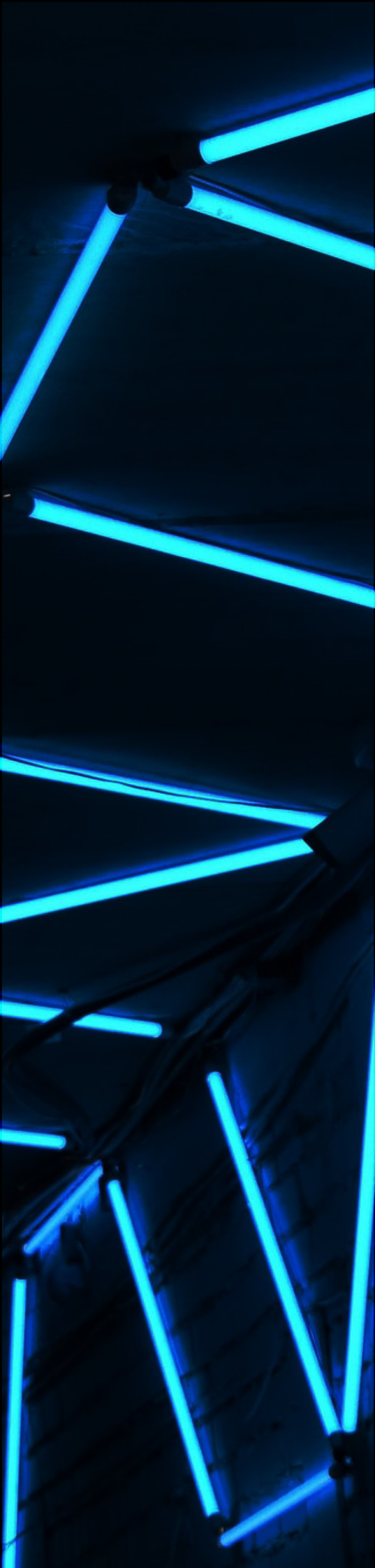


Electric Decade

Policy actions & recommendations



Electric Decade

Policy actions & recommendations

A new era is underway. Globally, there is a shared sense of urgency to cut emissions and transform the energy system to tackle the climate crisis. There is also an urgent need to create jobs, reduce air pollution, boost innovation and cut Europe's dependence on imported gas and oil.

As the EU initiates the concrete steps to achieve net-zero emissions with the 'Fit for 55 package', electricity and its multiple uses and benefits must be a key priority. The power sector will have a new role at the core of both emerging and established industries, particularly in the next 10 years which are crucial to accelerating decarbonisation.

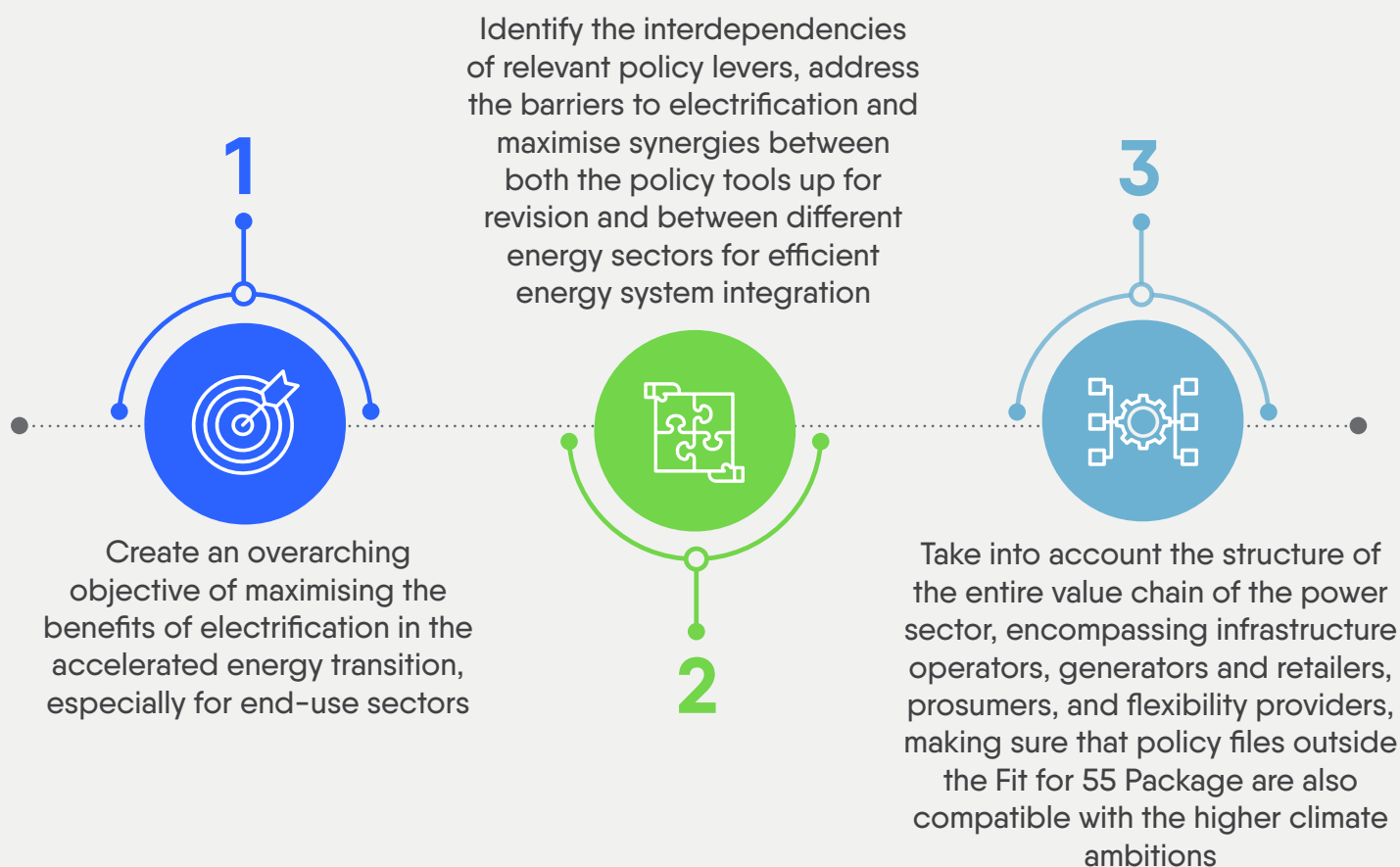
As the findings of the 'Electric Decade: challenges & opportunities' report show, this shift is first and foremost demand driven. Consumers, businesses, and governments are all looking to become sustainable and use more clean and renewable electricity. Analysis shows that the benefits go far beyond decarbonisation, especially for customers and industry.

The digital transformation, enabled through deploying electric technologies at scale, opens new horizons for environmentally sound growth, enabled by competitive and integrated markets. For instance, by replacing a fossil fuel boiler with an electric heat pump at home or by switching to an electric car, less energy is used and efficiency gains materialise. In an electrified world, empowered customers will reap the benefits of both producing and using energy, becoming a driver of the transition.

While most analysts and studies agree on the benefits of electrification, there is currently no overarching, strategic, legislative approach for its effective and timely deployment.

A wide range of levers in European policy can enable and accelerate the electric transition, encompassing among others technology, infrastructure planning, financing, digitalisation and customer empowerment. A much more comprehensive and integrated policy framework that accelerates electrification is needed to overcome the existing barriers. Getting each policy item on track is of course needed, but it is even more critical to do so in a holistic manner – as a strategy.

This electrification strategy should seek to:



Eurelectric firmly believes that such a strategy would be essential to maximising cost-efficient and timely deployment of efficient electric solutions, powered by clean and renewable electricity. We have identified 5 key policy pillars which should be part of a European electrification strategy.

Overview of the key policy pillars



1

SYSTEM EFFICIENT DECARBONISATION

- Prioritise direct electrification to drive the decarbonisation
- Aim for indirect electrification where direct electrification is not feasible

END-USE SECTOR ELECTRIFICATION

- Streamline policies that impact buildings to make sure that heating and cooling (H&C) are compatible with the 55% GHG target and that barriers to electrification are addressed
- Review the transport legislation to give the right necessary signals to both manufacturers, corporate buyers and citizens to go electric
- Facilitate decarbonisation of industry through direct and indirect electrification

2



3

CUSTOMER EMPOWERMENT

- Empower customers to become genuine change drivers in the electrified, digitalised, and decentralised energy system
- Establish a level playing field for electricity vs other energy carriers by reducing taxes and levies and ensuring proper recognition of electrification's efficiency

POWER SYSTEM MODERNISATION

- Enable flexibility from electrified sectors to optimise the energy system
- Improve the permitting procedures for new capacity to meet growing demand on time

4



5

INFRASTRUCTURE REINFORCEMENT

- Ensure buildings have the necessary infrastructure for people to charge their cars at home
- Unlock investments in distribution grids

Policy pillars

1. System efficient decarbonisation

Prioritise direct electrification to drive the decarbonisation

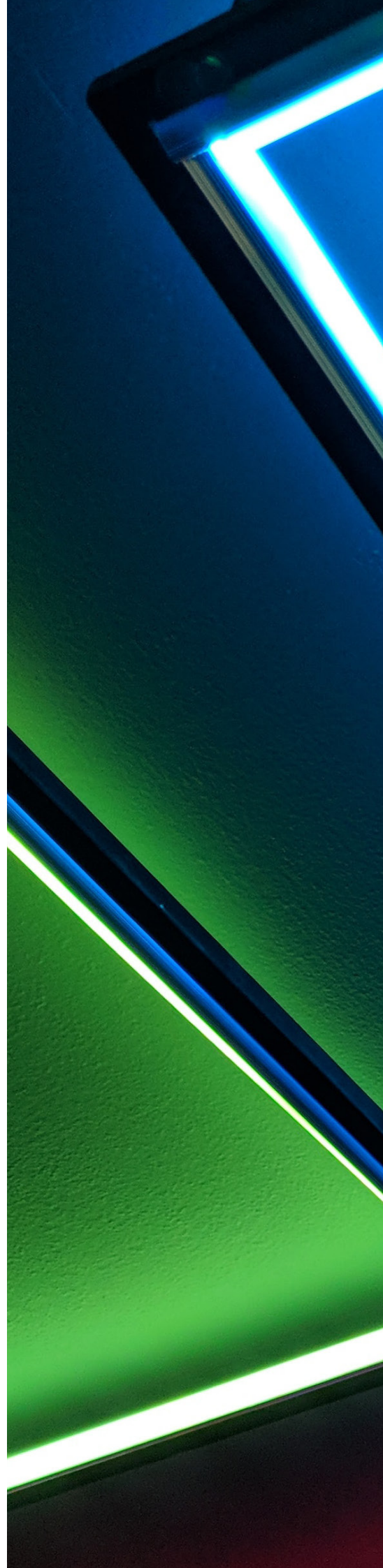
Electricity is well on track to be fully decarbonised by 2045. In the first half of 2020 66% of the power mix was carbon free, by 2030, this is expected to be 80% (Power Barometer). By simply switching from another fuel to electricity in the activities we carry out daily, energy is saved and efficiency gained.

Electrification is key to achieve carbon neutrality and should be the go to first choice when preparing the “Fit for 55” Package for the EU to meet the 55% GHG 2030 target as well as when unfolding the Energy System Integration Strategy.

Aim for indirect electrification where direct electrification is not feasible

When it is not yet technically possible to efficiently use a solution that can be plugged into the power system, indirect electrification will play its decarbonisation role. Electrons can be transformed into molecules to decarbonise end-uses and processes that are difficult to directly electrify. It is the case of hydrogen produced from carbon-free electricity via electrolysis. Guarantees of Origins can help to keep track on the decarbonisation level of vectors used.

Indirect electrification should be identified throughout the Energy System Integration Strategy as the natural alternative to complement direct electrification as a climate friendly way to decarbonise the economy.



2. End use sector electrification

Streamline policies that impact buildings to make sure that heating and cooling systems are compatible with the 55% GHG target and that barriers to electrification are addressed

Decarbonising the way we heat and cool our homes and offices is one of the key elements to get right to reach the 2030 GHG target. Several legislative tools are in place that try to tackle this issue, but they do not unlock the full potential of electrification as a significant part of the solution to lower building emissions. They also do not clarify the concrete financial tools at hand for dwellers and owners to invest in these projects.

While the Renovation Wave is a good step in the right direction, the decarbonisation of buildings via electrification as well as decarbonised power-to-heat and district heating solutions should be incentivised when reviewing the Energy Performance of Buildings Directive (EPBD), the Energy Efficiency Directive (EED), and Ecodesign and labelling rules (incl. PEF). This will also offer the opportunity to ensure a much stronger place for buildings in Member States' decarbonisation plans.

Review the transport legislation to give the necessary signals to manufacturers, corporate buyers, and citizens to go electric.

Using electricity to fuel cars, trucks, trains and even ships and planes is already a reality. The potential for direct electrification of transport by 2050 is 60% higher than 2015 levels. The rules to make this happen need to be clear for those who make the vehicle and for those who want to drive electric, including companies that recognise the benefits of switching their car fleets to electric.

Clarify the rules on transport by setting ambitious yet realistic targets for CO₂ emission reduction for cars and trucks and for the necessary infrastructure deployment to support e-mobility (the Alternate Fuels Infrastructure Directive and the TEN-T). Consider targets for corporate fleets.

Facilitate decarbonisation of industry through direct and indirect electrification

As technological development progresses more industrial processes can be directly electrified, in 2018 we estimated that 50% direct electrification of some industries will be possible by 2050 (Decarbonisation Pathways). Indirect electrification via hydrogen and other carbon-neutral alternatives will also play a role, while large scale electric heating solutions (heat pumps) and electric processes in industry will be key to facilitate industrial decarbonisation.

Gear up EU industrial strategy and research and innovation programs to ramp up the direct and indirect electrification of industry (incl. a European electrolyser industry) and thus help decarbonise other sectors.



3. Customer empowerment

Empower customers to become genuine change drivers in the electrified, digitalised, and decentralised energy system

New energy technologies and digitalisation hold enormous potential to offer consumers better services and insights, as well as more control. Unfortunately, many customers are still unaware or uncertain about the benefits of the energy transition for the environment, their budget, and standard of living.

Create a robust policy environment under the New Consumer Agenda in order to equip consumers with better information and support for sustainable, inclusive, and smart energy service choices and speed up the implementation of the relevant Electricity Directive provisions.

Establish a level playing field for electricity vs other energy carriers by reducing taxes and levies and ensuring proper recognition of electric efficiency.

In a majority of EU Member States, the electricity bill is more expensive than other energy carriers. This is not due to the price of electricity per se but to the taxes and levies that are added on top. As a result, the competitiveness of electricity is harmed and the potential for electrification is heavily affected.

Harmonise taxes and levies across energy carriers or remove ad-hoc taxes and policy costs from the electricity bill to allocate them to the State budget. This can be done by issuing country specific recommendations on improved energy taxation under the European Semester, by revising the Energy Taxation Directive, and by tackling the Energy System Integration Strategy. Furthermore, explore carbon pricing systems for sectors outside the EU-ETS ahead of possible future integration.

4. Power system optimisation

Enable flexibility from electrified sectors to optimise the energy system.

The risk of congestion is increased by the constantly growing shares of distributed renewable generation and the expected rising number of active customers engaged in demand-response and electric mobility. This creates challenges for system operators to ensure the cost-efficient, reliable, and secure development and operation of their networks.

A European regulatory framework for demand side flexibility might take the form of a new Network Code to allow the participation of demand response and aggregators in all electricity markets. Include the whole spectrum of stakeholders in the power sector, notably those operating in wholesale and retail markets, as key stakeholders to ensure an efficient and market friendly approach.

Improve the permitting procedures for new capacity to meet growing demand on time.

For the 2030 targets to be met more renewables are needed: at least doubling the current installed capacity for solar and wind, and more pumped hydropower. The way the permitting procedures are applied nationally are becoming a concrete barrier to a timely build-up of this capacity.

Implement the existing rules on permitting within the Renewable Energy Directive (REDII). Introduce accelerated permitting rules for climate critical infrastructure (capacity and grid, incl. demand loads needs), consider a RES priority zone with fast tracking when revising the REDII.



5. Infrastructure reinforcement

Ensure buildings have the necessary infrastructure for people to charge their cars at home or at work

Considering that 90% of electric vehicle charging takes place at home or in the workplace and 80% of existing building stock in Europe will still be in use in 2050, accelerating the deployment of smart charging infrastructure for buildings is key for the decarbonisation of end uses.

The Energy Performance of Building Directive should be updated to promote (smart) charging infrastructure that is able to interact with the grid. Rules for charging points should be extended beyond new buildings only and cover existing homes and non-residential buildings as well.

Ensure urgent investments in distribution grids are unlocked

Distribution grids are key enablers of the energy transition and will take a much more central role in the value chain connecting distributed generation, electric cars, and an increasing amount of grid edge technologies. This new, critical, role requires reinforcement, modernisation and digitalisation of the grids. Our comprehensive study published by EDSO and Eurelectric 'Connecting the dots' has proven that action is more urgent than ever as approximately one third of the EU's distribution grids are already over 40 years old.

A revised TEN-E Regulation should support this development by being enlarged in scope to include innovative infrastructure projects at distribution level and enable efficient investments. National regulators need to adapt with a forward-looking regulatory framework for DSOs that encourages adequate investment.



Union of the Electricity Industry – Eurelectric aisbl
Boulevard de l'Impératrice, 66 – bte 2 – 1000 Brussels, Belgium
Tel: + 32 2 515 10 00 – VAT: BE 0462 679 112 • www.eurelectric.org
EU Transparency Register number: [4271427696-87](#)

photos: iStock, Unsplash