



Making electricity use smart & flexible

How consumers could cut down on electricity use during peak hours and benefit

Is a new electricity supply system just around the corner?

Historically, a few centralised power plants supplied society with the electricity it needed. This is now changing as energy markets become more decentralised and consumers increasingly produce their own electricity through solar panels for instance.

Consumers' electricity consumption varies a lot but, in general, peak hours for energy demand typically occur in the morning and in the evening, not always when renewable energy is available i.e. in the period when the sun is shining or the wind is blowing.

One of the ways to ensure electricity demand and supply match better is through electricity services and tariffs that deliver so-called demand-side flexibility.

Demand-side flexibility describes a range of flexible electricity services and tariffs that change the way consumers use and are charged for electricity. They also go by the name of **demand-response**, **dynamic tariffs** and more.

In practice: consumers receive a price signal 'nudging' them to shift their electricity use to times of the day when electricity is cheaper. This means they are on a dynamic contract. Or a service provider temporarily reduces their electricity consumption e.g. their heating or cooling. This means they are on a contract with an aggregator.

Giving consumers the right tools

For demand-side flexibility to work for consumers it must fulfill the following criteria:



Save consumers money

Consumers should be able to **save** on their electricity bills



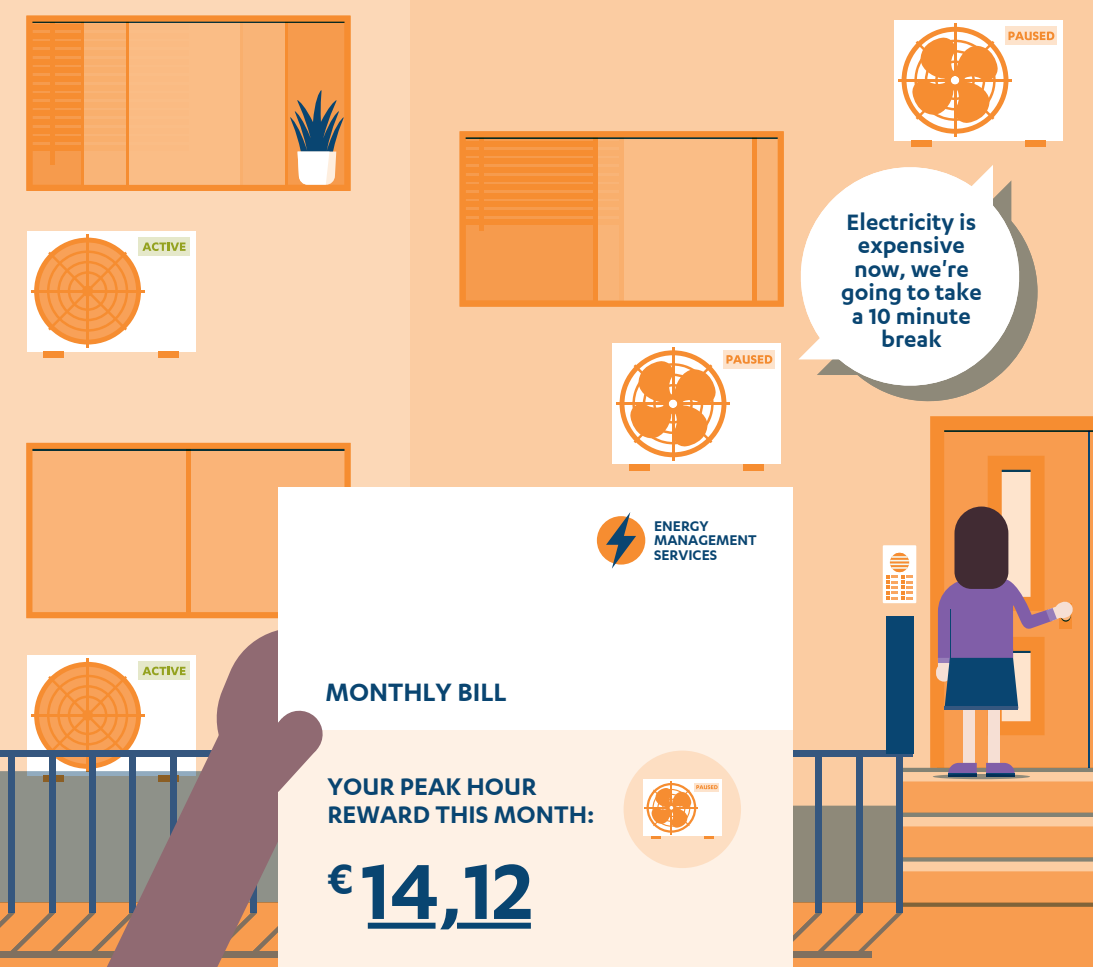
Provide consumers choice

Consumers should be able to **choose** to participate or not



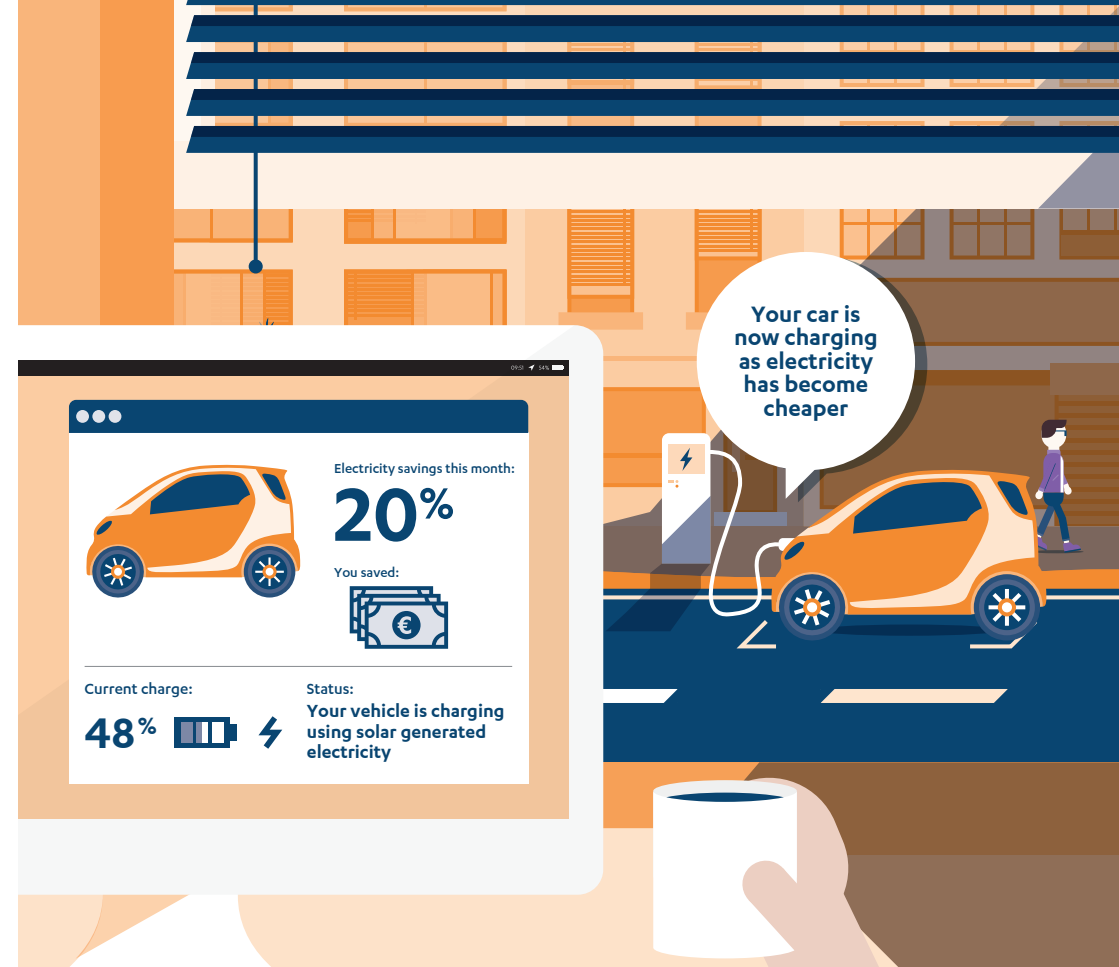
Protect consumer privacy

Consumers should have **control** over their data



An example of demand-side flexibility:

In the future, a service provider may group several households together and moderate your electricity consumption. This should happen in very subtle and barely tangible ways.



An example of demand-side flexibility:

In the future, you may choose to charge your electric car when electricity is cheaper.

9 consumer principles

Here are our 9 principles to make smart, flexible electricity offers a success for consumers.

Our choice

Electricity is essential in our lives – we use it for cooking, heating and cooling our homes. Consumers should always be able to decide and not be forced into a flexible electricity offer. As not all households will be able or willing to adjust their electricity use to when electricity supply is greatest, tariffs which do not fluctuate according to the time of day should always be available. Those who do not opt for flexible electricity offers should still have access to affordable electricity.

Not just for techies

Often, new services are taken up first by consumers with an interest in gadgets and those who can afford new, smart technologies. To avoid having a ‘two gear’ energy society, it should be possible for all consumers to use technology to save energy and feel confident to adapt their electricity consumption. To achieve that, awareness raising campaigns and financial incentives tailored to different consumer groups are essential.

Lower electricity bills

Rising electricity bills are one of the main consumer concerns. Flexibility can generate value in the electricity market. Consumers taking up new offers should receive a fair part of that value as a reward for their participation in the form of a reduction in their bill. Increased comfort and personalised feedback on electricity consumption are additional benefits that consumers could take advantage of.

Clear information

Already now, consumers struggle to understand electricity offers. Flexible electricity offers could add a layer of complexity, making it more difficult for consumers to pick the best offer. Information must be clear, transparent and easy to compare. Only then consumers will be able to assess whether a flexible electricity service matches their needs and lifestyle. Clear rules should govern the engagement of new service providers with consumers, especially when it comes to consumer rights and protections.

We need to be able to trust the market

Flexible electricity offers rely on the principle that retail electricity prices follow the fluctuation of the price on the wholesale electricity market. This can deliver benefits to consumers but it opens up the possibility of spikes in retail pricing. National Regulatory Authorities should monitor price developments and intervene in case of price manipulation or if wholesale and retail energy components do not follow the same patterns, in order to ensure truly competitive energy markets.

No bill shocks

Even consumers who choose a flexible electricity service or tariff might sometimes need a stable electricity supply e.g. because they are sick and cannot bear a lower temperature at home, not even temporarily. In such cases, necessary safeguards and protections need to be in place so that consumers can use electricity when they urgently need it without being penalised.

These schemes should be designed so that all consumers can benefit from them, including the energy poor.

Single point of contact

Flexible electricity consumption will increasingly rely on digital and communication technologies. In case a problem arises, consumers should not have to check whether this is due to a software

or hardware malfunction or whatever reason. They should be able to get quick advice from a single contact point. In case of a dispute, consumers should have access to an efficient settlement process – such as Alternative Dispute Resolution body – acting across markets.

Respect our privacy

Data is going to be the by-product but also the fuel of future flexible electricity markets. As owners of the data, the consumer should decide with whom they share their data, when, for what purpose and for how long. They should also be reassured that their data is secure. Consumers should easily get a copy of their data in a user-friendly format to be able to compare their service with other offers available on the market for instance through comparison tools.

Common standards

Digital technology, such as smart meters, smart appliances and energy management platforms play a central role in making the roll out of smart, flexible electricity offers possible. Anticompetitive practices and product design making it harder for consumers to switch should be prohibited. Common standards that ensure compatibility between different software and hardware elements should be available.

Our vision for the ‘smart home’

In the future, flexible electricity services will be part of the so-called smart home. From a consumer perspective, a smart home must be a comfortable, safe, healthy, energy efficient living space. In it, consumers can benefit from self-generation, smart and interoperable appliances which have been designed to last long. They can also manage their consumption through consumer-friendly smart metering systems if they choose so. Smart home features should not come at the cost of consumer safety or privacy and should not put a burden on them when it comes to liability.

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