

## “Birth of the Internet of Energy”

*“To achieve the climate objectives, 2019 will bring cheaper technologies, such as ThermoVault, which will enable individuals and businesses to become both consumers and producers.”*

Our current energy system, which is focused mainly on central generation, is unmistakably evolving towards a distributed system where local and renewable generation and consumption are maximised. This transition is being accelerated by social trends, regulations and economic and technological factors. What we are now experiencing live is the creation of the 'Energy Cloud' or 'Internet of Energy'. Private individuals with their own renewable energy production (i.e. solar panels, heat pumps, etc.) can eventually gain additional financial benefits from this.



### EU Clean Energy Package

An important step was taken three weeks ago. The European Parliament approved the EU Clean Energy for All Europeans Package on 13 November 2018. This is the fourth major energy market reform in the EU. The EU is strongly committed to innovation, intensifying competition and putting the end user at the centre of its concerns.

**Clean energy for Europeans:**  
Key for driving forward the Energy Union

The Energy Union is the EU's strategy to ensure affordable, secure and sustainable energy for European citizens and businesses.

**WHY?**

- spends **€350 billion** every year to import energy
- is the **largest** energy importer in the world
- buys from third countries more than **half** of what it consumes
- relies heavily on a **limited number** of suppliers

**THE EU...**

**IN DETAIL**

The clean energy package contains eight legislative files in total:

- renewable energy
- electricity: four files
- buildings
- energy efficiency

**Governance of the Energy Union**

**HOW?**

One way to make the EU less vulnerable in this sector is the clean energy package. This will aim to:

- prioritise energy efficiency
- achieve global leadership in renewable energy
- attain the EU's 2030 energy and climate goals
- provide a fair deal for consumers

Source: European Union

## What will we see in 2019?

2019 will be a busy year for national regulators: each Member State will have to transpose the directive into national law. Indeed, everything must be implemented by mid-2020 and this is a massive piece of legislation. Most stakeholders are acting in advance to comply with the principles of the Clean Energy Package. It is in their interest that the transposition of the directive is tackled vigorously so as to create a legally secure framework.

Fortunately, the companies active in the energy sector are already preparing themselves (in Flanders, via the 'Speerpuntcluster Flux50'). They are ready to come up with workable solutions, whether or not in co-creation with each other (as promoted by the EU). Young and mature companies will offer affordable technology and create value via further development, for example, in better battery storage, fuel cells, tidal technology and smart control of microgrids with a view to balancing the grid. There will also be initiatives that allow citizens to participate, such as solar and wind energy-sharing. And authorities responsible for urban development will include presuppositions about the new rules in their specifications, for example by excluding gas from a site to be developed.

## Decarbonisation

160 companies are working on concrete projects that actively respond to the aim of 'decarbonisation'. This directive allows individuals and companies to make serious investments in the provision of local energy. It also enables European consumers to participate actively in the transition period and sets two new binding targets by 2030:

1. Renewable energy must represent at least 32% of the total mix.
2. Energy efficiency levels of at least 32.5% must be reached.

This may seem rather abstract, but to achieve these ambitions, tens of billions of euros must be invested each year over three decades. This should boost the European industry's competitiveness, growth and employment, reduce energy bills, help combat energy poverty and improve air quality. Finally, Europe also wants to greatly enhance its energy autonomy.

The fundamental long-term objective is to reduce greenhouse gas emissions. To this end, the directive sets up a robust governance system. It is therefore not something without commitment, it is a binding obligation for each Member State and will be strictly monitored.

The manufacturing industry, on which the EU relies heavily for the achievement of its climate targets, has not remained idle in recent years. It has worked hard to develop new technologies. Examples are battery storage, thermal storage in boreholes, heat pumps, high-performance photovoltaic cells and smart control and monitoring of all these assets. The catalogues of major companies feature state-of-the-art solutions with a 'technology readiness' of the highest level.

## Falling price curve

A large-scale roll-out of these solutions will inevitably lead to a declining price curve of the underlying technology, so that the solutions will be within the normal financial reach of the user, who will be given a systemic role in the EU market. With their local private installations, users will after all be part of a much larger and more comprehensive system. In return, they can accordingly demand an appropriate remuneration, which will encourage them to invest in energy and at the same time give them a crucial role in the new energy distribution concept.

## Flux50

The Flemish Government has already assumed its responsibility with the Speerpuntcluster Flux50, where companies and knowledge institutions join forces to develop desirable, feasible and affordable solutions to achieve the European objectives. KBC is working intensively via its innovation centre with a large number of players from the wider energy sector with the aim of jointly acquiring knowledge and co-creating new business models to get the transition off to a sure start.

## ThermoVault?

Together with ThermoVault, KBC is investigating the possibility of helping customers to achieve lower energy bills and reduce energy consumption, which will result in lower CO2 emissions. An easy-to-install device on the electric boiler will save an average family 100 euros per year, as the boiler's energy consumption is cleverly controlled by the electricity grid according to the balance of supply and demand. In the current interest-rate climate, to earn 100 euros on a savings account would require customers to have a very large amount saved up. KBC aims to help its customers spend less on energy, have more financial resources and contribute to sustainability, without facing reduced comfort levels.

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