ReDREAM

change your energy

Cover photo by Jed Villejoon/Unsplash

Why do we need a NEW ENERGY MODEL?

It is important to focus on the energy sector to combat such climate effects and achieve just energy transition

WMO | Emissions gap report:
"The past eight years are on track to be the warmest on record, and effects of climate change are becoming increasingly dramatic."

UNEP | Provisional climate status:
"Only urgent transformation at all levels will achieve the huge reduction in greenhouse gas emissions needed by 2030 for the 1.5°C"

UN:
"The energy supply sector (electricity, heat and other) is the largest contributor to global greenhouse gas emissions and is responsible for approximately 35% of total emissions."

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Why does the **END-USERS** play an important role in this new energy model?

Demand-side flexibility

The users are able to adjust generation and consumption helping to incorporate renewables into the electric system.

*Data source: Smarten

Local energy communities

You play a decisive role as a consumer because **local energy markets, energy communities and renewable energy cooperatives** are already an important element of the energy transition.

At least 2 million people in the EU are already involved with more than 7700 energy communities

Through this massive shift towards individual and flexible use of sustainable energy sources, you can significantly reduce CO_2 emissions and have more influence on sources and prices through the local community.

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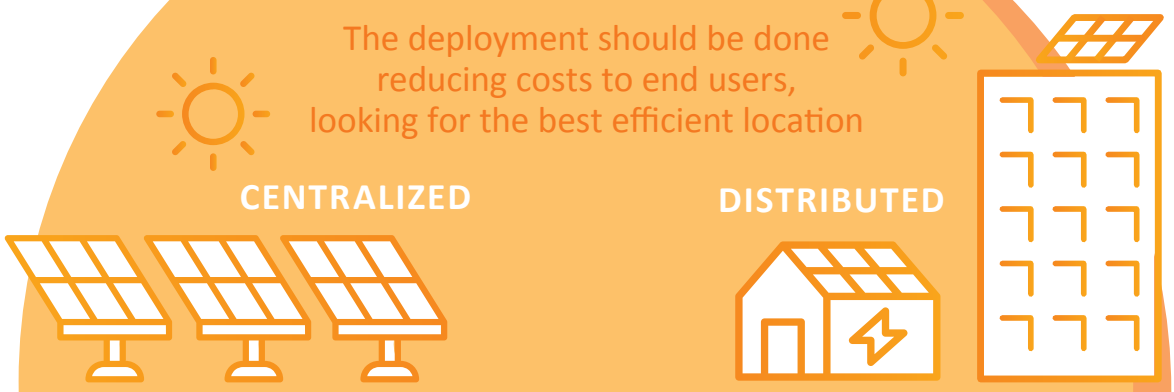
What is a just energy transition?

The efficient use of renewable sources and making it accessible to all

WHERE?

The deployment should be done reducing costs to end users, looking for the best efficient location



Surpluses in each location can be solved using

Demand flexibility

3 solutions

- **User shift demand**
- **Using smart plugs/ devices shift demand**
- **Flexibility by design**

Self-production

3 options

- **Inject energy to the grid**
- **Storing energy**
- **Collective self comsuption**

Flexibility by design consider user preferences, devices and market information, among others, to adapt their consumption without the users having to do it manually.

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How does flexibility by desing work?

Inputs

- House information
- Habits and preferences
- Devices information
- Market information
- Weather information

Algorithm

Output

Adapts consumption across devices, taking into account network needs and user preferences.

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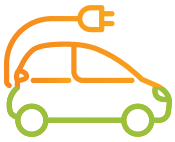
ELECTRIC VEHICLE

TRADITIONAL

Plug, set preferences and charge



50% charged and charging

100% charged

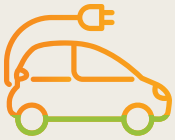
18:00

22:00

4:00

FLEXIBILITY BY DESIGN

Plug and set preferences



20% charged
The car is waiting for the cheaper and greener moment

100% charged

18:00

22:00

4:00

In flexibility by design, the car adapts the charging to periods with low emissions and prices, through the preferences set by the user and the market information it receives.

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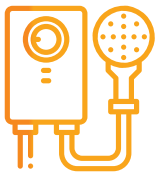
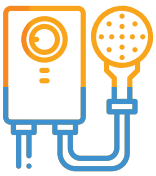
IMMERSION HEATER

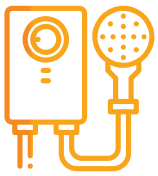
TRADITIONAL



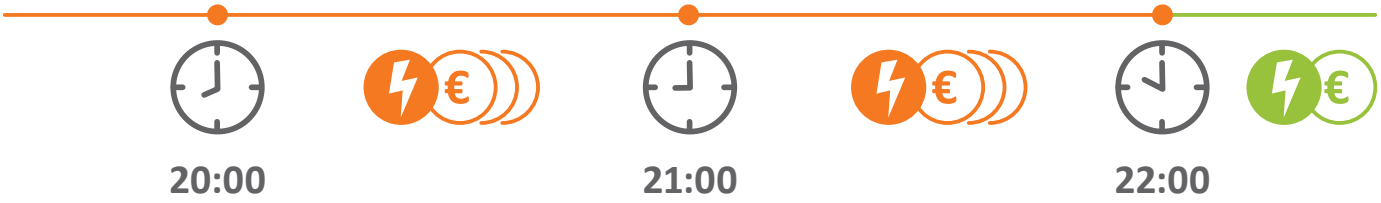
Before shower
100% heat water



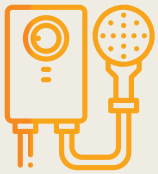
After shower
60% heat water



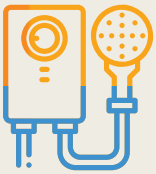
Between shower
Heating water up to 100%



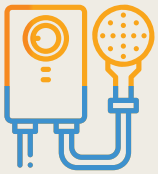
FLEXIBILITY BY DESIGN



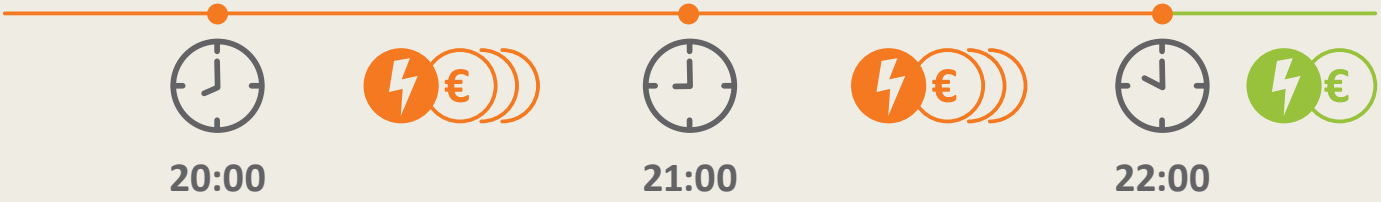
Before shower
100% heat water



After shower
60% heat water



Between shower
60% heat water, waiting for the cheaper and greener moment to heat



In flexibility by design, the immersion heater adapts the heating to the best periods with low emissions and prices, through the preferences set by the user and the market information it receives.

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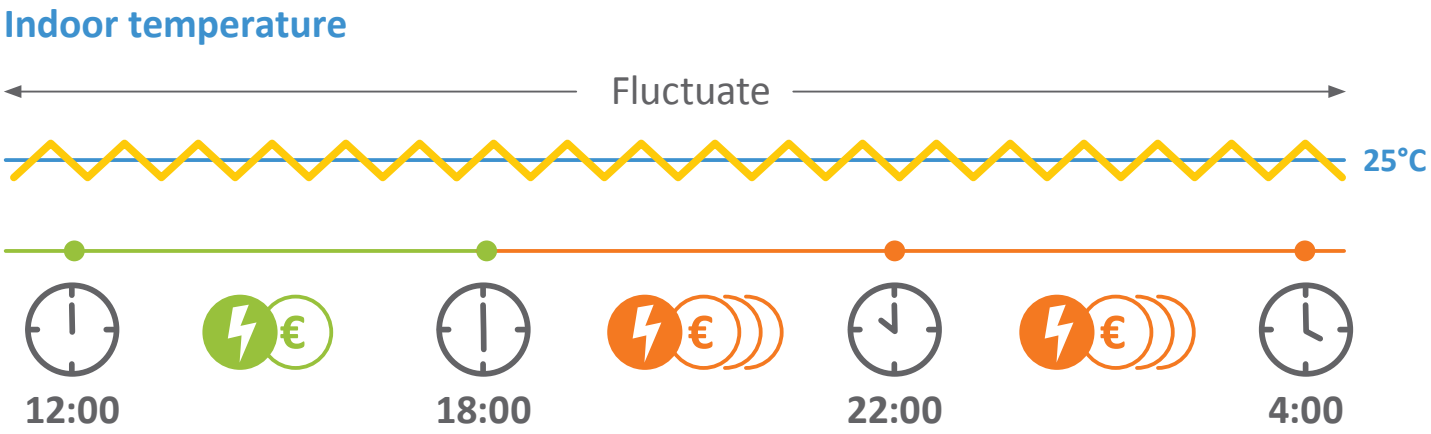
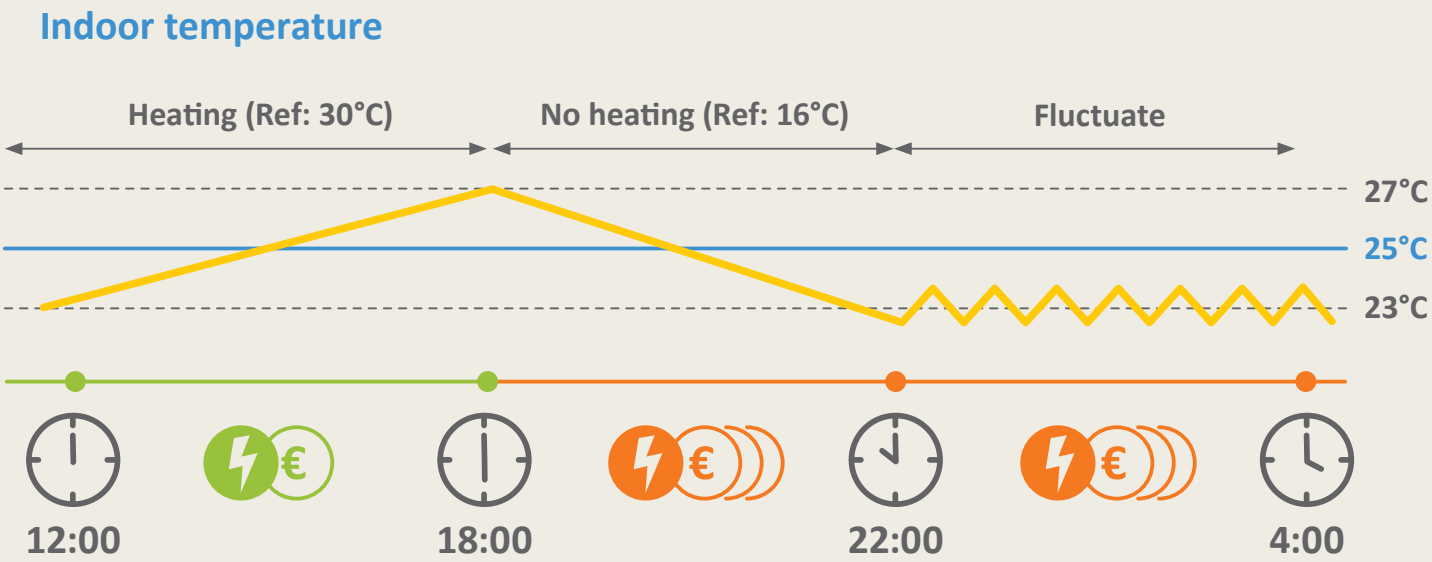
CLIMATE CONTROL

TRADITIONAL



FLEXIBILITY BY DESIGN



In flexibility by design, the thermal inertia is used to heat to the maximum threshold of preference, and thus store that heat in the room maintaining the comfort temperature and stop heating in less optimal periods.

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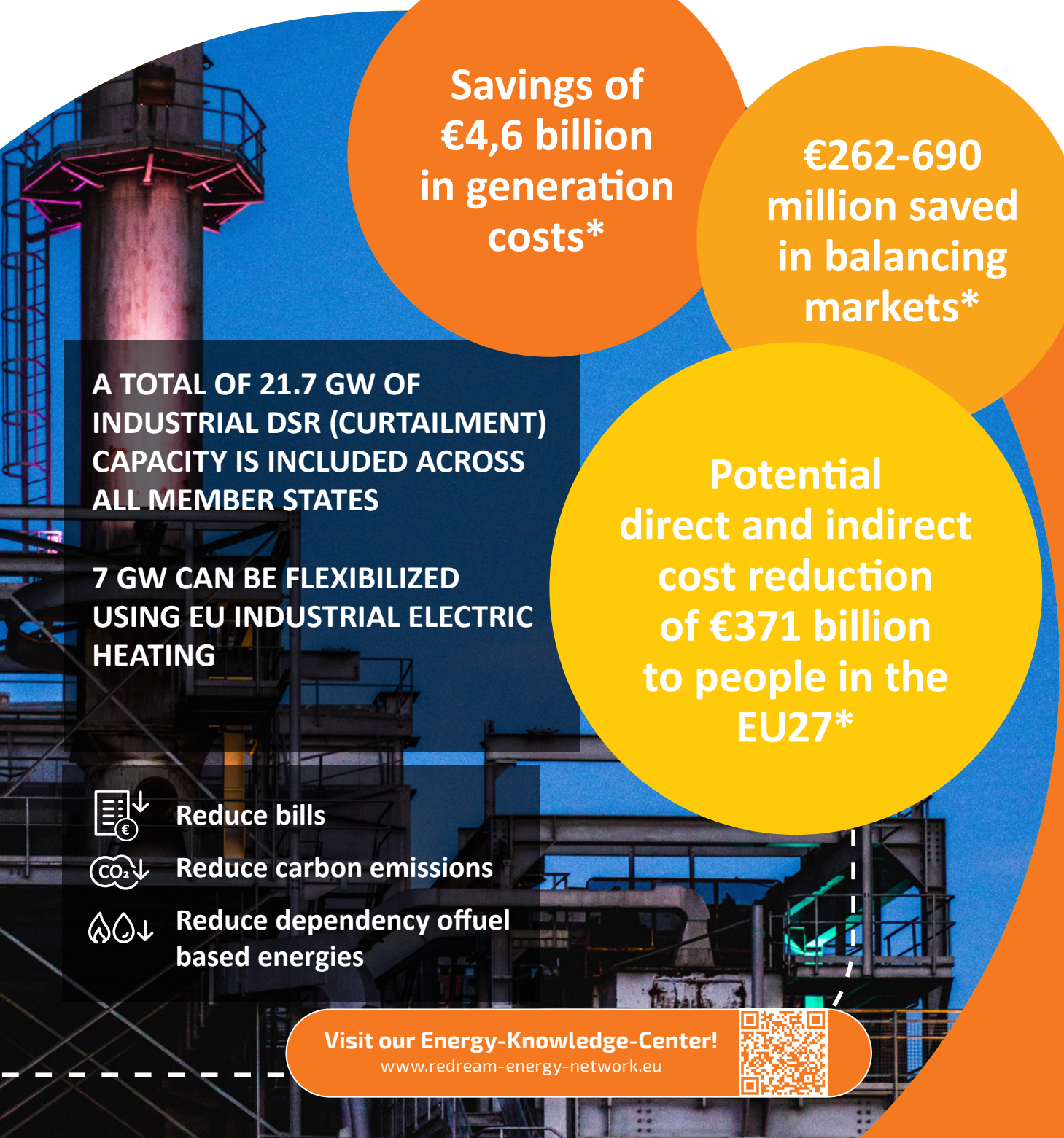
Why does **INDUSTRIAL CONSUMERS** play an important role in this new energy model?

Demand-side flexibility

The users are able to adjust generation and consumption helping to incorporate renewables into the electric system.



Savings of €4,6 billion in generation costs*

€262-690 million saved in balancing markets*

A TOTAL OF 21.7 GW OF INDUSTRIAL DSR (CURTAILMENT) CAPACITY IS INCLUDED ACROSS ALL MEMBER STATES

7 GW CAN BE FLEXIBILIZED USING EU INDUSTRIAL ELECTRIC HEATING

Potential direct and indirect cost reduction of €371 billion to people in the EU27*

- **Reduce bills**
- **Reduce carbon emissions**
- **Reduce dependency offuel based energies**

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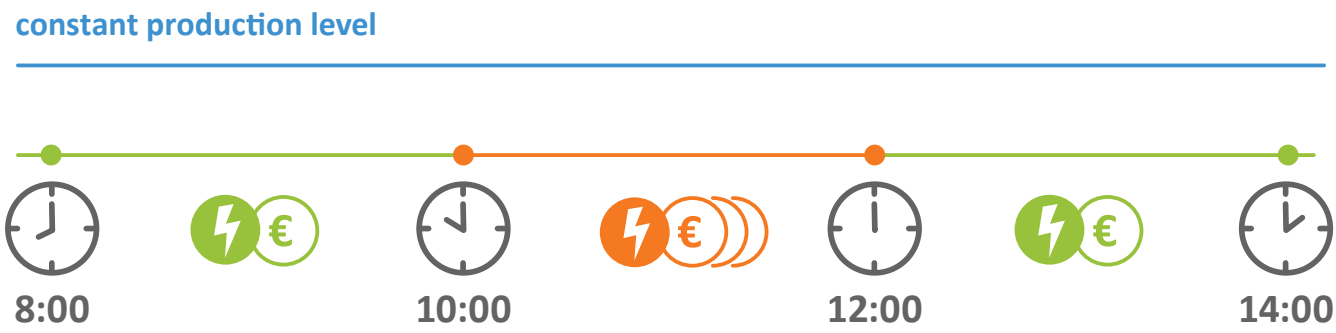
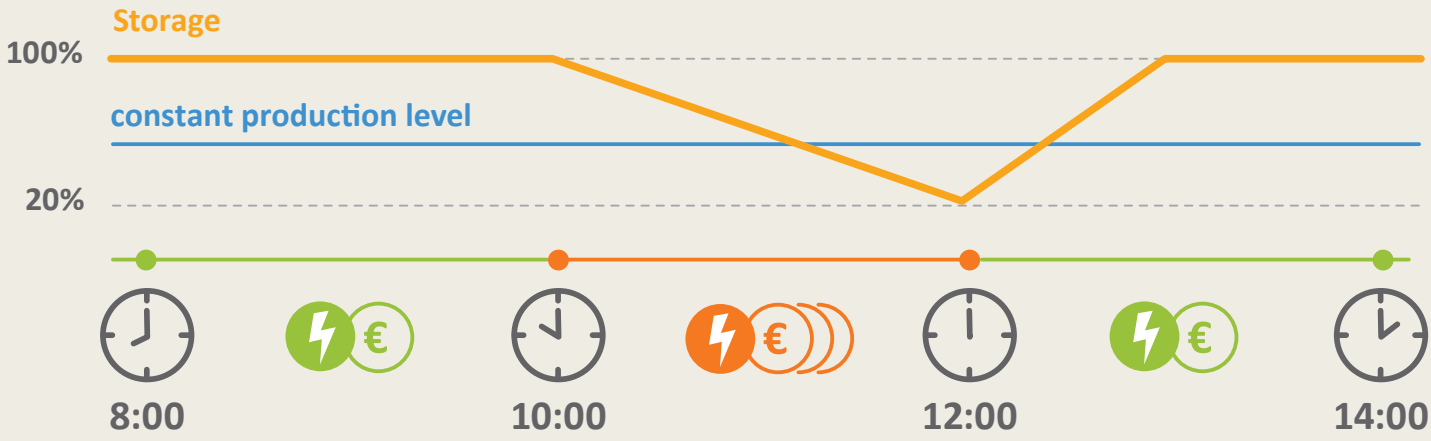
*Data source: Smarten

INDUSTRIAL PROCESSES

TRADITIONAL



FLEXIBILITY BY DESIGN



In flexibility by design, storage is used to be able to shut down industrial processes for a certain period of time, without disrupting production.

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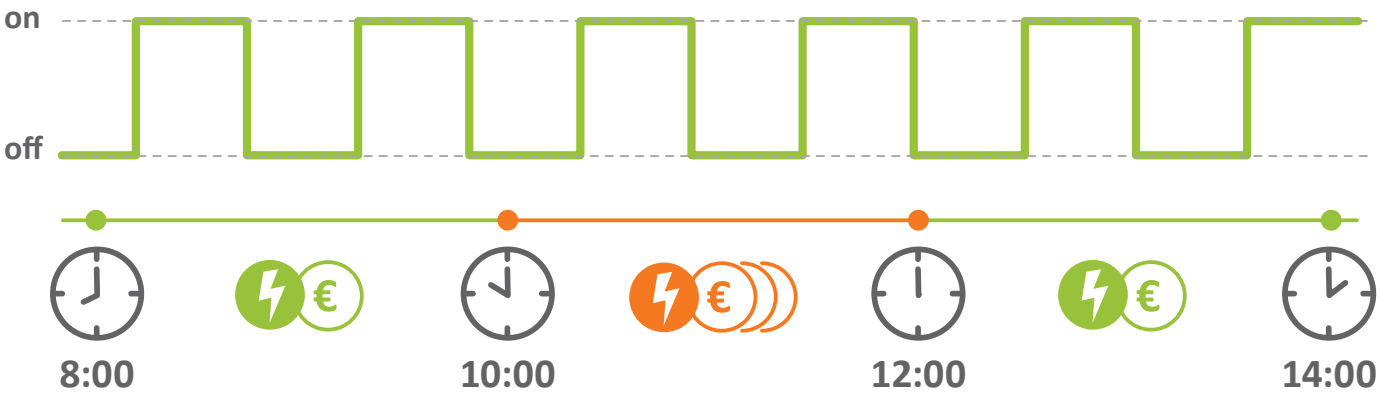
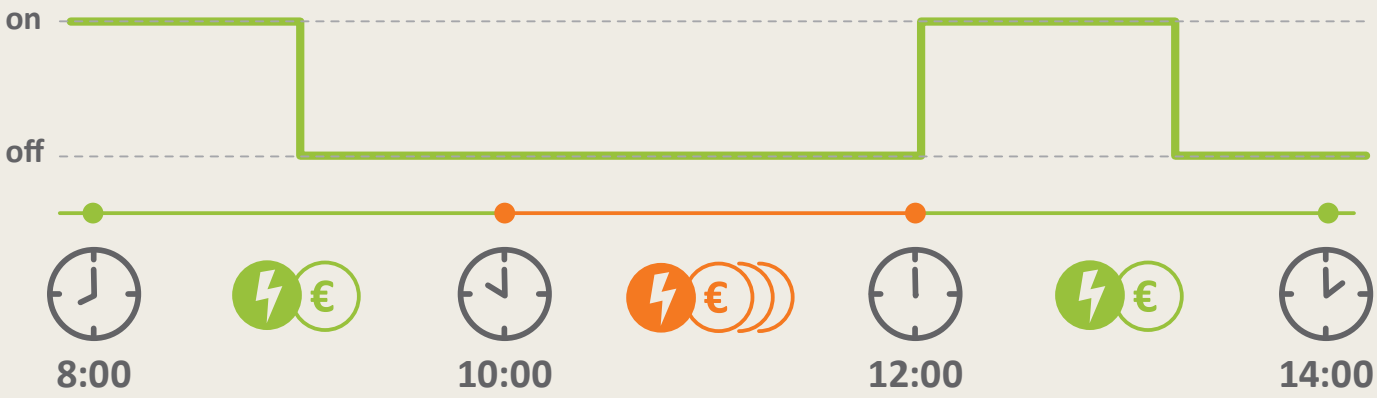
PERIODIC CONSUMPTION

e.g. swimming pool purifiers, irrigation systems, air filtration/ventilation systems

TRADITIONAL



FLEXIBILITY BY DESIGN



In flexibility by design, this kind of consumption will be carried out the same amount of time but choosing the most economical and environmentally friendly time periods.

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Why does the **INSTALLERS** play an important role in this new energy model?

The equipment installed or sold directly contributes to the selfproduction of clean energy, and energy model change.

Solve consumers' doubts about technologies, investment and amortization of the same.

Integration of self-generation technologies: photovoltaic, windmills or even Electric Vehicles.

NEW BUSINESS OPPORTUNITIES: Actual and new technology (batteries)

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Why does the **ARCHITECT** play an important role in this new energy model?

The design directly affects consumer efficiency and health.

Innovative heating systems, such as geothermal or aerothermal energy

Integration of self-generation technologies: photovoltaic or residential windmills.

Efficient construction: lighting and climate control

INCLUDING THESE TECHNOLOGIES WILL BE A DIFFERENTIATING ELEMENT THAT WILL MAKE IT POSSIBLE TO REACH MORE AND MORE SELECT CUSTOMERS.

PROMOTERS OF THE CHANGE OF ENERGY MODEL

NEW BUSINESS OPPORTUNITIES

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