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## Green light for electric cars: recharging becomes easier



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## Green light for electric cars: recharging becomes easier

The Federal Government supplements the Charging Station Ordinance to ensure that electric vehicles can be charged nation-wide without a long-term electricity supply agreement.



Electric mobility is key to the energy transition in the transport sector as unlike vehicles with internal combustion engines, vehicles that are powered by electricity from renewables do not emit any greenhouse gases. To allow as many people as possible to drive electric cars, the charging infrastructure has to be expanded - and a uniform charging and payment system across the EU needs to be applied. It needs to be possible for a car driver from Bremen to charge his electric motor in Bavaria or in Brittany and to pay for this easily.

In passing the Charging Station Ordinance last year, the Federal Government has stipulated that all newly established charging stations be equipped with the standard European charging plug. Now the next step must be taken: the Federal Cabinet decided a few days ago to amend the Charging Station Ordinance to simplify payment for charging electric vehicles. To date, charging stations predominantly use so-called "contract-based" charging, whereby the customer first has to enter into an electricity supply contract with an energy-service provider.

### **Electricity supply contract no longer necessary**

In future, operators of publicly accessible charging points must allow every user of an electric vehicle to charge, even if they do not have a long-term electricity supply contract with an energy provider. In addition, authentication and payment will be standardised. If the operator does not want to provide electricity free of charge, he has to offer at least one of the following three payment options: cash, EC / credit card or web-based payment via smartphone. In the case of the web-based payment method, the user can, for example, transfer money via an app or forward it via a QR code to a system like Paypal.

The amendment transposes the [EU Directive on the deployment of alternative fuels infrastructure \(AFID\)](#) into German law. The Bundesrat will need to approve the amendment to the ordinance before it can enter into force. Once it has passed the Bundesrat, the amendment is scheduled to enter into force before the end of summer.

### **Number of charging points on the rise: North Rhine-Westphalia is leading the pack**

A [survey](#) by the German Association for Energy and Water Management (BDEW) shows that the number of charging stations is increasing. At the end of last year, there were 7,407 publicly accessible charging points. This is 1,571 charging points more compared to the previous year, which corresponds to an increase of approximately 27%. The Federal Government is providing 300 million EUR in funding to promote the roll-out of rapid and standard charging points by 2020.

According to BDEW, the energy providers have so far equipped 1,142 cities and municipalities with at least one publicly accessible charging point. Most of the charging points are in North Rhine-Westphalia (1,603), Baden-Württemberg (1,494) and Bavaria (1,080). Among German cities, Berlin is in first place with around 536, followed by Stuttgart and Hamburg which have 375 and 292 charging points respectively.

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## Bonus of up to 4,000 EUR for electric vehicle purchase

Since mid-2016, the [Federal Government](#) has been providing up to 600 million EUR to boost purchases of electric vehicles. The carmakers are contributing an equal amount. A bonus of 4,000 EUR is paid for a purchase of a new all-electric car. Buyers of plug-in hybrid vehicles receive a bonus of 3,000 EUR. Applications for the environmental bonus (purchase grant) can be submitted directly to the Federal Office for Economic Affairs and Export Control until the beginning of 2019. Private individuals, companies, foundations, corporations, municipal enterprises and associations are eligible to apply.

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### FURTHER INFORMATION

[\[→ Electric mobility in Germany\]](#)

[\[→ Frequently asked questions \(FAQs\) about the purchase grant for electric vehicles \(as of 1 July 2016\)\]](#)

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## A replaces A+++ : EU streamlines energy label

The energy label is to be redesigned in a way that is easy to understand for everyone: a few days ago, the European Union agreed that it will stop adding plusses to its energy label categories and return to a simple A to G scale.



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Consumers will no longer need to count the number of plusses displayed behind the letters A to G in order to identify which appliances are particularly energy-efficient. Using a mediation procedure, representatives of the European Parliament, the European Commission and the European Council agreed to phase out the A+ to A+++ categories of the energy label that applies to fridges, TVs and other products across the EU.

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In the preceding Council negotiations, Germany had called for the introduction of a clear and meaningful energy efficiency label. State Secretary Rainer Baake from the Federal Ministry for Economic Affairs and Energy welcomed the agreement. He said: “Surveys show that 85 per cent of the European population take the energy label into account when they buy a product. So it is good that we will remove the confusing plusses that are currently used on the label and return to the clear and easy-to-understand A to G scale.”

## **A new product database will be built**

In order to allow consumers and market surveillance authorities to obtain better information on the products that use the energy label, an EU-wide product database will be introduced. This database will allow users to compare the energy efficiency of different appliances and therefore choose the most efficient one.

The next step now is for the European Parliament and the Council to formally approve the Commission’s proposal in the second reading. The regulation is expected to enter into force in mid-2017. It sets out the procedure for how the transition from the A+++ to the new A to G label is to be made and sets deadlines for when the transition is to be completed. Products that use the new labels will be available in shops in around two years.

## **‘A’ will permanently stand for the highest level of energy efficiency**

The energy efficiency label with the colour scale ranging from green (= very efficient) to red (= very inefficient) was introduced 20 years ago and covers more than 16 product categories. The letters A to G have been used for even longer than that. ‘A’ was used for the most energy-efficient products. However, as products became ever more efficient, plusses were added to take account of the fact that new products were even more efficient than their predecessors. As a result, appliances that featured an ‘A’, seemed to be very energy-efficient when there actually were far more efficient products on the market. In the future, ‘A’ will once again be used to mark the most energy-efficient products. When a new label is introduced, category ‘A’, and for particularly dynamic products categories ‘A’ and ‘B’, will not be used and remain open in order to be able to respond to future developments.

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### FURTHER INFORMATION

[\[→ Energy efficiency\]](#)

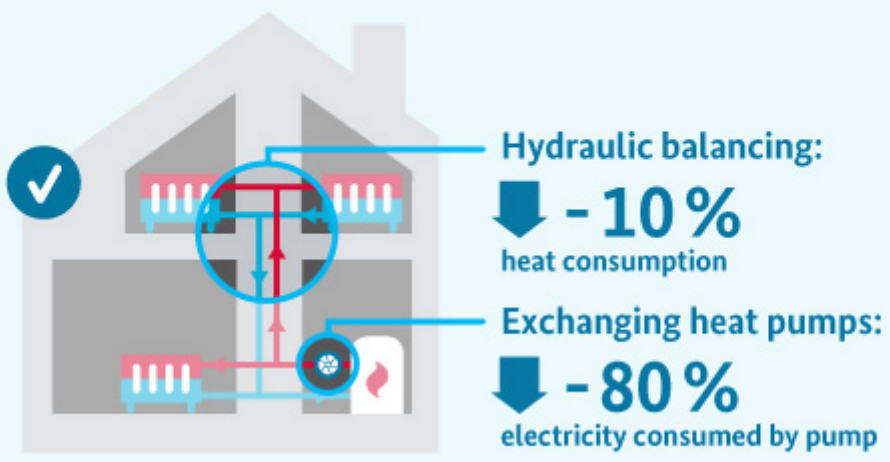
[\[→ Energy efficiency of products\]](#)

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# Spring time for boilers: reducing electricity and heat consumption now

An efficient heating pump coupled with a hydraulic balancing process allows the electricity and heat consumption to be significantly reduced. The end of the heating season is a good time for optimising the heating system. The government is providing grants for this.

**Small changes have a major effect**  
Optimising the heating system reduces the heat and electricity consumption.



Hydraulic balancing:  
- 10 %  
heat consumption

Exchanging heat pumps:  
- 80 %  
electricity consumed by pump

© Federal Ministry for Economic Affairs and Energy, Source: VdZ

It is not always necessary to install a new heating system as optimising the existing system also allows homeowners to reduce their energy consumption. According to the VdZ, Germany's leading association of building technology, high-efficiency pumps for heating and hot water can save up to 80 per cent of the pump's electricity consumption - without major construction work. And this will pay off: a modern pump considerably reduces the annual energy costs depending on the electricity price and size of the heating system. Even in a single-family home, cost savings can amount to up to 100 EUR. If hydraulic balancing of the heating system is also carried out, whereby all components of the heating system are adjusted to one another, the heat consumption can be further reduced by up to ten per cent. For detailed information about the hydraulic balancing process, please click [here](#).

## Optimising the system renders immediate results

Many people are not aware that outdated pumps are active even at times when they do not need to be running. This results in unnecessary consumption of electricity. Modern pumps, however, only work when they are really needed. The end of the heating season is a good time for putting the heating system to the test. Even if the heating is not on, the old hot water pump continues to work hard, consuming unnecessary amounts of electricity. Optimising the system would thus render immediate results.

If carried out now, the hydraulic balancing process would ensure even heat distribution throughout

the house by the start of the next heating season. This not only reduces energy consumption but also increases living comfort. A specialist only needs a few hours to establish a hydraulic balance in the heating system of a single-family home.

### **Grants of 30 per cent**

The Federal Ministry for Economic Affairs and Energy supports both measures - the exchange of heat pumps and the process of hydraulic balancing. In addition, it promotes the setting of the heating curve and the professional installation of pre-adjustable thermostatic valves and single-room temperature regulators - providing a grant of 30 per cent of the net costs for each.

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## **What exactly is waste heat?**

**More than just a lot of hot air: a growing number of industrial companies are using waste heat to save money. In the following section, we explain how waste heat is generated and how it can be used in a way that turns a profit. We will also provide you with advice on how to obtain funding.**



### **This is what it's all about: making efficient use of heat that is generated as a by-product**

While your pizza is baking in the oven, the oven generates a lot of hot air. As soon as the door of the oven is opened, this hot air is released into the ambient environment, heating it up to a sizzling temperature. Fridges, too, continually release heat into the environment, thus ensuring that the contents inside remain cool. However, these processes are not limited to your kitchen; they also take place in industry, and this on a massive scale. Whether it is running engines, bringing metals to their melting point, compressing air or cooling down large rooms – throughout all sectors of industry we

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can find areas where large amounts of unnecessary heat are generated. The name for this kind of energy is waste heat.

Today, large amounts of waste heat from industrial processes are lost as the hot air and hot water that are generated as by-products are not used any further. However, companies can use these by-products to considerably cut their energy bills. This helps them to not only strengthen the competitiveness of their own business, but to also make an important contribution to the energy transition. In Germany, waste heat accounts for around two thirds of industry's total energy consumption. Estimates suggest that around 125 terawatt hours could be saved at the process temperature level of 60 degrees or above. This translates into 5 billion EUR per year. However, even waste heat at temperatures of below 60 degrees can be used.

## Heating, cooling, lighting: waste heat can be used for many purposes

So how can waste heat be used? Let's take a look at the example of an energy plus house. This type of house uses the body heat from its residents and waste heat from electronic appliances such as stoves and fridges to heat up the rooms (to find out more about energy plus houses, please click [here](#)). The same principle can be applied to industrial companies. Depending on the temperature that the waste heat has, it can be used for a wide range of different purposes. Let us give you a few examples:

- **Heat Recovery:** Waste heat is fed back into the production process in which it was originally generated.
- **Room heating and hot water:** Waste heat can be used to heat up offices and manufacturing space. It can also be used to boil water. Large amounts of waste heat that is hotter than 90 degrees can be used outside the company and, for example, be fed into the heat network. To find out more about a Hamburg-based industrial company that will provide an entire city district with heat, please click [here](#).
- **Refrigeration:** Even though it may sound like a contradiction, heat can also be used for cooling. So-called absorption refrigerators use heat energy in order to heat up a refrigerant (usually water) until it boils.
- **Electricity:** Waste heat can also be converted into electricity and can then be used in many different ways, for example for covering the electricity supply in one's own production facilities.

## The Federal Ministry for Economic Affairs and Energy is providing funding for both using and reducing waste heat

The Federal Ministry for Economic Affairs and Energy has several funding programmes in place under which funding is provided [for measures](#) that help to use or reduce waste heat. These include the waste heat energy efficiency programme, the programme for the promotion of highly-efficient cross-cutting technologies and the programme for energy-efficient and climate-friendly production processes. Funding is also available for obtaining expert advice.

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### FURTHER INFORMATION

[\[> Energy efficiency](#)

[\[> Lighthouse projects for energy-efficient utilisation of waste heat \(in German only\)](#)

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# Representatives of the energy sector meet up in May for the Berlin Energy Days

Registration for the Berlin Energy Days has begun. From 3 to 5 May, around 50 events will take place, and there will also be a trade show where visitors will be given an overview of the current trends surrounding the energy transition.



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Next month, experts, decision-makers and industry representatives will meet up for the Berlin Energy Days. The event focuses on the energy transition and will take place from 3 to 5 May 2017 at the Berlin Chamber of Industry and Commerce's Ludwig-Erhard-Haus. More than 8,000 participants are expected at the event; they will take part in around 50 specialist sessions, workshops and panel discussions and discuss issues such as energy efficiency, renewable energy, energy supply and energy services. The events and the trade fair are targeted at experts and decision-makers from the political world, from the fields of energy and real estate and at specialists such as architects and engineers.

## Focusing on energy efficiency

Around 40 exhibitors will present their products and services at the trade fair. The Federal Ministry for Economic Affairs and Energy will also have a stand. Focusing on energy efficiency, the Ministry will present, among other things, its '[Germany makes it efficient](#)' information campaign. As far as buildings are concerned, the Federal Ministry for Economic Affairs and Energy will provide customised renovation roadmaps in order to encourage home owners to take steps to improve the energy performance of their buildings. These new roadmaps will be presented at the event entitled 'Energy-efficient buildings and neighbourhoods' on 4 May. Visitors can learn more about the renovation roadmaps and the Ministry's funding programme at the Ministry's trade fair stand which is located inside the large atrium.

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Interested parties can also go to the [Berlin Energy Days website](#) to take a look at the full agenda of the event and to register for individual sessions up until 25 April 2017.

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#### FURTHER INFORMATION

- [\[→ Berlin Energy Days – agenda and registration\]](#)
  - [\[→ 'Germany makes it efficient' website \(in German only\)\]](#)
  - [\[→ Energy Efficiency Strategy for Buildings\]](#)
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