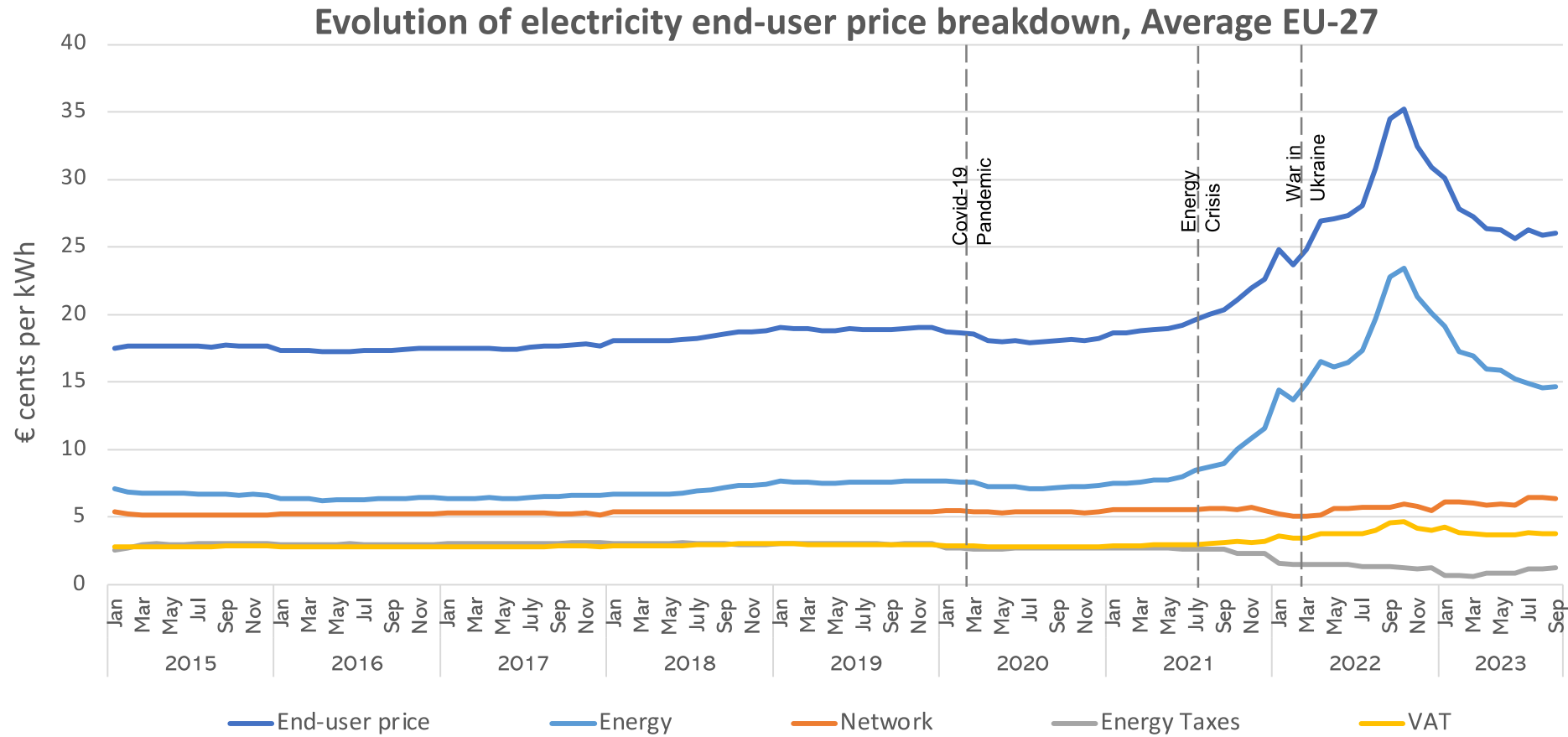


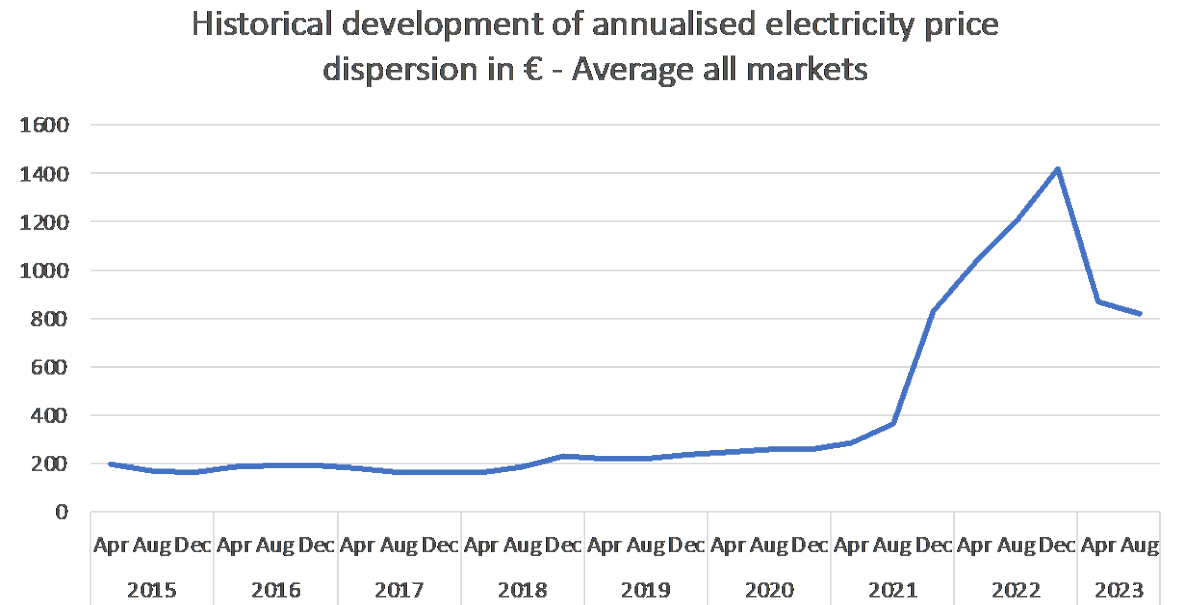
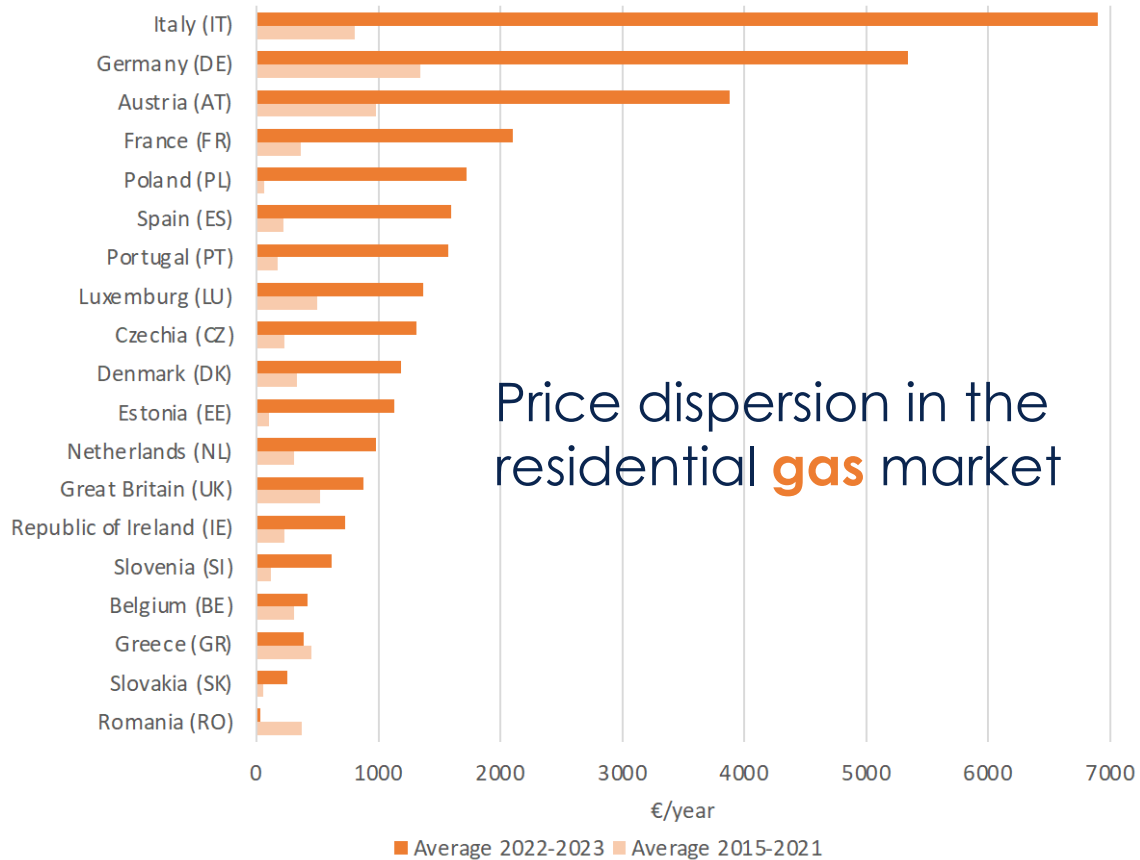
# Actual trends in price models in the EU

Presentation by  
Dr Philip Lewis

# European price pressures remain extremely high

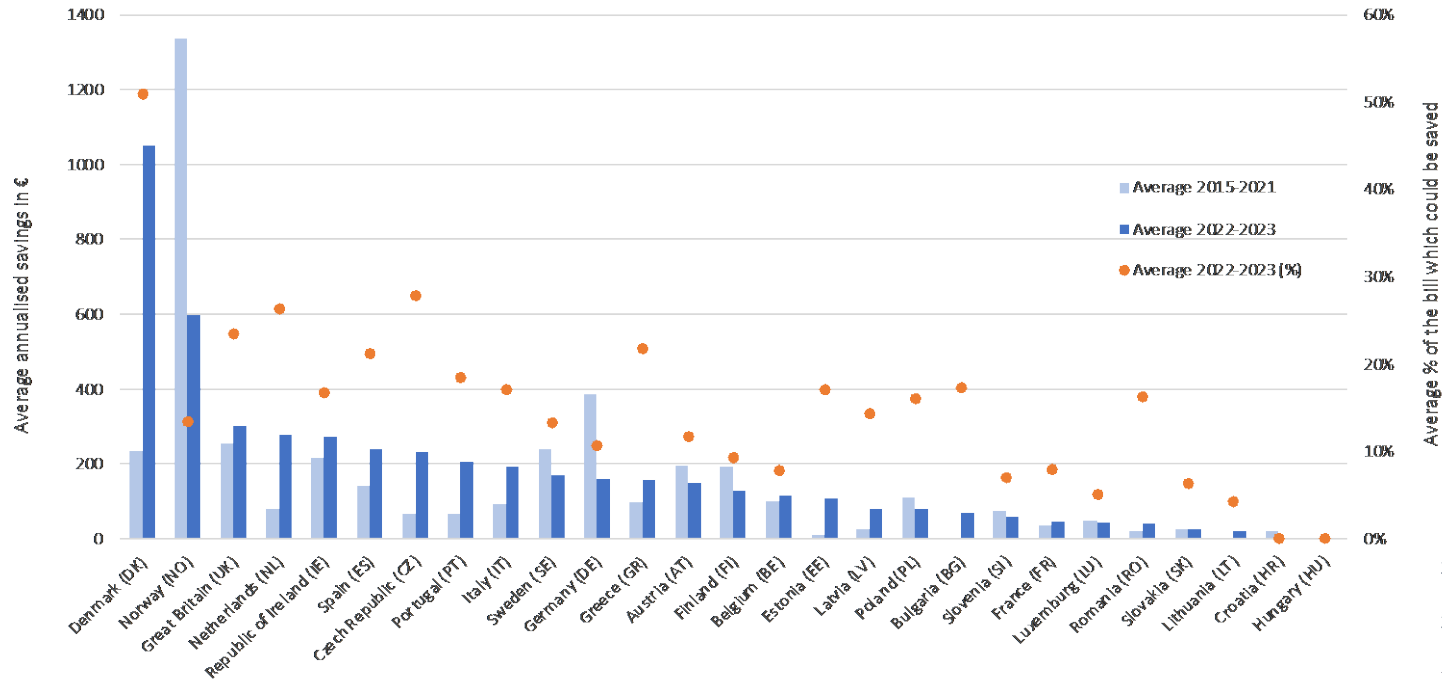


# European price pressures remain extremely high

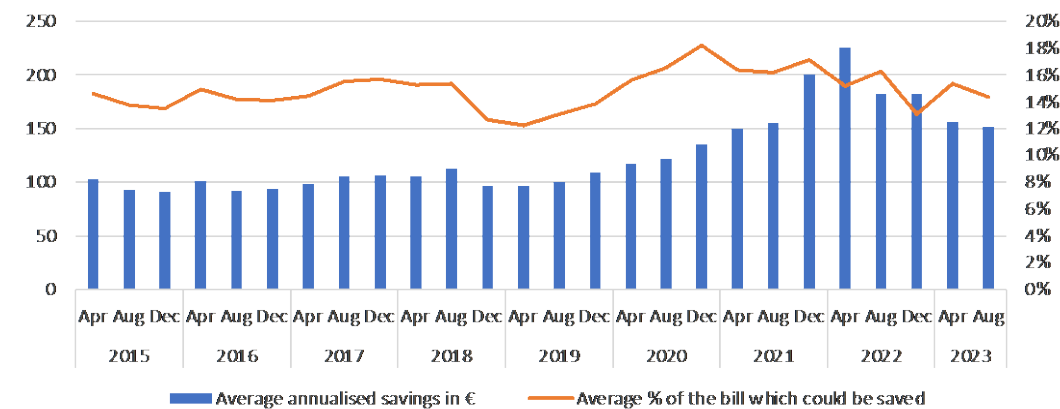


# European price pressures remain extremely high

Average savings potential 2015-2021 vs 2022-2023

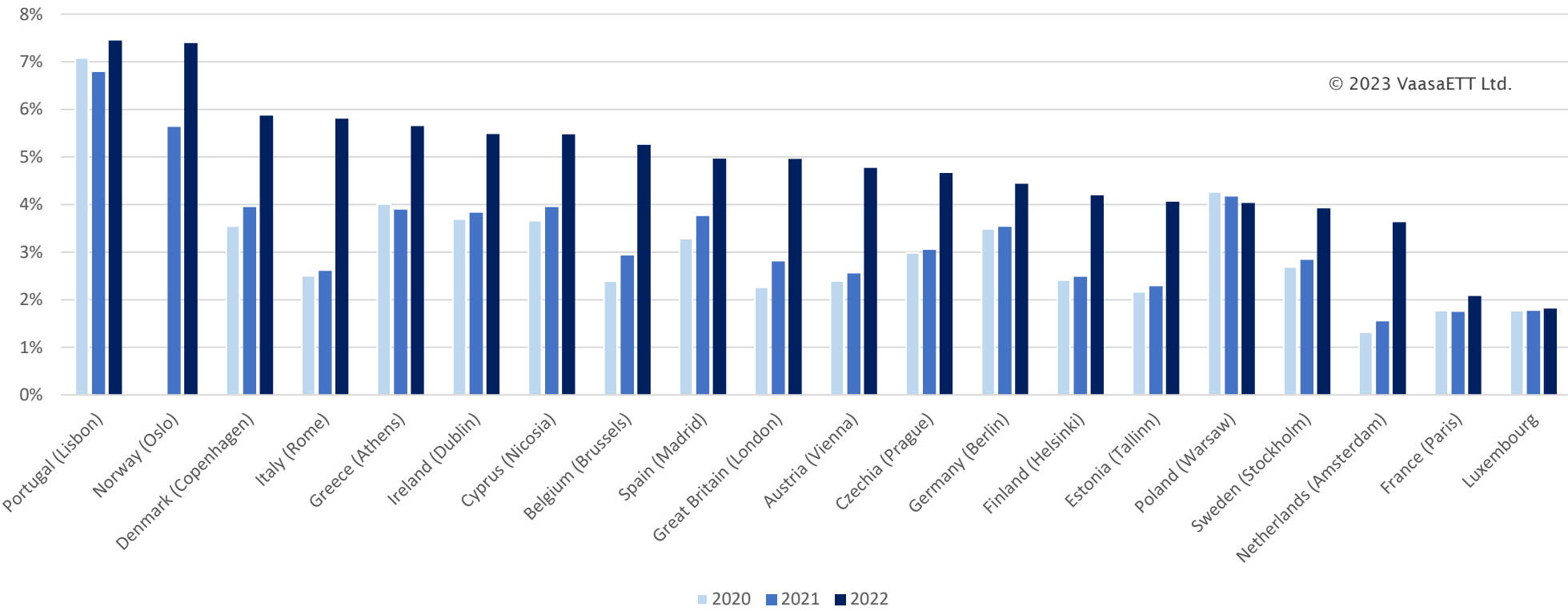


Development of the average savings potential - Electricity



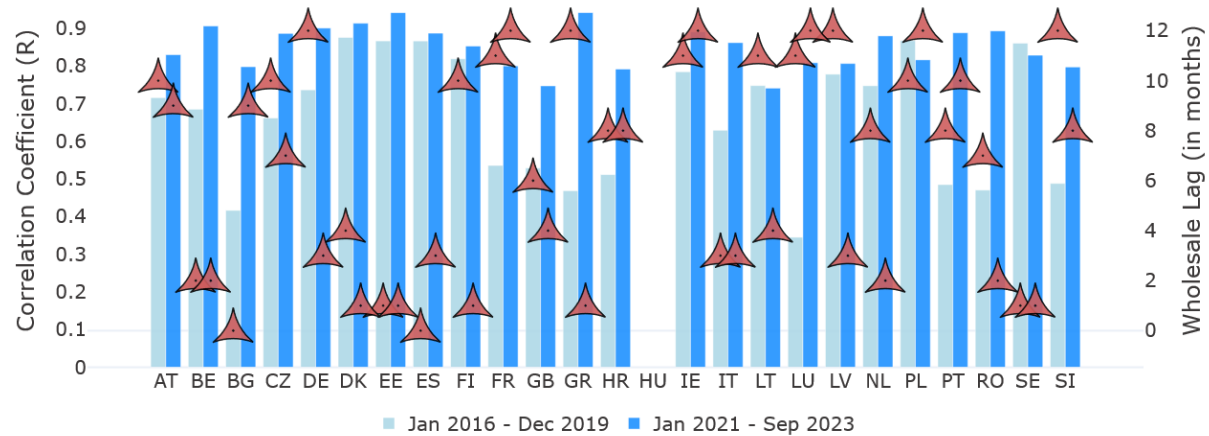
# European price pressures remain extremely high

Share of disposable income (electricity bill)

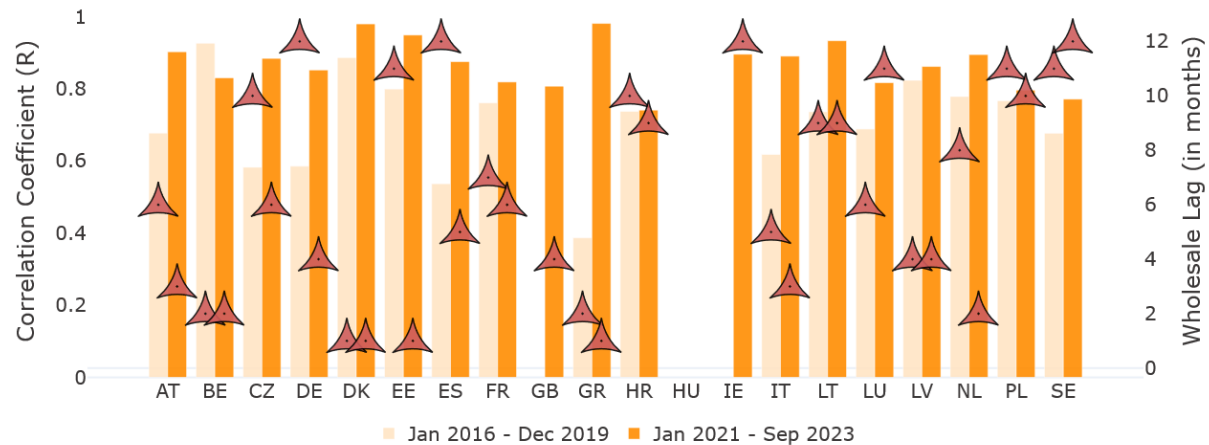


# Prices have never been more cost reflective

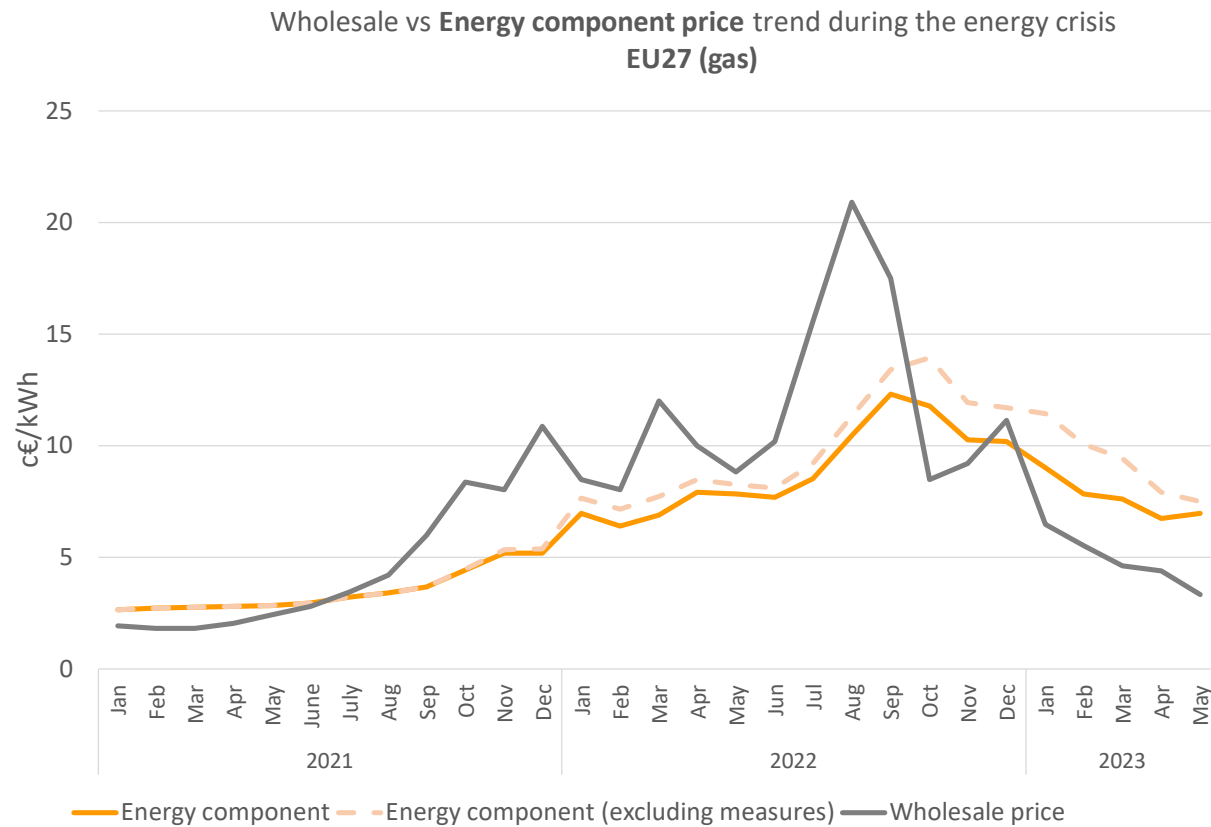
**Electricity** retail energy-component relation to wholesale price



**Gas** retail energy-component relation to wholesale price



# But traditional price models were **inappropriate** during the energy crisis



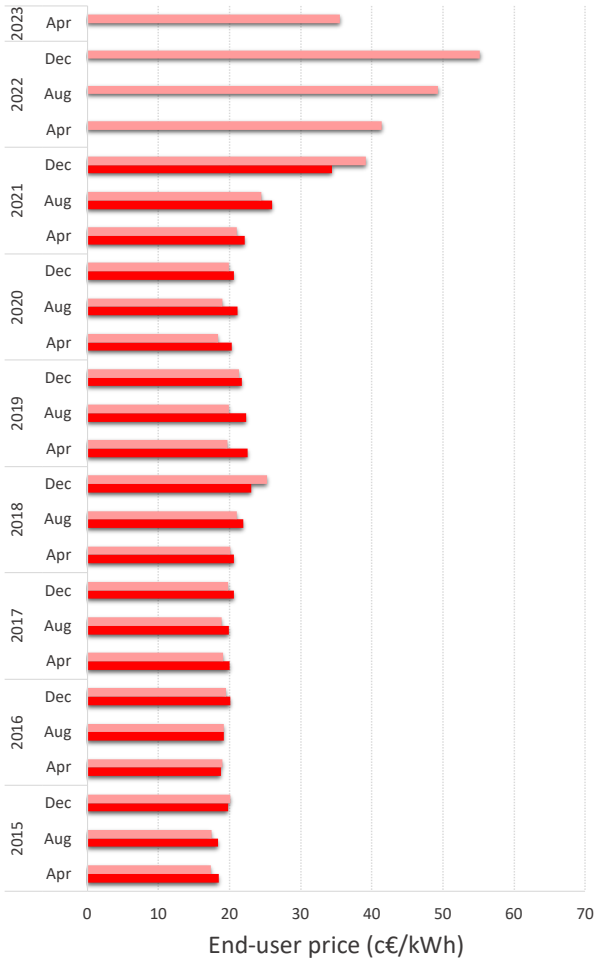
Suppressed reflection of wholesale is not good for demand responsiveness

Customers are not protected

Suppliers exposed to high risks in short, mid or longer-term

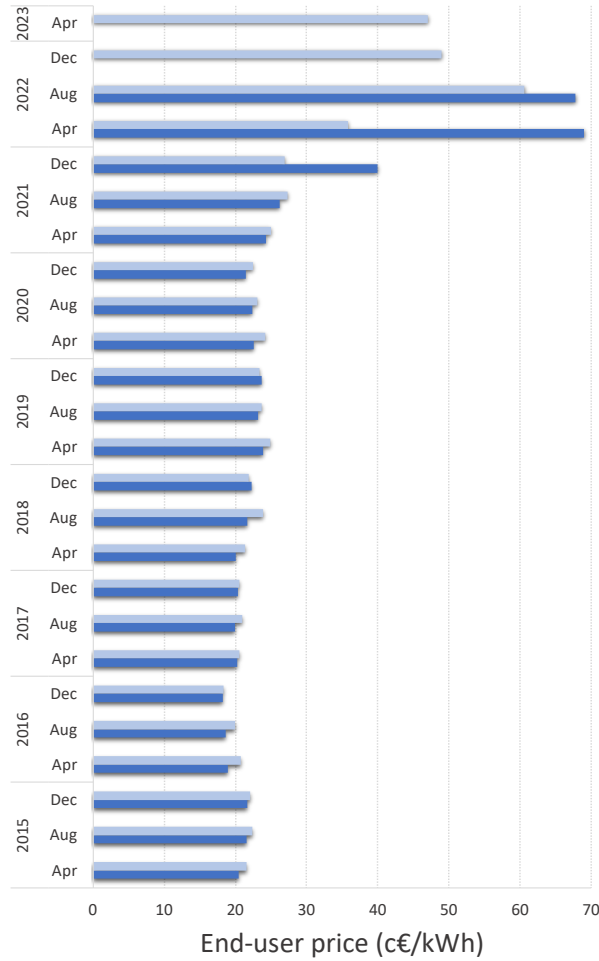
# Fixed contracts flawed

**BELGIUM**



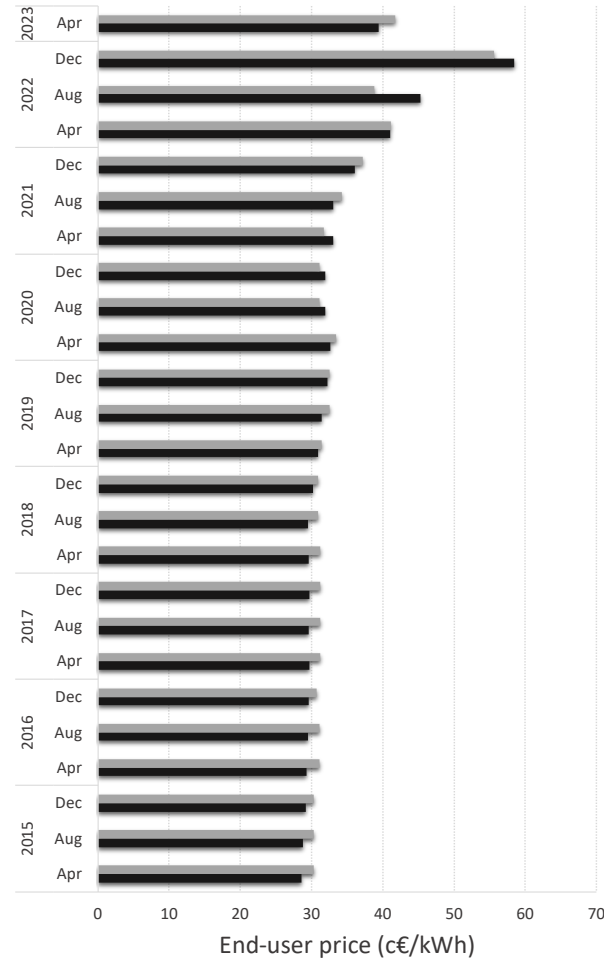
Variable Fixed

**GREAT BRITAIN**



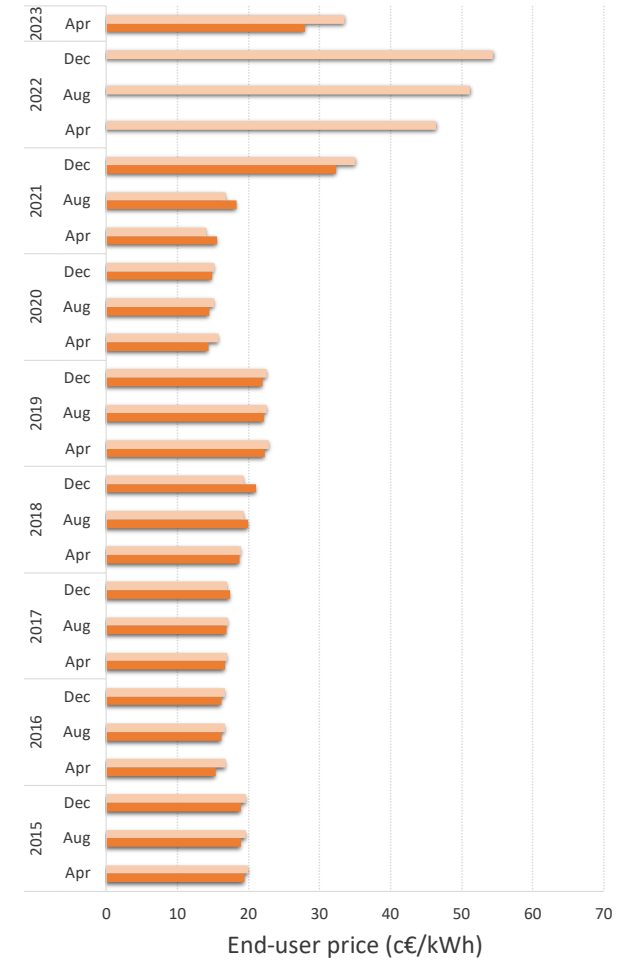
Variable Fixed

**GERMANY**



Variable Fixed

**NETHERLANDS**

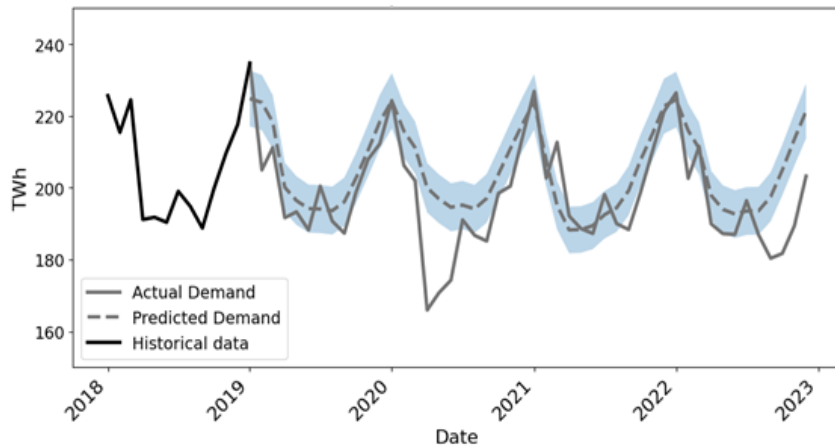


Variable Fixed



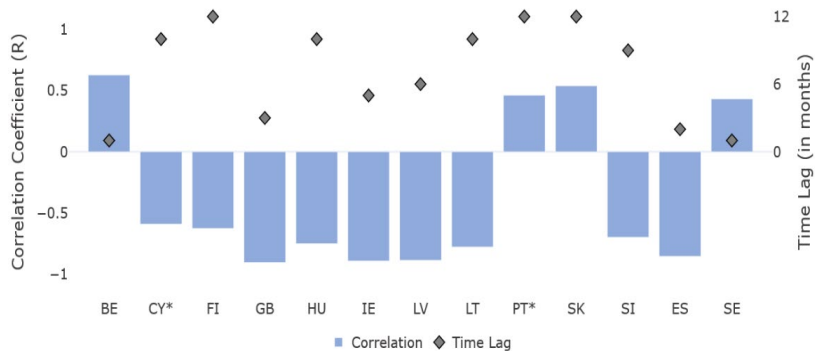
# Demand becoming less predictable

Aggregated Actual Electricity Demand Patterns (EU27) 2022 vs Modelled Expected



- ❖ Price increases led to demand reductions (demand below what would have been expected given seasonality, weather & other variable adjustments)
- ❖ Conflicting demand influencers (Price crises, media, TSOs\* / DSO incentives, self-generation / storage, aggregators, EVs, de-carbonised homes, embedded networks, etc.) \*e.g. UK National Grid ESO payments

Demand vs Prices



## Supplier Response:

Control the Demand, Reduce Wholesale Risk, Shift Revenue Focus

# Hybrid Tariff Models

Fixed or Variable + demand rewards/incentives With or without incentives

Compared to forecasts 



  
Compared to challenge

Erase Option

**Test the erasing of your electrical consumption!**

You cut (a little) your electric heating to relieve the network during consumption peaks. It's good for the planet and for your wallet.

[I'm testing](#)



Compared to other Years




**TotalEnergies rewards electricity savings.**

This winter, as a TotalEnergies electricity customer, reduce your consumption and take advantage of a Conso Bonus of between €30 and €120<sup>1</sup>.


[Learn more](#)



  
Have an electricity contract with ENGIE (excluding Happ-e)

  
Have a communicating linky meter

  
Have given their consent to benefit from the Ma Conso jour service

  
Have registered for the Challenge on your Customer Area, My Conso section



**Control your heating with Sowee: Maximum savings & comfort!**

November 30, 2022 - Around Sowee

In terms of heating, are you more of a "passenger team" or "driver team"? If you chose the...

[Read more](#) 



Lower electricity consumption	Bonus in € including VAT
5%	30€
6%	36€
7%	42€
...	...
18%	108€
19%	114€
20%	120€

# Hybrid Tariff Models

Fixed or Variable + demand rewards/incentives

With or without incentives



Compared to Challenge

## Get free electricity when you take on our environmental challenges

We at Fortum cheer for everyone who makes environmentally friendly choices in everyday life. Therefore, every month our customers get the opportunity to take on an environmental challenge that is easy to complete, and which makes a difference both for the environment and the wallet. This could be, for example, throwing away less food, showering a little faster and, of course, using less electricity. For every challenge you take, you get 24 hours of free electricity.

Together, our customers have completed over 57,000 challenges - together this makes a big difference to the environment. Join us too!



Combined with Free Energy

## Endesa Única with Endesa Rewards Plan (Fixed for 1 year + 1 month free every year)

**We want to take care of you and take care of the planet .** That is why we want you to consume less electricity and/or gas. But we're not going to keep all that energy savings: **we'll reimburse you on your bill .**

With the **Única Rewards Plan** , we are going to help you be more efficient, to live just as well spending less. If you succeed, **we will refund part of your fee in euros**

# Hybrid Tariff Models

Fixed or Variable + Free or Discounted Hours

Eco-Hours



Eco Electricity Hours

## Attractive off-peak hours and more virtuous consumption

An electricity offer allowing you to save money while adopting more virtuous consumption practices. Postpone the use of your most energy-consuming devices thanks to the off-peak hours option and benefit from an advantageous kWh price for 8 hours per day<sup>2</sup>. In base rate, your price is at the level of the regulated sales rates<sup>3</sup>.

You will be able to choose your pricing option when subscribing.



Charge'Heures offer

**Cheaper electricity at night<sup>4</sup> to charge your car at home!**

Flexible Hours



## Plan Elige 8 horas

You can change your 8 hours every day from the app or the website



Save on your consumption hours

We maintain your price for 5 years, you will also have 8 hours of savings, the ones you choose that best suit your consumption.



Weekend Discounts (-30%)



A targeted reduction and a package to optimize!

Flexible hours



## Happy Rate

The solution for customers who want to choose how to save.

1 day of free electricity or 2 days with 50% discount, per week

- ✓ Weekends from Friday midnight to Sunday midnight and public holidays.
- ✓ When you are at home, likely to consume and therefore **at the best time to benefit from an attractive price.**
- ✓ **Take back control of your consumption and your bill** by simply deporting your uses on the weekend (machines, recharging your car, dryer, etc.).
- ✓ Take **full advantage of the weekend's activities** (crafts, games, etc.) and keep your mind at ease.



# Hybrid Tariff Models

Variable + protection

Threshold caps



Functions as a conventional variable price electricity contract, with an additional subscription bonus that acts as pricing insurance.

The price per kWh is variable, just as long as it is lower than the threshold that was set by the supplier. If the threshold is surpassed the price is capped at this fixed rate, providing protection for potential price increases.

Guarantees



Price protection: SEK 39/month

Security when the electricity price fluctuates

- Fixed and secure electricity price during the cold months of the year
- Two months at a time with the possibility to tie the electricity price again if necessary
- Smart choice for you who have variable electricity prices

Price Promises



**Today we think about your peace of mind.**

With the new Endesa tariff, you will enjoy stable prices for the next five years.

**Stable Prices for five years\***

At a time when energy prices are a concern for customers, Endesa is committed to offering stable prices over the next five years with the help of the Tranquility Tariff.

**2% discount when subscribing to Digital Invoice and Direct Debit**

Join Digital Invoice and Direct Debit and benefit from a 2% discount on your electricity bill every month, forever.

*\*Except fees and taxes.*

Add the Price Guarantee to the Tarkka contract



**Fortum Price Guarantee**

The price guarantee gives you the opportunity to lock the h contract into a fixed price

Additional service of Fortum Tarkka electricity contract

**€ 5.90** /month

Order your Price Guarantee Fortum Tarkka electricity contr Fortum or here.

[Go to order](#)

# Hybrid Tariff Models

## Fixed + Dynamic (Spot)



A predictable price that you can influence yourself

- ✓ Fixed share in the price of electricity + consumption effect based on the stock exchange price
- ✓ With the consumption effect, you influence the price of your electricity by choosing what time of day you use electricity
- ✓ 2-year fixed-term contract

The price of energy            9.44c /kWh  
 Basic fee                        € 3.99 /month  
 Estimated consumption impact   +/- 2c/kWh



### Why choose Safe Company?

75% of your electricity consumption gets a fixed price this winter. For the remaining period, the spot price applies. The fixed price applies for the period October to March and is set in mid-September.

Fixed amount NOK 50 per month

### Briefly summarized

- Fixed price in October-March
- Spot price in April-September
- 12 months notice period
- Fortum Online (User portal)



Mixed contract 1 year

371.55 öre/kWh	Mixed price agreement 1 year 70/30 Tidaholms Energi AB Notice period : One month <a href="#">Read more</a>	
384.23 öre/kWh	MIX 50/50 electricity price agreement Vänereel AB Notice period : 0 months <a href="#">Read more</a>	
386.25 öre/kWh	Mix 50/50 Water power SN3 Mälarenergi AB Notice period : One month <a href="#">Read more</a>	



No commitment period when the price switches to variable

Fixed price for 6 months: 499.90 öre/kWh from November 1<sup>st</sup>

Variable price switch on April based on spot prices at the time

Possible to also choose the percentage of the fixed or the variable part (e.g. 50/50 or 70/30)

# Hybrid Tariff Models

Fixed + Flex



## Composition of the price of Helen Smart Electricity

The price of the Helen Smart Electricity contract consists of **the basic component, impact of usage**, and a **monthly basic charge**.

The price of **the basic component** is determined based on the price on the day of the contract's signing, and it remains the same throughout the entire fixed-term contract period.

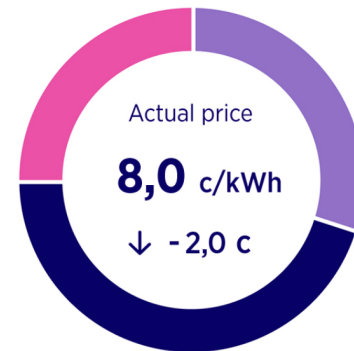
**The impact of usage** reduces or increases the size of the basic component depending on whether you use electricity during low or high price periods.

If most of your electricity consumption occurs during the hours of the day when the electricity price is higher than the average, the price of the basic component will increase by the amount of realized impact of usage. Conversely, if you shift your electricity consumption for hours when the electricity price is lower than the average, the price of the basic component will decrease by the amount of realized impact of usage.

By managing your electricity consumption, you can impact the amount of your electricity bill by utilizing the hours of the day and night when the price is lower.

**The fixed monthly basic charge** of the Helen Smart Electricity contract is not dependent on the amount of your electricity consumption.

### An example of the impact of usage



- 45% Usage that decreases the price
- 25% Usage that increases the price
- 30% Neutral impact

**Basic component 10,0 c/kWh**

# Hybrid Tariff Models

Dynamic (Spot) + Flex



## Introducing Agile Octopus

The 100% green electricity tariff with Plunge Pricing

**agileOctopus**

Half-hourly electricity prices that update daily based on wholesale costs.

**Shift your energy use outside the 4-7pm peak to save money.**

**Plunge Pricing pays you to take excess energy off the grid**

Across the UK, whenever more electricity is generated than consumed, energy prices fall – sometimes to the point where prices drop below zero, and suppliers are paid to take energy off the grid.

Agile Octopus introduces Plunge Pricing – a world first that lets you take advantage of these negative price events, and get paid for the electricity you use. You'll receive alerts whenever prices drop below zero, and you can use our Agile API to program your smart devices.

*Between July 2020 and July 2021, unit prices dropped below 2p / kWh 163 times!*





# Hybrid Tariff Models

Dynamic (Spot), Variable or Fixed + Flex

octopusenergy

## ESO Demand Flexibility Service

Octopus is the largest participator in the ESO's Demand Flexibility Service, which has been tested twice since it was launched in October 2022. The scheme is administered by energy suppliers

### How it works

- Households have to register their interest in taking part in advance
- They will then get a text or other message saying that the programme will run later in the day
- If they use less electricity than they normally do during the allotted hours, they will be paid for the savings.
- Customers will not be punished if they decide to keep using electricity as normal.

### Results

- Over **400,000** of Octopus Energy's 1.4 million electric smart meter customers have signed up to the Saving Session's programme, which is still accepting new sign ups.
- Between 5-6pm on 15 November 2022, **200,000 households reduced their electricity use**, with the **average household lowering its demand by over half (59%)**.
- In total they **provided 108MW of flexibility**, more than half of the 200MW flexibility requirement National Grid called for during the period.

# Hybrid Tariff Models

## EV Tariffs - Integrating Assets

### All you can eat + TOU

#### How it Works



Once you have started your Tesla Electric service, Tesla measures the energy that you use to charge your vehicles and to power your home.

With the Tesla Electric Home Charging Plan, you will:

- Pay a fixed fee of \$25/month for vehicle charging sessions between 10 PM and 6 AM.
- Pay a flat home electricity rate for vehicle charging sessions between 6 AM and 10 PM.
- Pay a flat home electricity rate for energy used to power your home.



#### OVO Charge Anytime

Compatibility with 13 car brands incl. Tesla, and 2 charger brands. Scheme only requires either compatible car or charger, not both.

Add-on to any OVO tariff.

Optimizes charging for when grid is "greenest". Charging rate is 10p/kWh, any cost over that during charging will be credited back to customer's account.

Overriding the charging schedule is possible, but then the charging session won't be at 10p/kWh but at customer's normal electricity rate.

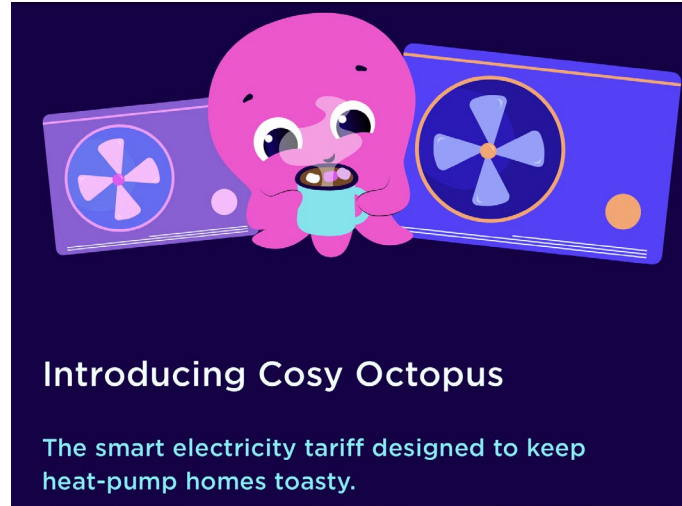



Octopus aims to lower customer energy costs through the coordination of smart-charging with flexibility, VPP, V2G, their own generation and storage assets (and those of their customers), lowered further through EV purchasing power (low EV leasing / energy packages).

- ❖ OctopusGo: 4 hours of super off-peak electricity every night (enough for most charging needs)
- ❖ IntelligentOctopus: 6 hours of low cost charging each night. Customer informs when they need the car charged by and Octopus intelligently charges to optimise use of green energy (and minimise cost for Octopus).
- ❖ Tesla Energy Plan: ultra low-cost energy plan in combination with solar panels and Tesla power wall.

# Hybrid Tariff Models

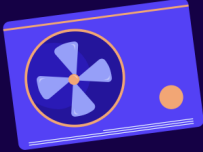
## Dynamic asset-focused tariffs






**Double dip with Cosy Hours**

Keep your home warm for less with super cheap rates, twice a day, every day.



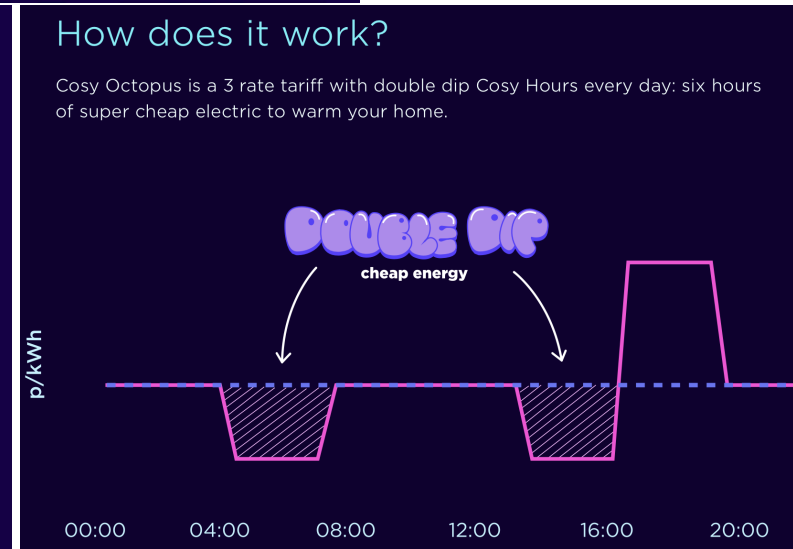
**Stay cosy and spend less**

Shift your heat pump use and save an extra £96 on your electricity bills.



**Shift more, save more**

The more heat pump use you shift out of peak, the more you'll keep in your pocket.



# Hybrid Tariff Models

## Integrating Extras



### Adjust the Tarkka electricity contract to the best for you



#### Fortum Tarkka + 100% renewable energy [↗](#)

There is plenty of renewable energy production in Finland, when in addition to solar and wind electricity, electricity produced by hydropower and bioenergy is included. The climate and the environment will thank you when you choose 100% renewable electricity instead of fossil production.

Order the Fortum Tarkka electricity contract with 100% renewable energy conveniently here.

**Price: €4.90 / month + 0.40 c/kWh**

Order with 100% renewable



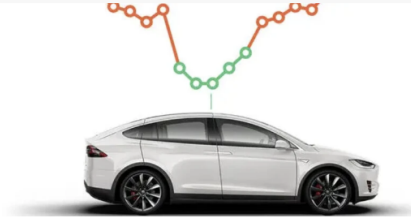
#### Smart exchange electricity contract with price locking [↗](#)

Fortum Price Guarantee is an additional service of the variable-price Fortum Tarkka contract. The price guarantee service allows you to temporarily lock in the price of electricity. The price guarantee reduces the price risk associated with exchange electricity contracts.

Order the Fortum Tarkka electricity contract with Price Guarantee conveniently here.

**Price: €5.90/month**

Order with Price Guarantee



#### Fortum Tarkka + Smart charging [↗](#)

Fortum Smart charging - charge your electric car automatically when the price of electricity is at its lowest. This can reduce charging costs by up to 50 percent. In addition, the service works with all chargers. You can therefore sleep well at night while saving money.

Order the Fortum Tarkka electricity contract with Smart Top-up conveniently here.

**Price: €3.90 / month (first 6 months without monthly fee)**

Order with Smart Charging

#### **The student agreement**

- ✓ Favorable electricity contract for you who are a student, with free electricity during June, July and August
- ✓ Never any binding time
- ✓ A variable electricity price that follows the changes in the electricity market

#### **The Smart Charging Agreement**

- ✓ For you who own an electric car, with our smart charging agreement you can automatically control electric car charging to the cheapest hours of the day
- ✓ Get an overview of the car's status, consumption and charge history in the Mitt Fortum app
- ✓ Hourly price agreement that gives you the opportunity to use electricity when it is cheapest

# Hybrid Tariff Models

## Integrated Energy as a service

### Customer-Centric Electricity Supply Risk Management Through Batteries

**Tesla Electric**  
Clean Energy for Your Home and Community

#### Context

Only available to customers with Solar and a Tesla Powerwall Battery, Tesla Electric provides customers with a retail energy supply service which automatically charges and discharges the battery to lower energy costs for the customer, reduce emissions, balance the grid and reduce the risk of retail to Tesla.

#### How it works

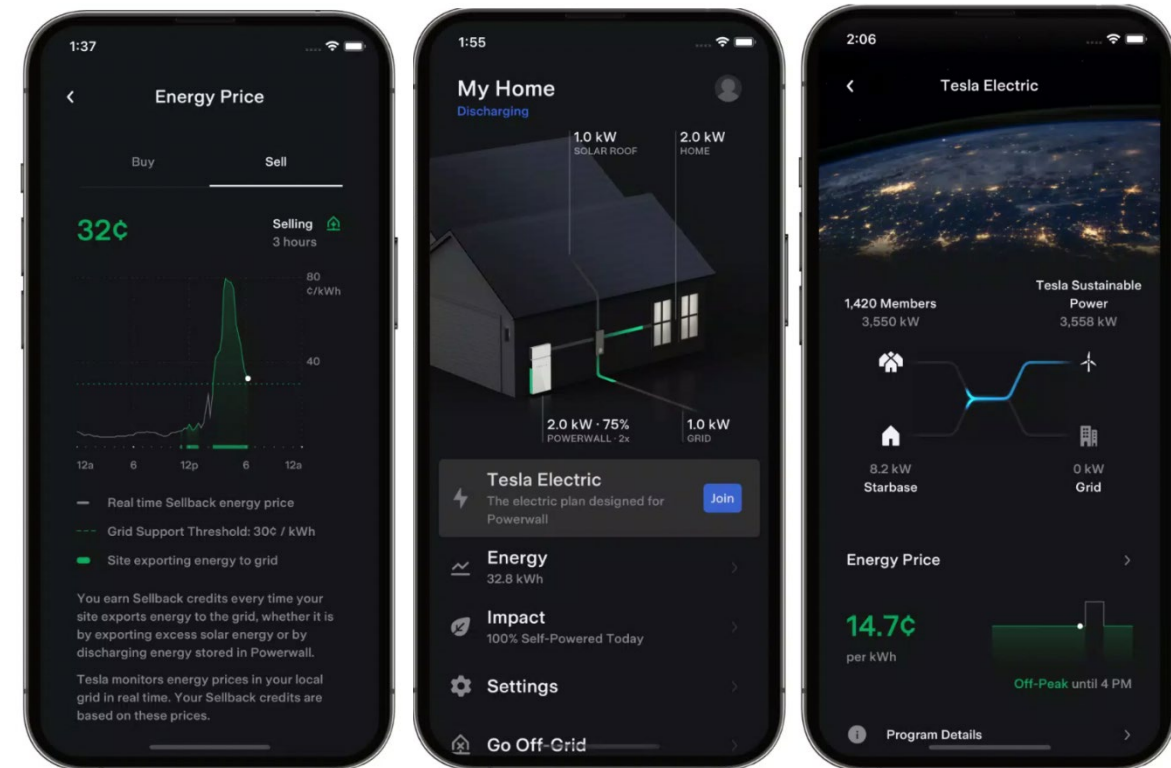
Solar energy used to power home, excess stored in battery. Electricity automatically shared/sold to the grid at peak price times, earning the customer bill credits while retaining enough in the battery to ensure security of supply. When necessary (e.g. cloudy days) Tesla sources / sells renewable electricity to customer.

Full service available through the Tesla App: Real time usage, price / buy / sell tracking. Full real-time view (in app) of where energy is going to / coming from (community, home, external generation, grid).

Not integrated with Tesla vehicles since they do not offer V2G.

#### Advantages

It up-sells and ties-in customers who are already using Powerwall; upsells tesla vehicle customers who prefer to use the Tesla app; upsells and ties in customers who want to lower energy bills and are considering / solar/batteries as a means of doing so.

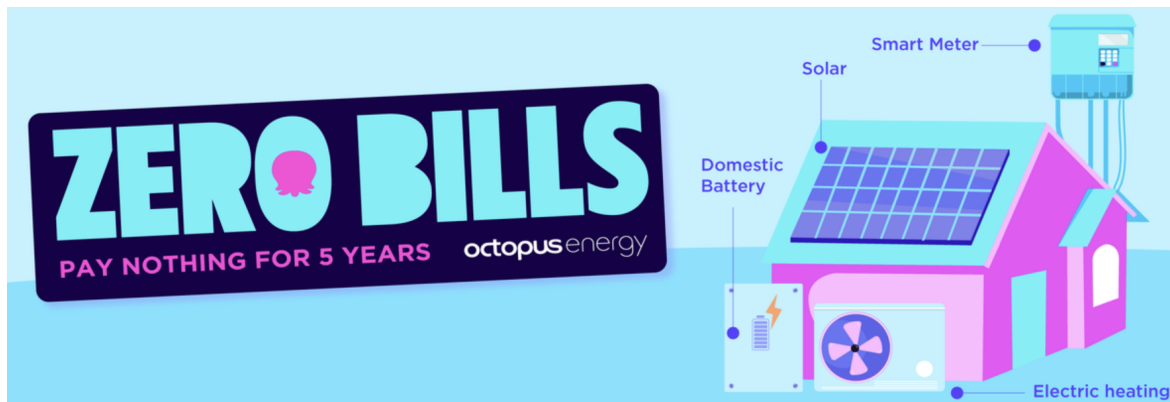


# Hybrid Tariff Models

## Integrated Energy as a service

Customer-Centric Electricity Energy Cost Management Through Integrating assets and revenue streams

**octopus**energy



We've just launched **Octopus Zero Bills, the next generation energy tariff with zero energy bills for five years, guaranteed**, for new homes kitted out with the right combination of solar panels, home battery and heat pump. It's not magic, but could just as well be. If you live in a brand new, specially built Zero Bills home, you'll not receive an energy bill - no costs, no worries.

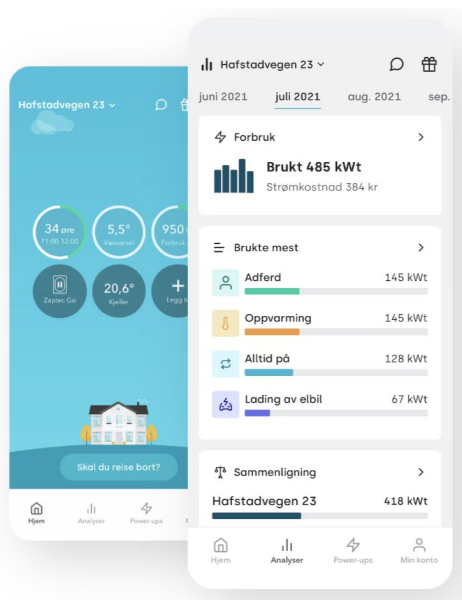
**We're calling on housing developers across the UK to make Zero Bills the new standard.**

# Hybrid Tariff Models

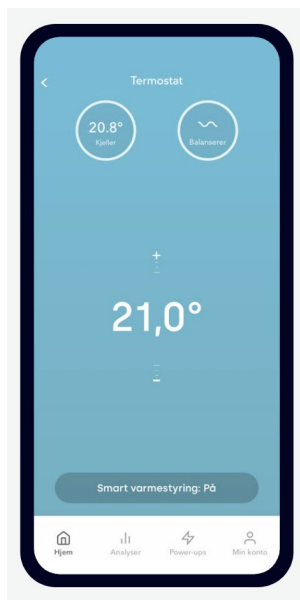
## Integrated Modules



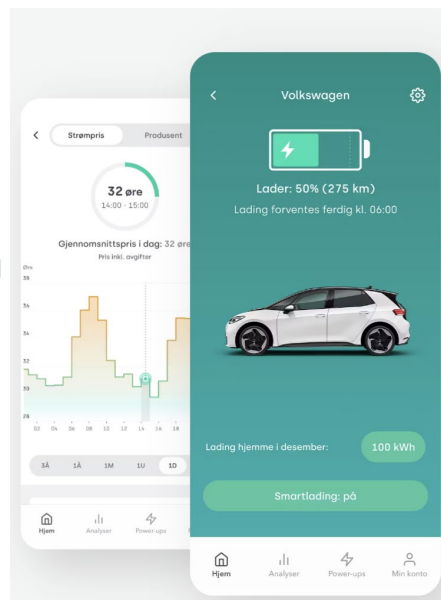
Smart tariff



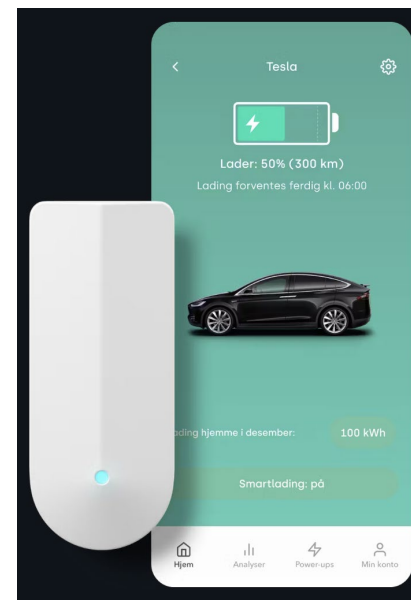
Smart heating



Smart charging



Smart load control



Smart battery

