

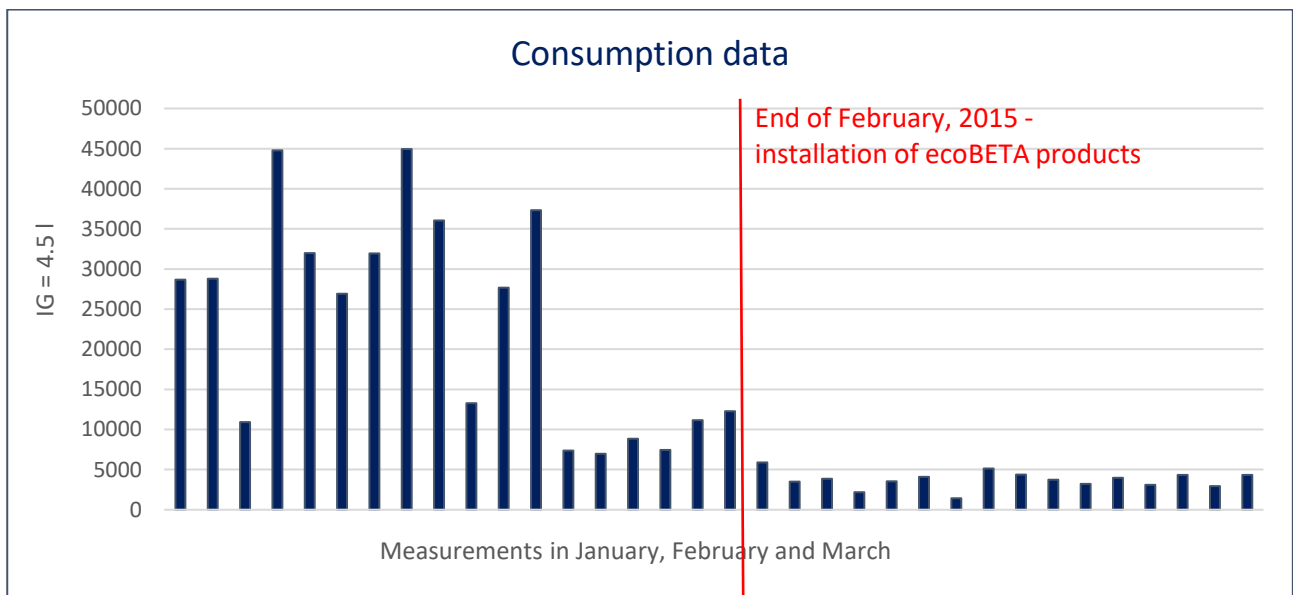
Case study 1 – Pilot project for the municipality of Sharjah, UAE

A joint pilot project of ecoBETA, ecoBETA's local partner MEET Environmental Solutions (MEET), Sharjah Energy and Water Authority (SEWA) and Sharjah Municipality took place back in 2015.



After pre-selecting a suitable municipal building (SEWA head office in Sharjah), the project started with data collection in a form of water meter reading prior installation of ecoBETA products. This phase was conducted by SEWA between November 2014 and February 2015.

At the end of February 2015, ecoBETA water-saving toilet valves, retrofits and flow reducers (n=56) were installed by ecoBETA and MEET. Data collection continued for the rest of March 2015 as showed in the graph below.



As the graph indicates, water conservation was immediate. Therefore, Sharjah Municipality together with SEWA proceeded with a sensitivity test at the beginning of April 2015.

Installed products were used by 1662 people, where of 160 of them were staff and 1502 guests. Average savings per person per day were calculated as **11.25 litres**.

In total, the selected building achieved daily savings of **48.1 %**. **With daily savings of 122.10 AED, ROI was achieved in 2.4 months.**

Case study 2 – Project for the municipality of Silkeborg, Denmark

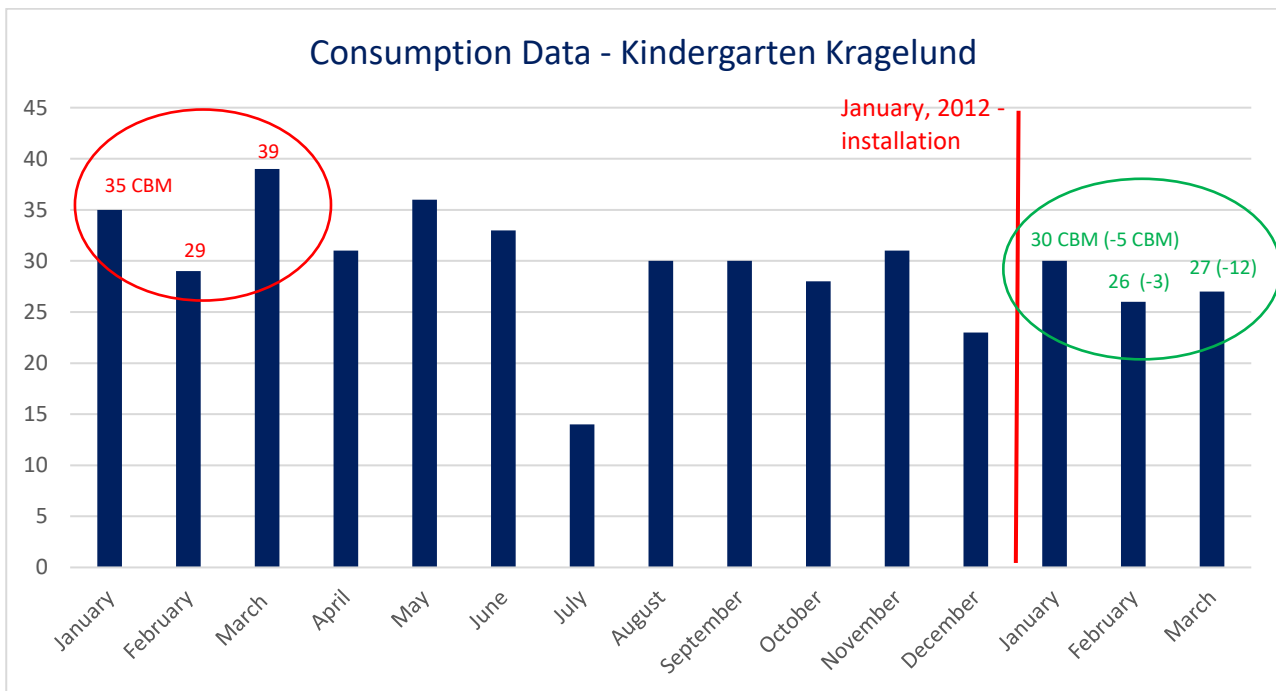
In 2012, ecoBETA was selected as a company conducting water conservation project for 3 municipal kindergartens.

As school year is quite volatile in Denmark due to public holidays and uneven distribution of toilet users throughout a year, ecoBETA could not perform a standard data analysis with immediate change in consumption. Therefore, a comparative analysis of data was conducted.

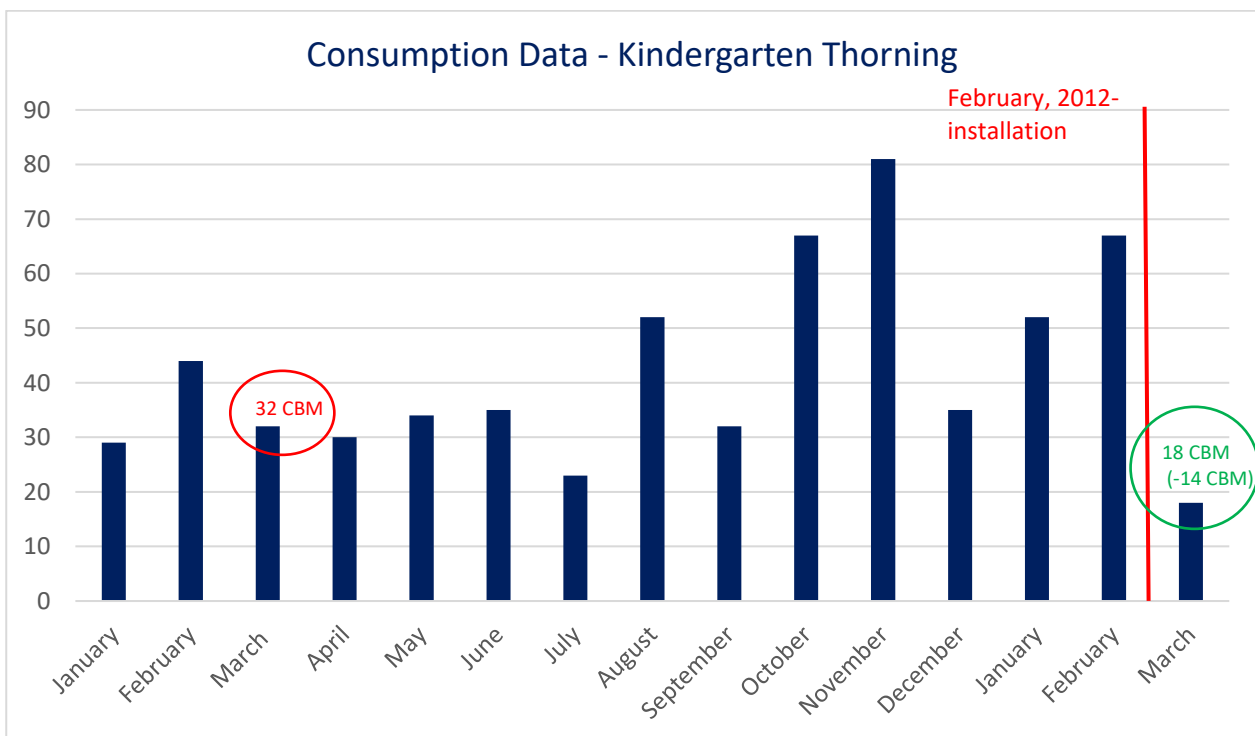
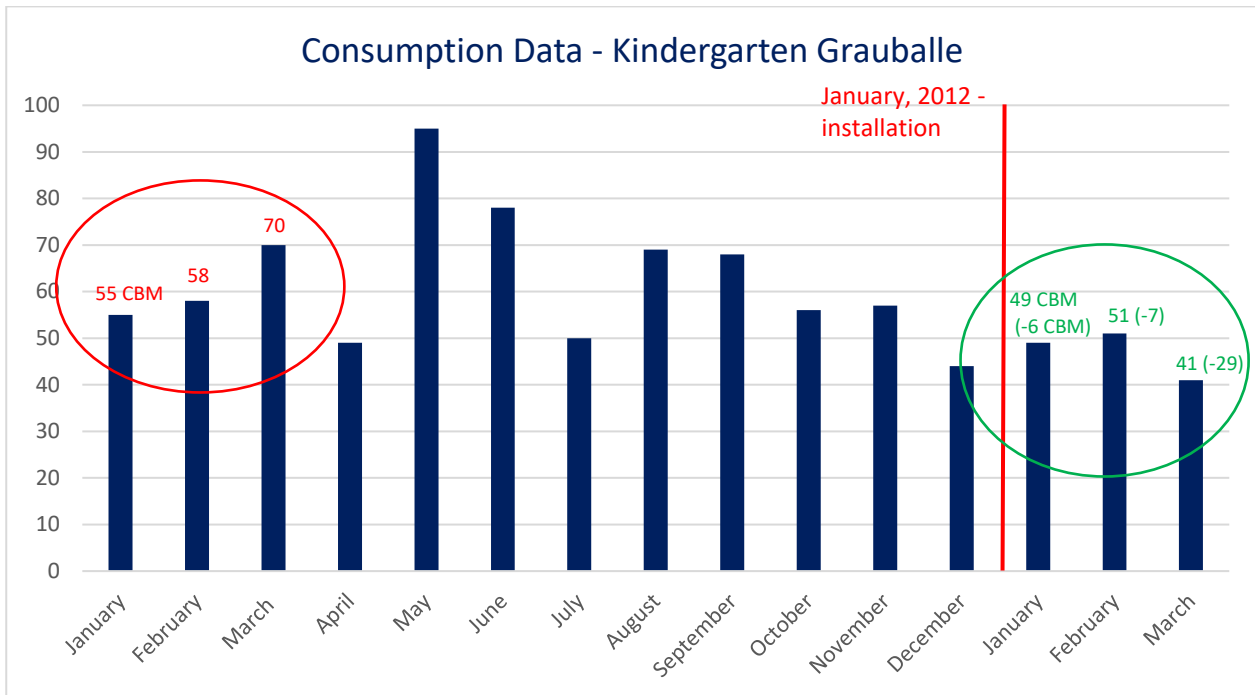
Data were collected from the entire year of 2011 prior installation at the beginning of 2012.



All kindergartens are defined as small ones with number of toilets between 6 and 10. ecoBETA flushing valves, flow reducers for taps and flow reducers for showers were used for this project.



While comparing the measured data, water conservation was achieved in all cases with the most significant changes in the month of March, 2012 as can be seen in all 3 graphs.



Water savings achieved were **31, 41 and 44%** compared to figures from the same month previous year.

Technical service department of the municipality informed ecoBETA the ROI was achieved over summer holidays, thus, in **4 months**.

Case study 3 – Project for Anastasia Beach Hotel, Paralimni, Cyprus

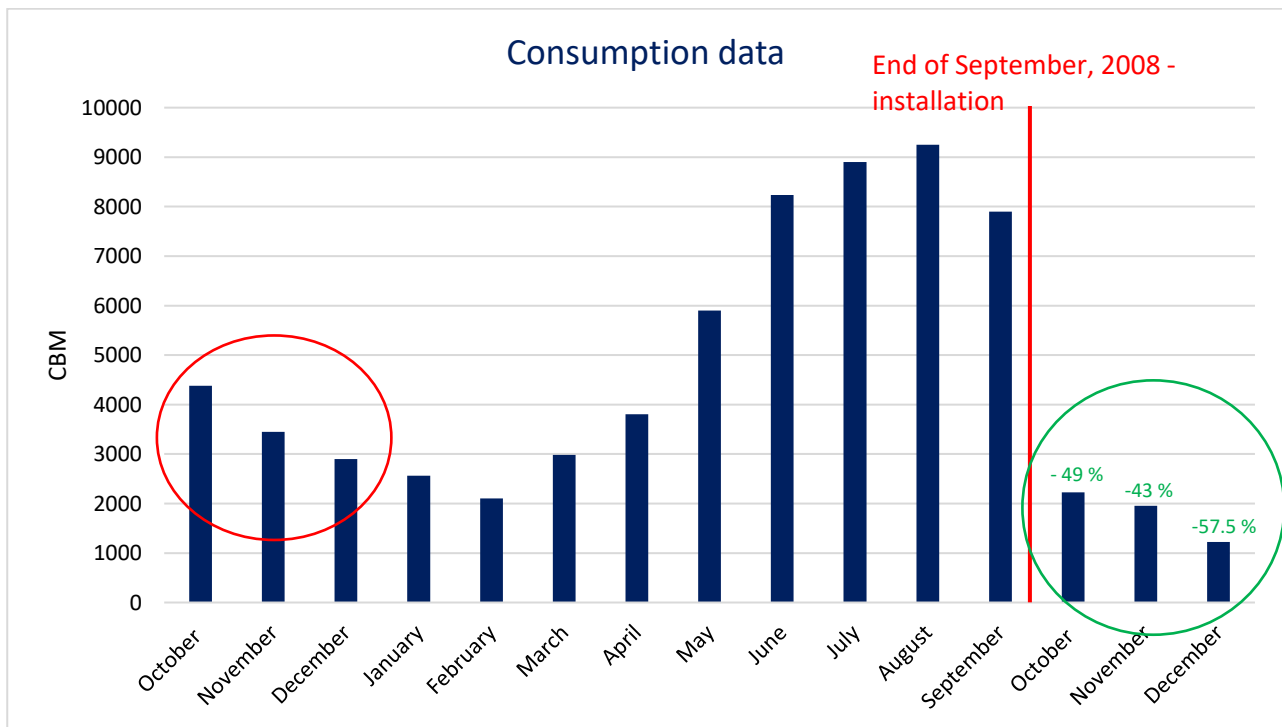
In 2008, ecoBETA conducted a water conservation project for Anastasia Beach Hotel in Paralimni, Cyprus.

In order to perform such a project, ecoBETA requires detailed information regarding all water installations as well as data from water meters.



As a result, total amount of 224 bathrooms was included in the project, where 224 showers and 224 toilets were identified. Additionally, there were 307 water taps.

Based on findings, ecoBETA installed 224 flushing retrofits to existing valves, 224 showerheads with flow reducers and 307 flow reducers for taps.



While comparing data from similar months before and after installation and at the same time taking into account descent of guests between 2007 and 2008, there is achieved total water conservation between **40 and 52 %**.

Due to quantity of investment, ROI was achieved in **11 months**.

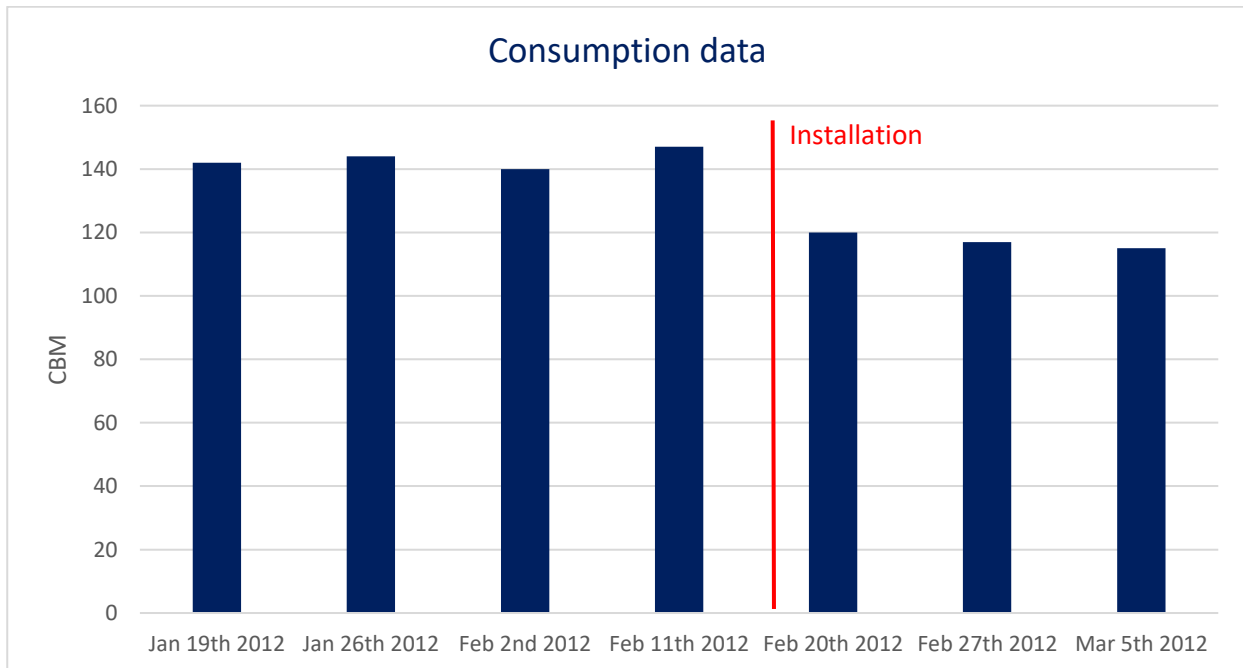
Case study 4 – Project for Cardiff Metropolitan University, United Kingdom

Back in 2012, ecoBETA performed a project as a part of DCWW (Dwr Cymru Welsh Water) water efficiency program. Cardiff Metropolitan University was offered assistance in reducing their consumption in accommodation buildings.

ecoBETA carried out basic water efficiency measures as well as installation of consumption reducing products to aerating shower heads and dual-flush toilets.



In total, ecoBETA equipped 4 buildings over 2 campuses (198 rooms). Data were measured on weekly basis.



According to measurement conducted by the university in cooperation with the water company, there were **30% savings on consumption** after installation of ecoBETA products, which is approx. **45 CBM/week**.

Savings on water alone were expected to be **2200 CBM/year (5,500.00 GBP/year)**.

The cost was shared between DCWW and Cardiff Metropolitan University, and evidence of savings was used to contribute towards regulatory targets and year on year 5% energy and water cost reduction targets.

Case study 5 – Pilot project for the municipality of Abidjan, Ivory Coast

ecoBETA conducted a pilot project in cooperation with African Water Association (AfWA), National Board for Drinking Water (ONEP), SODECI (Water authority) and AfYWSP (Local comitee for African Young Water and Sanitation Professionals Program) for the municipality of Abidjan in 2015.

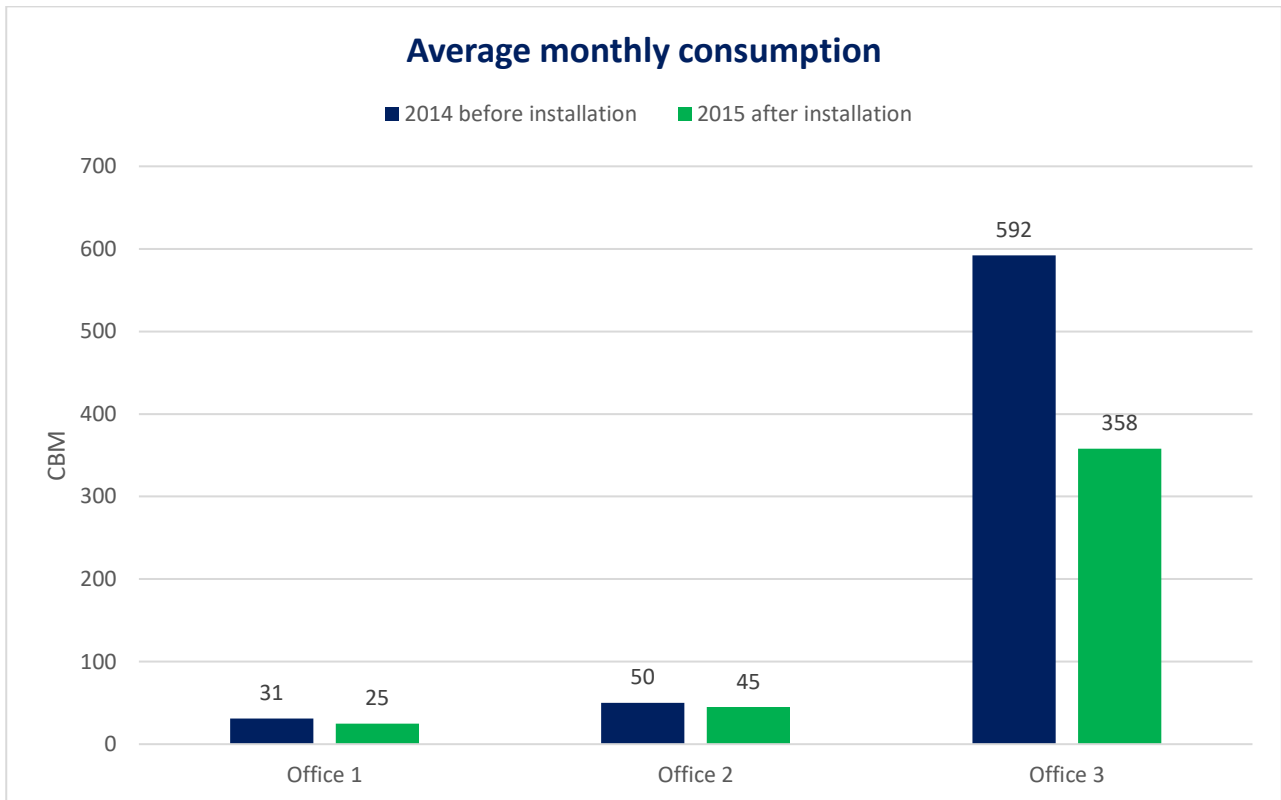
4 public office building were selected and initial data collected. In total, there were 54 toilets and 149 users. However, further on one building was removed from the project due to faulty water meters and readings respectively.

Nevertheless, this finding was beneficial to ecoBETA as a valuable lesson for further projects, where requirements for multiple buildings must be met prior conducting such a project in order to minimize similar risks.

Therefore, the project was further focused on 3 office buildings – office 1 (3 toilets), office 2 (18 toilets) and central office 3 (28 toilets).

ecoBETA continued with data collection and installation of dual-flush valves with only 1 button, flushing retrofits to existing single-flush valves, showerheads and flow reducers.





While first 2 office buildings achieved mediocre water savings, office nr.3, which was the central office, achieved significant descend in water consumption.

In conclusion, the pilot project **saved up in total 38 % on average water consumption** in selected buildings, which equals to savings of **4,570.00 EUR** on water bills annually.