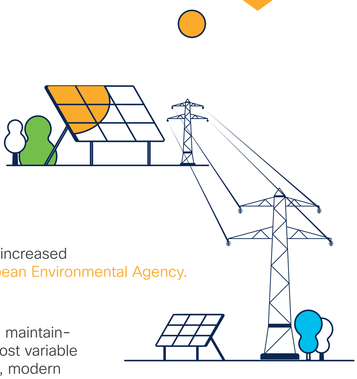
Renewable Energy with connected IoT devices

Electric Utilities Sustainability
Challenges & Opportunities



In 2021, **22%** * of the energy consumed in the EU was generated from renewable sources, roughly the same level as in 2020. Consumption of renewables increased in absolute terms in 2021, by their expanded use in the heating sector, as well as increased electricity generation from solar and wind power. European Environmental Agency.

Utilities are threading the decarbonization needle while maintaining reliability and affordability, a difficult task as they boost variable renewables. To do that, they're building a more flexible, modern & Digitized grid. Deloitte.

Showing a much brighter outlook than fossil fuels, solar and wind energy consumption will surge by

11% ** during 2023 (although from a smaller base) as more projects come online.
EIU Research

Why renewable energy With IoT

IoT solutions can help Distribution Grid & Renewables operators to remotely resolve machine failures, monitor assets' health, securely and efficiently distribute clean energy and minimize losses through standardized networks and protocols.

Discover

- Control and manage qualified employee, third-party, and remote access for repairing, maintaining, and servicing remote-site equipment over secure LAN/WAN/cloud Services.
- Enabling distributed energy resources (DER) such as solar and wind power.
- Cost-effective application hosting for small-footprint, large-quantity DER applications.
- Reliable backhaul of telemetry to support two-way power flow.

Act

- Support progress on energy sourcing strategies
- Contributing to net zero strategies by enabling renewable energy
- Regulatory compliance
- Cost savings during peak power rates due to increased energy storage
- Accelerate progress toward net zero goals

Report

- Troubleshoot Remotely with Secure Equipment Access (SEA)
- Quantify energy savings and progress towards reducing grid opex costs
- Report reduction % of power grid downtime due to DER automated system integration via standardized secure networks

Cisco IoT solutions support clean energy lifecycle from the source to destination

- Remote Secure access to wind farm assets reduces travel GHG emissions
- Zero touch provisioning via SD-WAN decreases travel Co2e emissions related to manual commissioning
- Cisco industrial network connectivity support clean energy transit from DERs to last mile substations
- Increased security and visibility reduce risk of OT attacks and potential system disruption or climate impact
- Automated DER integration to power grids reduces system failures and energy loses

* https://www.eea.europa.eu/ims/share-of-energy-consumption-from#:~:text=Among%20renewable%20energy

** https://pages.eiu.com/rs/753-RIQ-438/images/energy-in-2023.pdf?mkt_tok=NzUzLVJUUS00MzgAAAGMTV_RqRkYBG5aChBRjjPxp9DXWzacG4PoPPKbgjlo-R4bptzqbhhuZ25_F4TqrFYqLimu_eN2qAmXM3zd2-EqP6zGBiuZTPlqiUYRodubC0hpTA