 2 years (5 maximum). The total investment can therefore be calculated as the yearly saving (€) multiplied with two years:

	Primary energy savings (GWh prim)	Natural gas (GWh prim)	Electricity (GWh prim)	Yearly savings (euro)	Cumulative investment
End of the project	54	27	27	3 348 000	6 696 000
2020	240	120	120	14 880 000	29 760 000

Primary energy savings and reduction of greenhouse gas emissions

One GWh of primary energy can be converted to approximately 86 toe. For the EU27, the standard emission factor is 0.460 t CO₂/MWh for electricity (not primary) and 0.202 t CO₂/MWh of natural gas (IPPC 2006). The primary energy and greenhouse gas emissions are estimated in the following table:

	Primary energy savings (GWh)	Natural gas (GWh)	Electricity (GWh)	Primary energy savings (toe/year)	CO ₂ reduction (tCO ₂ /year)
End of the project	54	27	10.8	4 643	10 422
2020	240	120	48	20 636	46 320



Updated CPIs

The calculation leads to the following CPIs:

Overall objective	Target within the action duration	Target by 2020
To contribute to the EU 2020 targets on energy efficiency and renewable energy sources	€ 6 696 000 cumulative investment made by European stakeholders in sustainable energy	€ 29 760 000 cumulative investment made by European stakeholders in sustainable energy
	0 toe/year renewable energy production triggered	0 toe/year renewable energy production triggered
	4 643 toe/year primary energy savings compared to projections	20 636 toe/year primary energy savings compared to projections
	10 422 t CO ₂ e/year reduction of greenhouse gas emissions	46 320 t CO ₂ e/year reduction of greenhouse gas emissions