



## CUSTOMER CASE VOLKER WESSELS

# Base<sup>n</sup>

Real-time gathering and analyzes of detailed **energy data from thousands of houses**

**Provide insight** to the house tenants that their house does not consume any energy

**Analytics and correlations** to create forecasts and detect faulty appliances

Enable a construction company to create **a better and more sustainable business**

## Monitoring Zero Energy Houses

### Providing Proof for Tenants that the Houses Built By Volker Wessels Are Not Using Any Energy

Volker Wessels, second largest construction company of the Netherlands, is changing its housing production to 100% zero energy houses. Contractually, they want to guarantee and prove to the tenants and buyers that these houses indeed do not use any energy. Volker Wessels builds these row and semi-detached houses throughout the Netherlands and possibly also in Germany. The volume is approximately 1,000 houses per year and when the market allows, even up to 3,000 annually.

Volker Wessels sells these houses with a warranty: The houses, as a system, do not use any energy over the year. A certain amount of energy is reserved for the daily appliances families use, like washing, drying, TV, cooking etc. The latter is especially known to vary a lot from family to family.

From a technical perspective, heat pumps and balanced ventilation units need proper settings and maintenance. Optimal settings may even slightly change over time, equipment may break down and other unexpected events may occur. All of these jeopardize the performance of the houses and need immediate action. This calls for monitoring of all the produced houses and to have insight which houses perform as expected from energy perspective, and which inhabitants use the houses out of the contract barriers.

#### WHAT

- Proof to tenants that their house is a zero energy house, anytime and in real-time

#### WHY

- Gather detailed energy usage information from each house to have full insight to the consumption
- Build environmentally friendly houses

#### HOW

- A small controller, installed in each house, gathers data from all installation components and communicates with BaseN Platform over the broadband connection of the house - around 200 parameters are collected and analyzed each minute
- BaseN Platform records the entire lifecycle of the house - no data is ever lost, everything is stored from day one onwards
- Any calculation or analysis can be done backwards in time, allowing for scenario analysis
- Forecasts are created based on all known performance data of the house

**Manage a volume of more than a million data elements per minute coming from all the houses Volker Wessels builds**

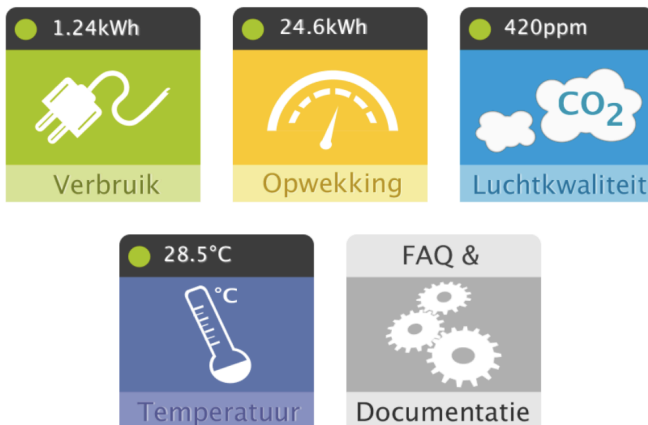
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## EACH HOUSE IS A SYSTEM

A small controller was installed in each house. Each installation component is connected to the controller, mostly wired. The interface protocols vary. Since no changes have been made to the installation components, the communication is done using the interface options that the equipment provides. From the installation components all logging is gathered: settings, internal variables, alarms etc.

An additional set of energy meters are added to gather information on the energy usage of washing, drying and cooking - on top of the usage of the installation components and the overall consumption given by the smart meter.

When data is received, any visualizing, calculation, alarm and other process can be configured by BaseN Platform.

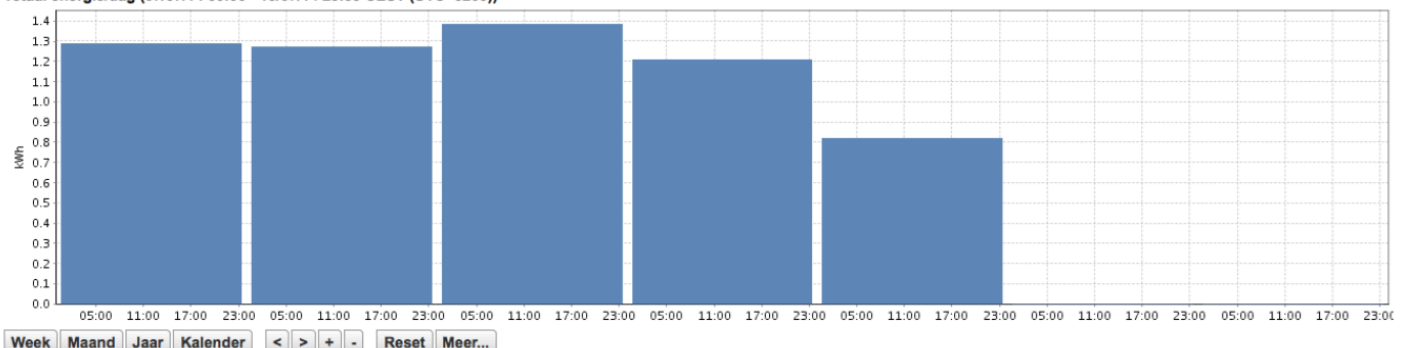


### Verbruik

Droger	Oven	Vaatwasser	Warmtepomp	Wasmachine	Totaal
0 kWh	0 kWh	0 kWh	0.049 kWh	0 kWh	1.24 kWh

*klik doelstelling om details te bekijken*

Totaal energie/dag (07/07/14 00:00 - 13/07/14 23:59 CEST (UTC+0200))



For more information visit [www.basen.net](http://www.basen.net)

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