

# The Future Starts Now!

Wireless Sensor Technology for Energy-Efficient  
and Sustainable Buildings

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## It's Do or Die!

Sustainability is one of the major-topics of our time. The future of the earth is synonymous with the future of humanity. Preserving our planet is therefore the greatest challenge for global society. It is up to each individual as well as governments and companies. With this in mind, environmental awareness is turning from an individual lifestyle into a political and economic obligation.



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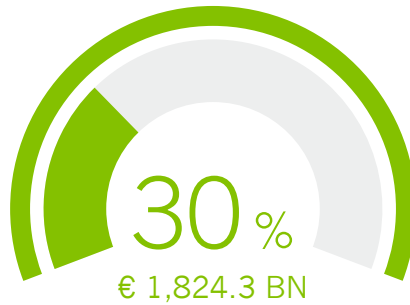
## Joint Efforts by Politics and Business



The European Green Deal aims to make Europe the first continent to become climate neutral by 2050. The goal is to emit no more greenhouse gases than our ecosystems can absorb naturally. To make this goal legally binding, the Commission has introduced the European Climate Change Act. By 2030, net greenhouse gas emissions are to be reduced by at least 55% compared to 1990.

With NextGenerationEU, the international community is investing in green technologies, cleaner vehicles and public transport. Buildings and public spaces will become more energy efficient.

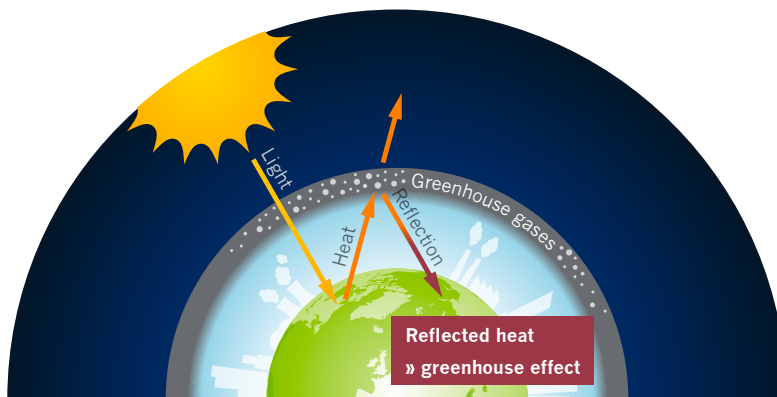
**Between 2021 and 2027, almost one third of the EU budget of over 1.8 billion euros will be spent on climate-related measures.**



green = funds for the European Green Deal in the EU budget 2021-2027 (expenditures for climate protection-relevant measures)  
Quelle: <https://www.boell.de/sites/default/files/2020-11/Infrastrukturatlas%202020.pdf>



The USA rejoined the Paris Climate Agreement under President Biden. By 2030, the net greenhouse gas pollution of the entire economy is to be reduced by 50-52 % compared to 2005. By 2050, the entire US economy is to be climate neutral.



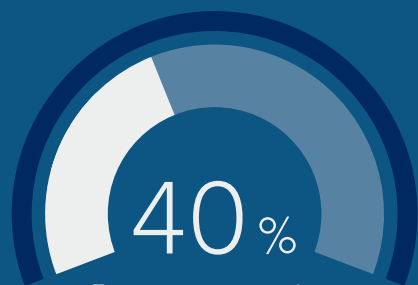
**Microsoft** wants to become CO<sub>2</sub>-negative by 2030. By 2050, all of the company's emissions since its founding in 1975 are to be neutralized.

**Apple** wants to become CO<sub>2</sub>-neutral by 2030. By then, the company will reduce its emissions by 75 % by 2030 compared to 2015 and 62 % compared to 2019.

**Deutsche Telekom** is pursuing the explicit goal of "near zero" emissions by 2040, offsetting only residual emissions.

**Google** sets itself the equally ambitious goals of "CO<sub>2</sub> neutral and net zero emissions" by 2030.

**Sony** is targeting zero greenhouse gas emissions across the life cycle of products and operations by 2050.



Energy consumption  
for buildings

12%

less total energy consumption

10%

less total CO<sub>2</sub> emissions

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## Focus on Existing and New Buildings

Overall, buildings account for 40 % of energy consumption and 36 % of greenhouse gas emissions in the EU with similar figures in most developed countries. This is mainly split between the phases of construction, use, renovation and demolition. Energy-efficient buildings are absolutely essential to achieve the climate targets set. This also includes the retrofitting of virtually all existing buildings.

In this context, the consistent use of building automation alone could save about 12 % of energy consumption and 10 % of CO<sub>2</sub> emissions. However, only about 1 % of the national building stock is actually renovated each year. Far too little! The current renovation rates should be at least doubled.

New EU rules help Member States achieve a more energy-efficient building stock and facilitate access to finance. The Energy Performance of Buildings Directive 2010/31/EU (EPBD) and the Energy Efficiency Directive 2012/27/EU (EED) have been revised and will be implemented in national laws.

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## Wireless Sensor Technology for Energy-Efficient Buildings

Sensors play a pivotal role in intelligent buildings. Wireless-based solutions offer clear advantages here – including sustainability:

- > Simple, quick installation
- > More cost-effective than wired solutions (up to 70 % for retrofitting, around 30 % for new buildings)
- > Improved carbon footprint of the building
- > Reduced energy consumption (typically 30% in commercial buildings)
- > Less resources (e.g. copper and PVC for cables)



The battery-free wireless technology from EnOcean goes one step further.

- > Self-sufficient operation thanks to energy harvesting: wireless modules harvest energy from the environment (e.g. movement, light, temperature differences).
- > No battery changing, no maintenance, no toxic waste
- > Comprehensive ecosystem with interoperable products from numerous suppliers (international standard)
- > Cloud connectivity via gateway or existing Wi-Fi networks
- > Proven: EnOcean technology installed in over 1,000,000 buildings worldwide



Sensor on glass – no problem  
thanks to radio technology

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## A Dynamic Network for Sustainable Buildings

The EnOcean Alliance is an international association of leading companies in the building and IT industries. Founded in 2008, the open non-profit society is committed to developing and marketing interoperable, maintenance-free and field-proven system solutions for smart homes, smart buildings and smart spaces based on the EnOcean wireless standard (ISO/IEC 14543-3-10/11).



Scan the QR code to learn more about our sustainable wireless solutions powered by energy harvesting technology.  
<https://www.enocean-alliance.org/solutions-and-benefits/solutions/sustainability/>



**enocean alliance**  
*Building Smarter Connectivity*

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