

Energy Use and Supply

Where will our energy come from in the future? Can we use less energy while keeping our lifestyles?



Understanding energy use and supply

Smart phones, factories, cars and boilers: In our private lives and our economies we enjoy the comforts made possible by energy and technology. Yet, currently we often rely on oil, gas and coal which creates many social, economic and environmental problems. Still, renewable technologies are not everywhere implemented to an extent that they could fully replace fossil fuels.

The way we will produce, distribute and consume energy in the future needs to be socially, economically and ecologically responsible.

● fair and affordable

Access to affordable energy services for everyone is a key requirement for societies around the world.

● less and efficient

High energy costs are putting a strain on households and the economy in the EU and elsewhere. Therefore, we need to find ways to use less energy more efficiently.

● safe and clean

Fukushima, Deep Water Horizon or the Prestige oil spill make it clear that our energy sources need to be safe for our society and our ecosystems.

● reliable and available

Energy from sun and wind are neither available at all times nor in all places and fossil fuels are limited. However, we need ways of producing and distributing energy that are reliable and readily available.

Energy and the big picture

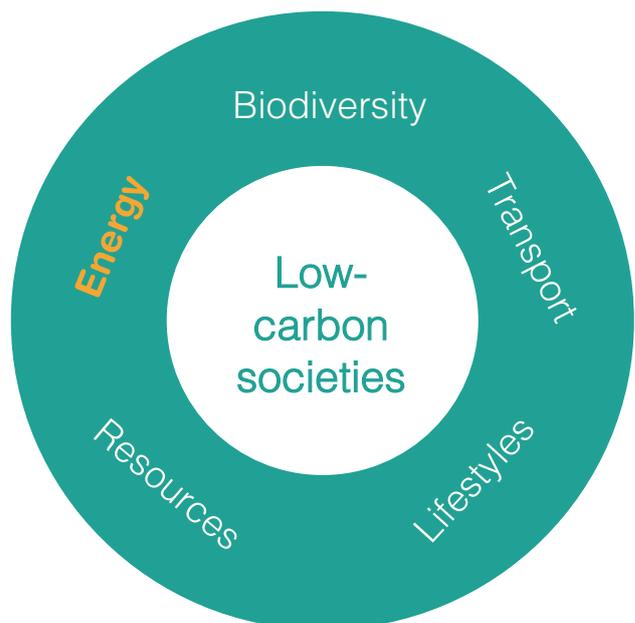
Regions, cities and communities are complex, interconnected systems so we need to learn to look at the big picture.

How does energy fit in there?

Cities and regions are the biggest users of energy and at the same time the places with the highest potential for saving energy.

Shared housing can reduce the use of energy per person and changes the demands we put on the built environment. Food produced by urban gardening requires less energy for transport and urban waste can be used to produce energy locally. Integrating green roofs and green walls insulating houses can improve energy efficiency while benefiting urban ecosystems and biodiversity.

The solutions to sustainable energy use and supply are therefore not just technical solutions but are related with the way we think, what we believe, how we organize our cities, how we live and how we do business.



With the 2020 targets, the EU set for itself the aim of achieving 20% energy supply from renewables and 20% increase in energy efficiency.

Dresden residents take energy transition into their own hands

In Dresden, Germany, citizens are taking on the challenge of renewable energy production. In 22 cooperative solar energy plants all over the city, renewable and climate neutral energy is being produced. The municipality is providing some of the roof space on communal buildings. In these initiatives local money is invested in local infrastructure. It is a win-win for the local economy and the environment. The local decentralized nature of these cooperatives makes the energy production safe, fair and reliable.

For more information visit buergerkraftwerk.de

Searching for solutions

Increasing the share of renewable energy sources is a central issue on the European policy agenda. However, increasing the percentage of renewable energy sources in our energy mix is only part of the solution. Such a shift requires costly infrastructures and can reduce the value of local landscapes. Therefore, we might all need to make contributions by saving energy. Electronic appliances are much more energy efficient today. However, often this energy efficiency in single devices is offset by using more appliances and replacing them more often. This rebound effect can lead to an overall higher energy consumption even though the technology we use becomes increasingly energy efficient.

What will be our solutions?



I'd put my money on the sun and solar energy. What a source of power! I hope we don't have to wait until oil and coal run out before we tackle that.



Thomas Edison (1931)

Empowerment for energy efficiency in Flanders

Saving money by making your house more energy efficient sounds like a smart idea. However, what if you cannot afford the upfront investment, even if it will pay off later on? The Flemish province of Limburg experiments with a solution. Low income residents can take out interest-free loans for investments in energy efficient homes. While improving the overall urban energy consumption, the loans also empower vulnerable groups in society, improve their living comfort and relieve their household budgets of high energy bills.

For more information visit duwolim.be

ARTS is a research project which aims to benefit theory, policy and practice related to accelerating sustainability transitions.

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We are currently present in the following regions



Ready to accelerate?
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Partners



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