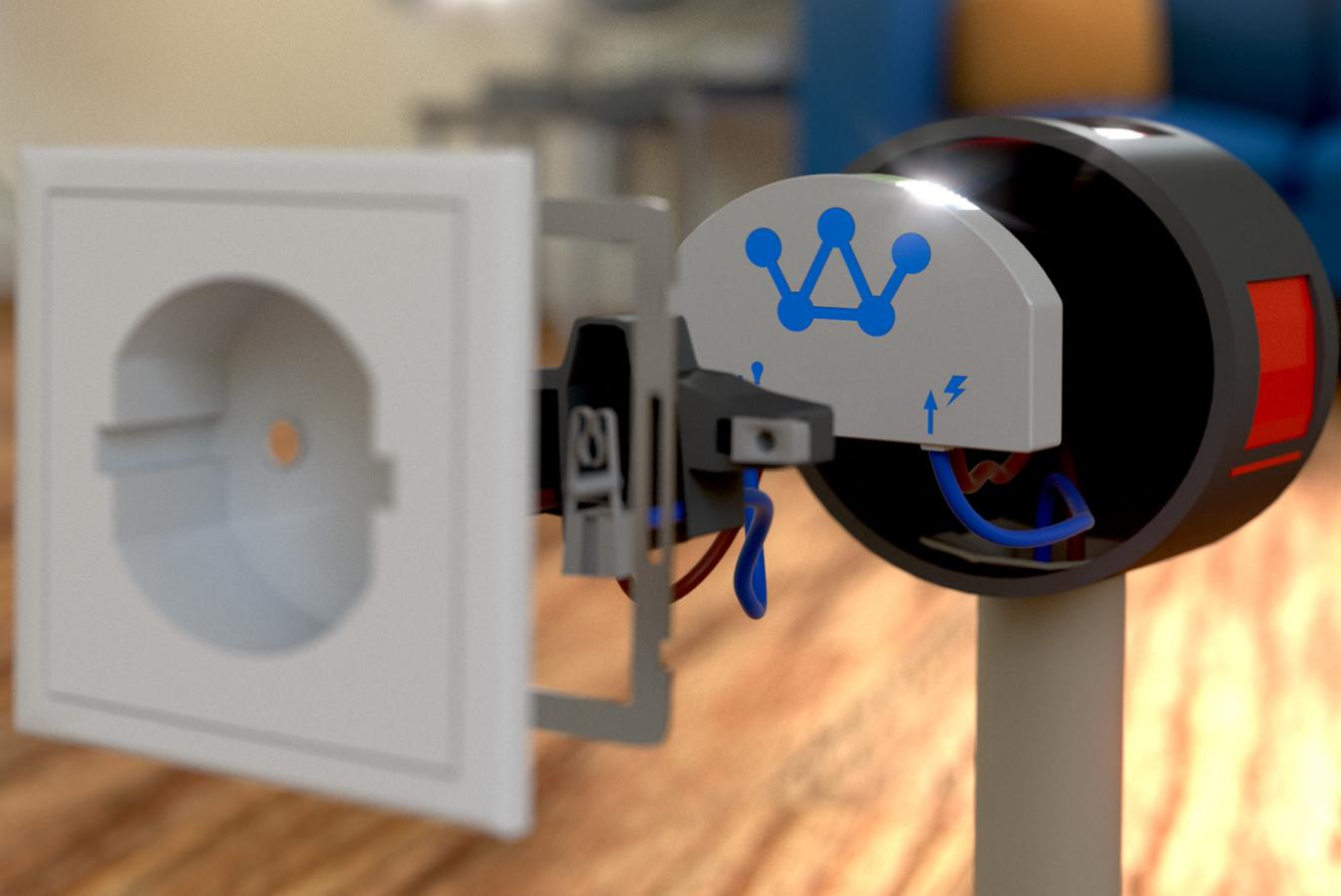
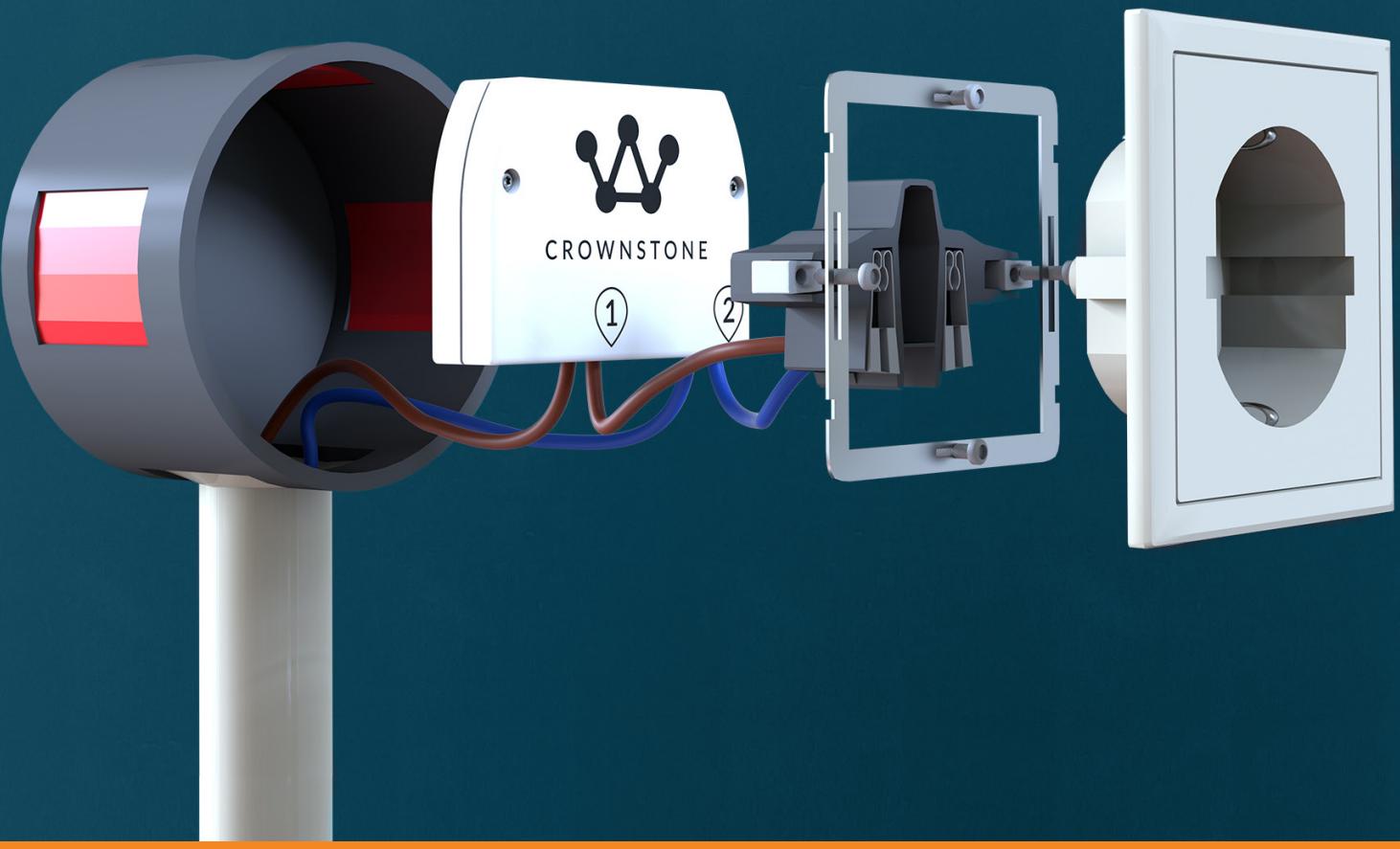


C R O W N S T O N E

GREEN HOME PACK





CROWNSTONE ENERGY MANAGEMENT

The Crownstone Green Home pack enables you to actually save energy! The Crownstones have multiple energy saving functions, including:

- **Energy measurement** per Crownstone. The Crownstone measures the amount of energy used per power outlet and per light.
- **Energy monitoring** per Crownstone and per room. Information about the energy usage is visualized in the app on a smart device.
- **Automatic lighting** per room. Information about the presence of people is used to turn on lighting only where and when needed.
- **Standby-killer** per Crownstone. Devices are turned off completely in the absence of users (instead of going into standby-mode, in which the device still uses energy).

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YOUR PRESENCE MAKES THE DIFFERENCE

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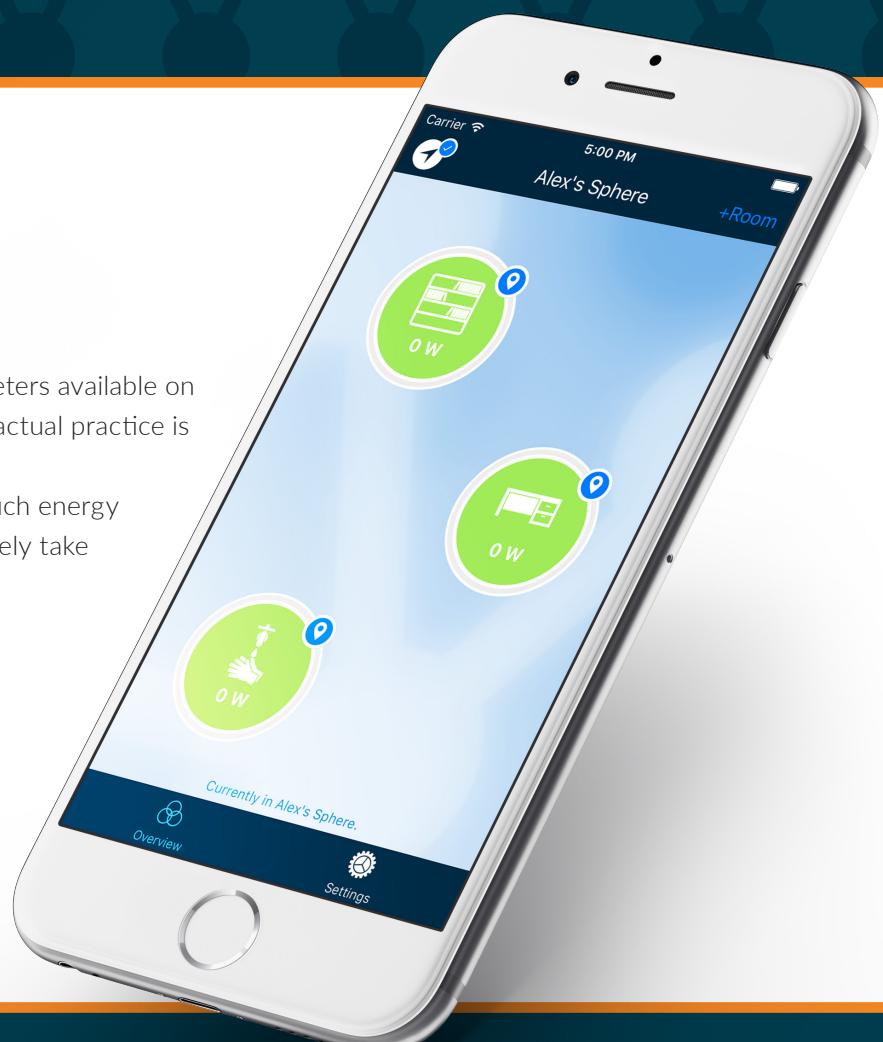
ENERGY MONITORING

Even though there already are smart energy meters available on the market, the cost reduction they achieve in actual practice is disappointing.

Crownstones show per device or room how much energy is being used. This creates the possibility to timely take appropriate actions.

ENERGY SAVING

The Crownstone Green Home pack reduces the electricity bill and heating bill (gas or district heating)!



ELECTRICITY

The cost reduction that can be reached on the energy bill with the Crownstone Green Home pack, is comparable with double glazing. The yearly energy conservation and cost reduction based on € 0,22 per kWh, are shown in the following table:

Standby power

330 kWh • € 72,60

Average 10% per household.¹

Old appliances

60 kWh • € 13,20

Replacing old appliances on time, e.g. a dishwasher, for an overall better energy performance.²

Preventive maintenance

45 kWh • € 9,90

HIER climate agency.

Insight in usage

165 kWh • € 36,30

Half of the by BOKS (Greenchoice) estimated 10%.

Total

600 kWh • € 132,00

The cost price of double glazing mounts up to a total of € 2300,-, for about 20 m² in an average townhouse with € 115,- per m². The cost reduction reached with double glazing adds up to about € 140,-.

So when it comes to electricity, the Green Home Pack has a similar energy efficiency to double glazing!

HEATING

Smart radiator valves have several functions to reduce your costs and energy usage. In an average household, 1150 m³ gas is used for heating, with an average of € 0,61 per m³ in the year 2017 .

Closing off radiators automatically

172 m³ • € 104,92

Counters too high return temperatures and water circulation. This adds up to 15%.³

Optimizing heating per room (multi zone heating)

345 m³ • € 213,90

Cooler in bedroom, less heating on the sun side of the building, more/less glass per room. Multi zone heating adds up to 30%.⁴

Absence detection and smart thermostat

138 m³ • € 84,18

Not heating when no one is present adds up to 12%.⁵

Up to

345 m³ • € 213,90

Turning down your heat also saves energy, for example around the summertime. Or turning your heat down before you go to bed, instead of the minute you turn in.

The total cost reduction can add up to € 132,- + € 214,- = € 346,- per year. Based on a yearly inflation of 2,5%, reductions can increase up to € 4000,- within 10 years and up to € 6.200,- within 15 years.

¹ Home Idle Load: Devices Wasting Huge Amounts of Electricity When Not in Active Use (2015)

² Development of a method for calculating the environmentally optimum lifespan of electrical household products (2003)

³ "CV-ketels slurpen energie" rapport by Danfos.

⁴ "Energiebesparing door selectief stoken bij woningen" (2013), TU Delft commissioned by Milieu Centraal

⁵ Nest, <https://nest.com/downloads/press/documents/energy-savings-white-paper.pdf>



HOUSE VALUE

There's a possible connection between the energy label and the value of your house: a house with an A-label adds 10% more value than a D-label house*. This, however, is not necessarily a consequence of the label itself (which has little credit and can be incorrectly awarded), but by the added value of the installations. New (energy efficient) installations equal a faster sale (1 month faster) and a higher selling price (€ 6000 - € 10000). This has several causes:

- The intrinsic value of the house is higher
- The monthly expenses for the buyer are lower
- Energy saving domotics are an appealing feature during house views

Double monthly expenses add up fast. Mortgage payments, municipal taxes, insurances, utility costs such as gas/water/electricity, possible homeowner association (HOA) fees and other costs quickly add up to € 800,- or more.

* "Het Energielabel op de Koopwoningmarkt" rapport Universiteit Tilburg and Universiteit Maastricht.



FINANCING

The energy savings loan ('energiebespaarlening')* (minimum of € 2500,-) for private individuals and HOA's can be used to finance the Crownstone Green Home pack. This means you can immediately benefit from energy efficiency without needing a big investment first.

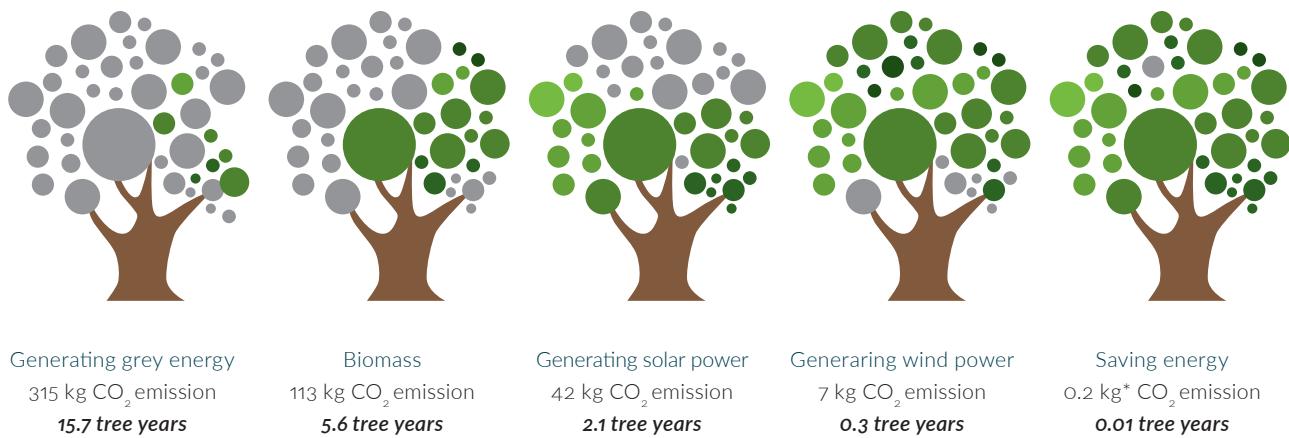
Should you buy the Green Home pack as a part of your new home, there are several options concerning your mortgage that you can inform about at your bank. The Triodosbank, ABN AMRO, and the Rabobank all offer favourable terms (e.g. a lower mortgage interest) when taking in account sustainable measures like the Green Home pack when buying a new home.

If you currently reside in a house without NHG (Nationale Hypotheek Garantie), you might be considered for NHG after making energy saving adjustments.

* <https://www.energiebespaarlening.nl/particulieren/>

ENVIRONMENT

The carbon dioxide (CO_2) emission per kWh for grey energy is 526 grams (excluding building the plant). For biomass this is 189 grams (also excluding building). For solar energy this is 70 grams (including building the solar panels) and for wind power this is 12 grams (including building). For a 1000 kg CO_2 emission, 50 trees have to grow for a year. Saving energy obviously saves more on CO_2 emission than any method of sustainable energy generation. An average reduction of 600 kWh per year can be compared to the following energy sources:



Saving energy is greener than green energy!

In the Netherlands, 58% of the households run on renewable ('green') energy. If you include industry, logistics, etc., it's 33%. Unfortunately, there is such a thing as 'greenwashed energy'. An energy supplier pays about 1 euro for 3300 kWh per year to convert grey energy into green energy: greenwashing. In 2017, only 11% of the total energy production in the Netherlands comes from sustainable sources. This makes for a 2 in 3 chance that your green energy is in fact grey.

Of the 7.6 million households in the Netherlands, 42% use grey energy and 38% use greenwashed grey energy: a total of 80% (6.08 million households). The 600 kWh per year equals a CO_2 emission of 1915 million kgs for these households. More than 95 million trees have to grow for a year to even this out. There are 162 million trees in the Netherlands.

* The Crownstones themselves use 100 mW. For 30 Crownstones this is 3 W.



MULTI ZONE HEATING

The Green Home pack saves you energy and brings you comfort at the same time, for example by heating every room to the right temperature. Not too cold in the livingroom and not too hot in the bedroom. This proves being comfortable doesn't equal wasting energy!

NO SURPRISING ENERGY BILLS

Sometimes the energy bill or electricity bill can be unexpectedly high! It's nice to know upfront how high the bill will be by the end of the year. With the Green Home pack, you will no longer have unpleasant financial surprises.

TURN-OFF STRESS

No more worrying about whether or not you turned off your iron or switched off all the lights when you're away. Even when you're away, you can remotely control your appliances.

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BEING
COMFORTABLE
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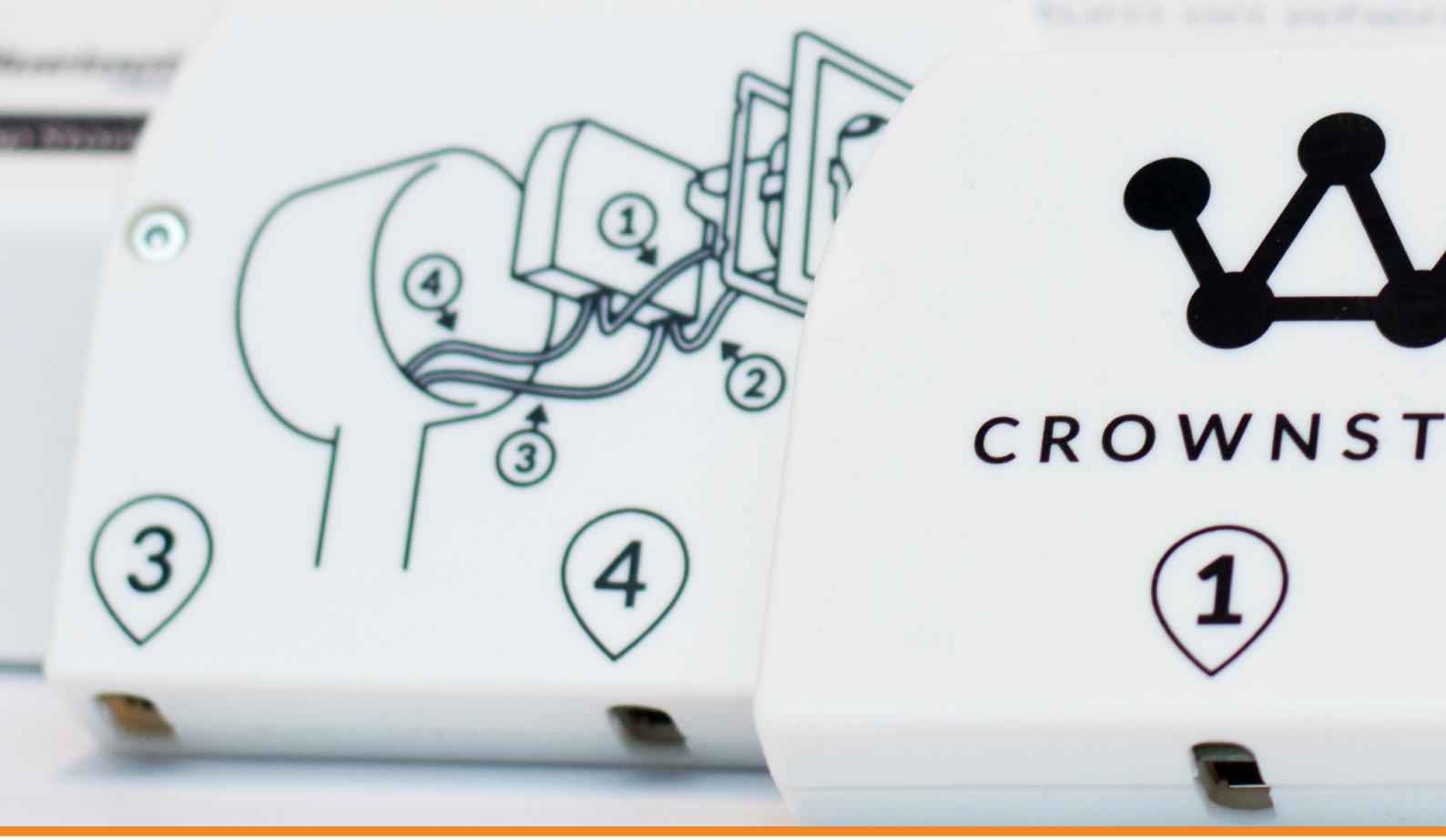
ENERGY TRANSITION

It's a well-known fact that eventually we will run out of fossil fuel. This means that, where heating is now commonly gas-fueled, this ultimately will have to be done with energy coming from sustainable sources. However, heating with electricity is far more expensive than using gas. This means the reduction on heating that can be realized with multi zone heating and presence detection will continue to grow more and more.

FLEXIBLE ELECTRICITY PRICES

With the growing amount of sustainable energy sources, the balance between supply and demand proves to be increasingly important. The sun doesn't always shine and the wind doesn't always blow. From the 1st of January 2017, private individuals can get quarterly prices on the APX-market. Turning devices on and off automatically is crucial then, a role perfectly suited for Crownstones.

The difference between a cheap and expensive tariff can be 3-7 cents a day. This isn't much yet, but can increase significantly with more sustainable sources! Prices can even drop below zero: you'll get paid for turning on your washing machine!



CROWNST

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GREEN HOME PACK CONTENTS

The Green Home pack consists of a build in Crownstone (suitable for every power outlet), a smart radiator valve (suitable for every radiator), an in-home display and a smart meter reader. The pack also comes with a free app for both Android and iPhone. New functionalities will be available automatically through regular updates.

Smart meter reader



Build in Crownstone

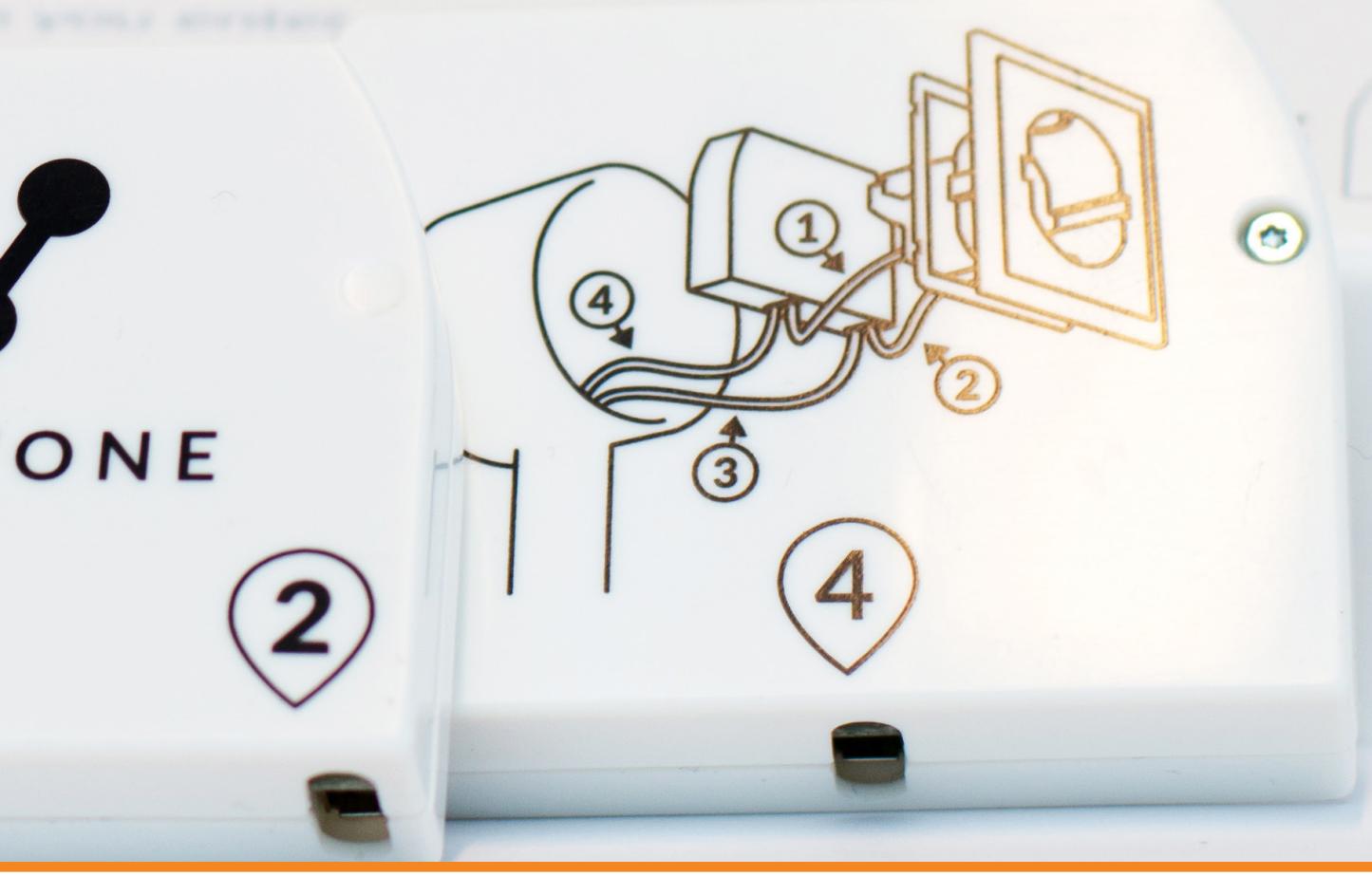


In-home display & wall mount



Smart radiator valve





INSTALLATION

Installing the Crownstones is best done by an official electrical mechanic. The installation fee is included in the overall price and covers all tasks concerning the correct placement of the build-in Crownstone behind your regular power outlet, as well as a call-out fee. Additional work concerning carving in and or/breaking down walls or replacing existing power outlets must be consulted with the individual electrical mechanic.

For a non-binding offer, please contact us at installer@crownstone.rocks





Switch



Dimmer



Presence sensor



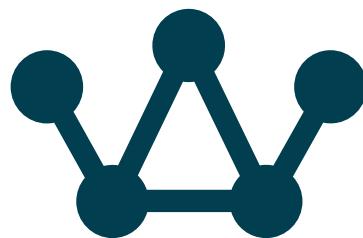
Power monitor



Artificial
Intelligence



Open Platform



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