

## These are the 10 trends reshaping climate and energy policies

*The impacts of climate change are already felt today in Europe and across the globe. But a changing climate is not the only variable that is affecting climate and energy policies. A new study from the European Political Strategy Centre (EPSC), the EU Commission's think tank, has identified 10 key trends that are transforming our societies, economies and energy systems.*

[The EU Commission has recently presented its vision for a climate-neutral Europe by 2050](#). It has emphasized that this aim is possible and desirable, and would provide major social, economic and health benefits to citizens. But uttering such a claim is one thing - the other, more important one is: is the EU executive's proposal in touch with what is going on in our world? In order to answer this question, [the Commission's in-house think tank EPSC](#) has deciphered 10 crucial trends that are currently reshaping livelihoods, energy markets and policy frameworks, and how these will determine whether Europe can achieve climate neutrality by 2050. Here they are:

### 1) Climate Change: From distant threat to here and now

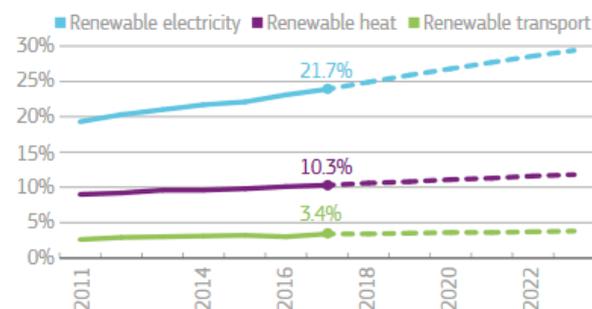
Climate change is no longer an uncertainty, but has become an observable phenomenon, as the EPSC analysts point out. Heatwaves, droughts and floods are happening more frequently across Europe, [fueled by human-caused climate change](#). Wildfires, previously only occurring in Southern European countries, have crept northwards in the last summer and [set the Arctic Circle on fire](#).

Although strong action would reduce damages from climate change and bring at the same time vast common benefits, countries are not doing enough at the moment, thereby jeopardizing the global Paris Agreement. The EPSC notes that this lack of action is driving "new grassroots and local initiatives focusing on action on the ground", highlighting the key role cities can take in influencing energy and climate policies. Furthermore, climate litigation is on the rise, where citizen movements like e.g. [Urgenda in the Netherlands](#) are pushing governments to increase their action.

### 2) A changing energy mix: renewables surge, but fossil fuels still dominate

Renewables rock, but fossil fuels clings on, according to the EPSC experts. Ambitious policy and regulatory frameworks, as well as falling costs, are propelling renewable energies on a level playing field with fossil fuel dinosaurs across Europe. Yet, renewables are still hampered by several factors – such as integration into the existing energy system or lack of widespread energy storage. Fossil fuels still dominate the European energy mix, in particular in the transport and heating sector where renewables penetration

#### Share of renewable energy by sector, worldwide, 2011 - 2023



Source: International Energy Agency, Organisation for Economic Cooperation and Development

remains low. Furthermore, many European Member States are still heavily subsidizing fossil fuels, thereby favoring dirty technologies such as coal, gas and oil over cheap and abundant renewable ones.

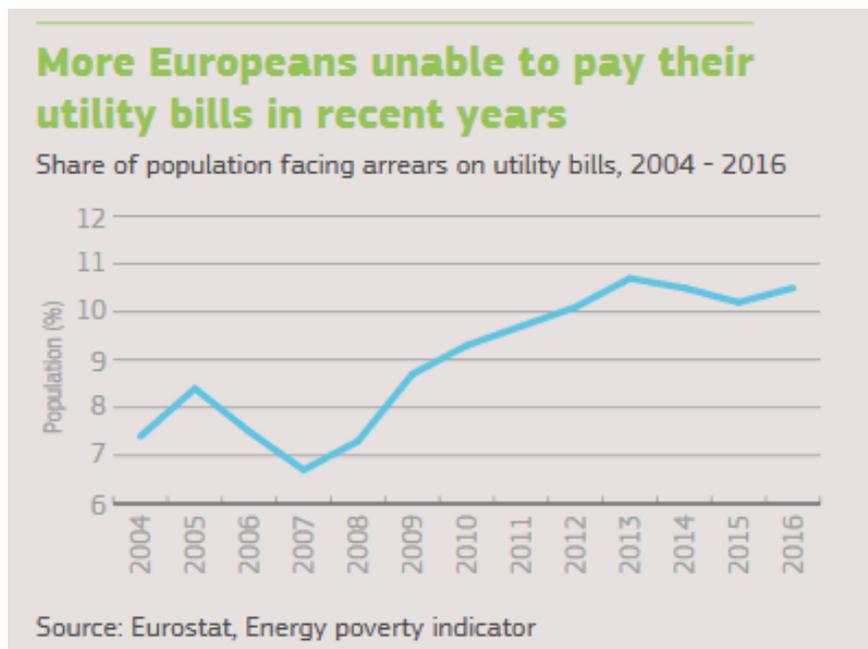
3) As business shifts to clean energy technologies, financial markets follow suit - slowly

More and more businesses, industries and investors are pouring their funds into clean energy technologies and climate action. These investments have already largely overtaken investments into fossil fuels. Despite this development, the financial sector still hasn't made the paradigm shift in the same direction. Green bonds for example only represent a tiny fraction (1%) of the overall bond market. Moreover, major players such as insurance companies or pension funds have been particularly slow to change course, according to the EPSC. And while divestments are globally on the rise, [such as recently illustrated by Ireland](#), they are still too small in number to effectively turn the tide on fossil fuels.

4) Benefits of environmental economy spreading unevenly

Green jobs are surging in Europe, as the renewables industry is expected to double its workforce between 2017-2030 (from 1,4 to 2,9 million jobs). In addition to this, the green economy is growing faster than the overall economy in the EU. But the EPSC warns that the energy transition is not a win-win for everyone at the moment. Without a just transition and massive reskilling, especially carbon-intensive regions run the risk of losing thousands of jobs in the next decade.

Furthermore, inconsiderate climate and energy policies threaten to undermine the support of European citizens for the energy transition, especially from those that already struggle to meet ends in keeping their house warm or being able to commute to their workplace. The ongoing 'gilets jaunes' movement in France, formed in reaction to a hike in fuel taxes, is a prime example that it is critical for climate and energy policies to be fair and manageable for all citizens.



#### 5) Energy demand transformed, as responsible consumerism kicks in

“Energy efficiency has become the world’s hidden fuel”, writes the EPSC. Policymaking is shifting increasingly from the supply to the demand side, as energy efficiency solutions bring social and economic benefits, such as lower energy bills for people exposed to energy poverty. Energy efficiency is also boosted by the rise of a circular economy model, in particular in the industrial sector.

Nevertheless, the EPSC notes that technological progress in driving the reduction of energy demand will “not relieve consumers of their responsibility to make sustainable choices”. A shift in our needs and consumption patterns is also seen as a necessity in order to live well within our planet’s available resources.

#### 6) Digitalisation driving an energy revolution

The digitalization of the energy system is accelerating, exemplified by the rise in smart meters, micro-grids or digital platforms across Europe. Newer technologies such as [blockchain](#), [artificial intelligence](#) or the Internet of Things are expected to amplify this trend. The EPSC also sees digitalization as beneficial in creating “a new generation of empowered consumers”, thereby reshuffling the dynamics in the energy market. However, this digitalization is not without risks, as cyberattacks could cripple energy infrastructure and steal citizens’ personal data. Moreover, a surge in the use of energy-intensive technologies such as AI or big data could increase electricity demand from data centers.

#### 7) Electrification rhymes with democratization, as well as fragmentation

The rise in renewable technologies such as solar or wind has already enabled millions of people across the world to produce their own electricity. Furthermore, the renewables boom has empowered millions of Europeans (as prosumers) and thousands of citizen energy communities to participate in the energy market and challenge the rule of the established big utilities.

But for the EPSC, current distribution systems and regulatory frameworks still struggle to incorporate this new reality of a more democratic, decentralized and fragmented energy system.

#### 8) Pivot East: rising energy demand in Asia drives innovation

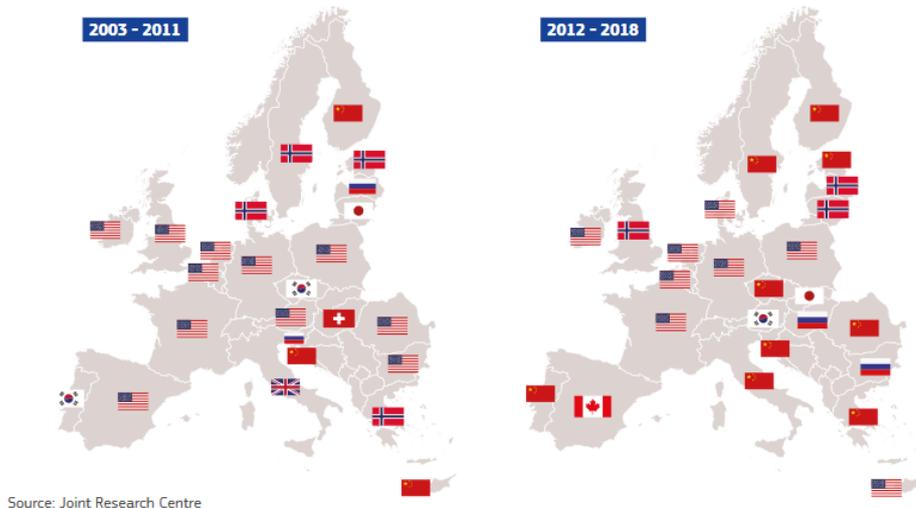
GHG emissions and energy consumption are skyrocketing in the Asia Pacific region, fueled by rapid economic growth. But this growth has also led to major investments in renewables and energy efficiency in the region, spearheaded by the new global superpower China. India and China combined are set to cover half of the projected growth in renewables between 2015-2021. China is also outshining the US and Europe in the energy sector, dominating clean energy technology manufacturing such as in solar PV, batteries or electric cars.

In addition to this, China is pouring investments into critical European energy infrastructure through its Belt and Road initiative, as for example in Finland, [Portugal](#) or Italy, as the graph on the next page shows:



## Who controls critical infrastructure? Energy sector Foreign Direct Investment in the EU28

Largest source of investment per Member State



### 9) New energy supply risks emerging

China's dominance extends also to the supply of raw materials and key components needed for renewables and electric cars, such as lithium, silicon, cobalt or steel. The future of Europe's energy transition therefore heavily relies on sourcing these materials from China. The EPSC sees another energy supply risk for Europe in the short-term in a stronger reliance on Russian gas, as Europe's own gas and oil fields decline and coal is progressively phased-out. The shift to major, local renewables production would not be able to make up for it immediately, but only in the long run. However, here the EPSC misses out on the immense potential of energy efficiency and its role in reducing Europe's energy demand and thereby dependency on importing energy supplies.

### 10) Net-zero emissions no longer a dream, as innovation gradually delivers

Taking all these trends into consideration, the EPSC concludes that it is still feasible for Europe to reach climate neutrality by 2050. Mature renewables such as solar or wind can enable the EU to cut its GHG emissions by up to 90% by 2050. In addition to this, the EPSC sees the need for new innovations to deliver the rest, such as artificial photosynthesis, advanced biofuels, energy storage technologies and low-emission options for the aviation sector, whose emissions are skyrocketing. However, the EPSC notes that despite growing investments in research and innovation, many innovations still remain elusive, such as carbon capture and storage, electric aircraft or negative emission technologies (i.e. that suck carbon out of the air for example).

It is then clear that innovation and technology won't be the silver bullets on their own in enabling Europe to go climate neutral. Instead, capitalizing on existing trends – such as accelerating renewables deployment, boosting efficiency and circular economy, incentivizing changes in lifestyle and consumption patterns and ensuring a fair distribution of the benefits of the environmental economy – can be the way forward in bringing Europe on a pathway towards climate neutrality.

#### **Read more:**

[Link to the full EPSC study "10 trends reshaping climate and energy"](#)

