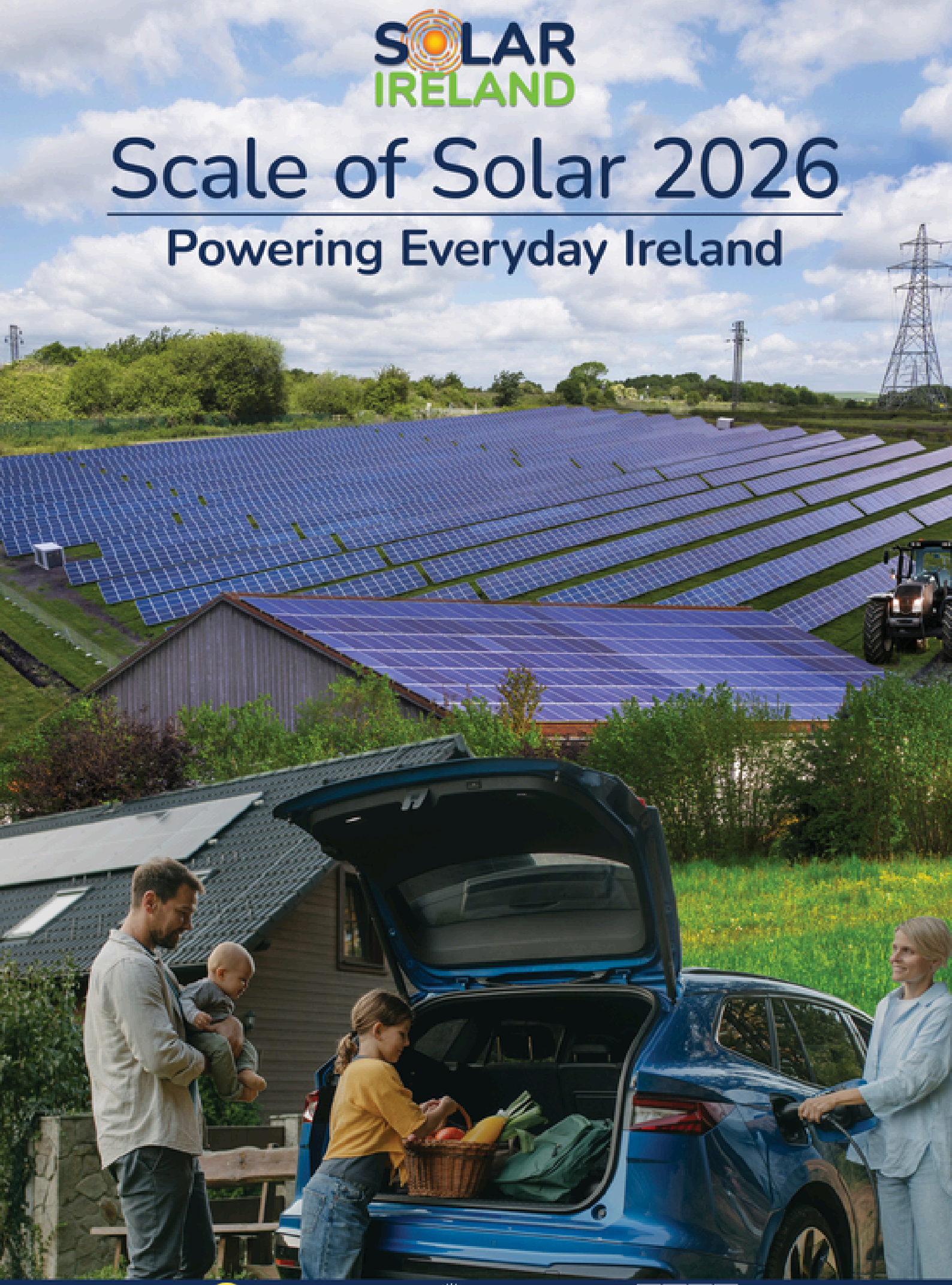
SOLAR IRELAND

Scale of Solar 2026

Powering Everyday Ireland



Official partners

GLOBAL SOLAR COUNCIL

SolarPower Europe

KPMG

GREEN COLLECTIVE
Ireland's grid, in real time.

Solar Ireland

Solar Ireland: Powering Progress Together

Solar Ireland brings together the people, organisations and expertise shaping Ireland's solar future.

Through collaboration, policy engagement, research, events and member-led initiatives, we help create the conditions needed for solar to thrive across homes, businesses, farms and communities.

Our diverse membership represents the entire solar value chain, creating a connected ecosystem working together to deliver clean, affordable and reliable energy for generations to come.

Together, we are bringing energy to everyday life.

Business Enablement & Growth
Drive commercial value through events, leads, and exposure.

Representation & Influence
Shape national policy and regulation through direct input and collective voice.

Insights & Professional Development
Stay ahead with research, masterclasses, and peer learning.

Exclusive Opportunities
Be first in line for events, media, partnerships, and international delegations.

Community & Support
Connect with a trusted network of leaders, investors, and innovators.

For a full list of benefits and to join, visit www.solarireland.ie/join-solar-ireland

Welcome

Ireland's solar sector entered a new phase in 2026. By the end of May, total connected solar capacity had reached 2.7 GW, following a year of significant deployment across utility-scale, rooftop and distributed generation. This marks one of the fastest periods of renewable electricity deployment in the country's history and reflects the growing role of solar as part of Ireland's critical energy infrastructure.

What was once a relatively small part of Ireland's electricity system is now becoming increasingly embedded across homes, farms, schools, businesses and utility-scale energy projects throughout the country. Solar is contributing not only to decarbonisation, but increasingly to energy security, regional investment, electricity system resilience and public participation in the energy transition.

The growth has been driven primarily by utility-scale deployment, which surpassed 1.5 GW by May 2026, alongside continued expansion in rooftop and distributed generation. Microgeneration alone now exceeds 800 MW, highlighting the increasing role households and businesses are playing in Ireland's transition to cleaner energy.

At the same time, the energy system itself is evolving. The growth of battery storage, increasing levels of daytime charging, and stronger integration between solar generation and system flexibility are beginning to reshape how electricity is generated, stored and consumed across Ireland.

This year's Scale of Solar report reflects that transition. Alongside updated deployment and generation data, the 2026 edition places a stronger focus on system value, energy security, workforce readiness, regional delivery and the growing role of solar in everyday life.

Ireland's solar story is no longer defined solely by ambition. It is increasingly defined by delivery.

Ronan Power
CEO, Solar Ireland

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Executive Summary

Ireland's connected solar capacity reached 2.7 GW by the end of May 2026, representing 297% growth since 2023 and more than 50% growth in approximately 12 months.

The strongest growth continued to come from utility-scale deployment, while rooftop and distributed solar also expanded significantly across homes, farms and businesses throughout the country.

Over the 12 months to May 2026, solar generated more than 1.1 TWh of electricity, supplying record levels of daytime demand and demonstrating its growing role within Ireland's electricity system.

This growth reflects solar's expanding role within Ireland's electricity system and wider economy. Solar is contributing not only to decarbonisation, but increasingly to energy security, electricity system resilience, regional investment and public participation in the energy transition.

Based on current deployment trends, total connected solar capacity is estimated to exceed 3.3 GW by year end.

Economic Contribution: Jobs, Investment & Regional Growth

Delivery Enablers - What's Needed Next:
Grid delivery | Skills and workforce readiness | Planning efficiency | Storage integration | Policy certainty

Ireland's Solar Market

From Growth to System Value

Ireland's solar market is entering a new phase of development.

Recent deployment growth has significantly increased solar's presence across Ireland's electricity system, but the more important transition is how solar generation is now beginning to influence the wider operation, structure and resilience of the energy system itself.

While utility-scale solar continues to account for the largest share of connected capacity, rooftop and distributed generation are also expanding rapidly across homes, farms, schools, commercial buildings and industrial sites throughout the country. This is contributing to a more decentralised electricity system, where generation is increasingly taking place closer to where energy is consumed.

Large-scale solar farms are now supplying growing volumes of renewable electricity directly to the grid, helping diversify Ireland's generation mix and reduce reliance on imported fossil fuels. At the same time, distributed generation is broadening participation in the energy transition across households, businesses and communities.

The continued growth of microgeneration, non-exporting generation and commercial rooftop solar also reflects changing attitudes towards electricity consumption, energy resilience and on-site generation. Increasing numbers of consumers and businesses are seeking greater visibility and control over how electricity is generated and used.

This acceleration in deployment is also beginning to reshape wider system behaviour. Higher levels of daytime solar generation, growing battery integration and increasing levels of distributed participation are contributing to a more flexible and diversified electricity system.

Solar's role within Ireland's energy transition is therefore evolving. The sector is no longer defined solely by installed capacity, but increasingly by its contribution to energy security, system resilience, regional investment and public participation.

Ireland's Solar Market

This next phase of growth will require continued coordination across Government, industry, networks and communities. Grid delivery, planning efficiency, workforce readiness, storage integration and long-term policy certainty will all play an important role in determining how quickly Ireland can move from rapid deployment towards long-term system integration.

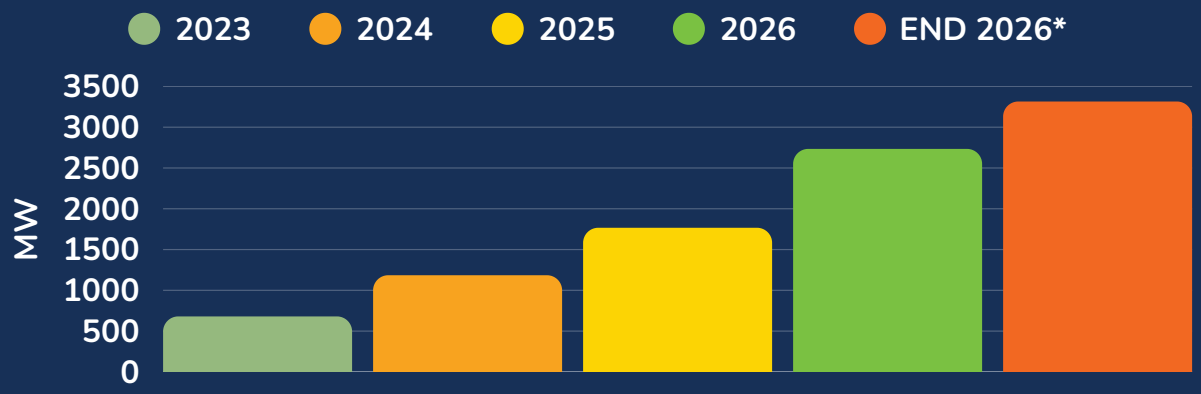
The following sections provide a detailed breakdown of where solar is being deployed across Ireland, how different market segments are evolving, and the growing contribution solar is making to the electricity system and everyday life throughout the country

Capacity Growth Since 2023

Ireland's connected solar capacity has increased rapidly across all major market segments since 2023, driven by a combination of utility-scale deployment, rooftop expansion and growing participation from homes, farms and businesses.

While utility-scale solar continues to account for the largest share of installed capacity, distributed generation has also expanded significantly across the country, reinforcing solar's growing role within everyday energy use and regional economic activity.

This growth is becoming increasingly visible at county level, with deployment accelerating across both urban and rural Ireland.



*estimated capacity by year end
ESB Networks provided data on Ireland's total operational solar capacity as of 12 June 2026, with rooftop connections reported up to 31 May 2026.

Ireland’s Solar Market

Solar’s Growing Role in the Electricity System

As solar deployment continues to accelerate across Ireland, its contribution to the electricity system is becoming increasingly visible.

Higher levels of daytime generation, growing seasonal output and the continued expansion of distributed solar are beginning to influence how electricity is generated, consumed and balanced across the system.

Solar generation reached record levels throughout 2025 and into 2026, with several months establishing new highs for both output and contribution to national electricity demand. During periods of strong solar performance, solar generation supplied a significant share of daytime electricity demand, reducing reliance on fossil fuel generation and supporting lower-carbon system operation.

This growth is also beginning to reshape wider system behaviour. Increased daytime solar output is contributing to evolving demand patterns across the grid, while changing electricity market arrangements and flexibility services are influencing how battery storage assets charge and discharge throughout the day.

While Ireland’s electricity system remains heavily dependent on multiple generation sources, solar is increasingly becoming an important component of a more diversified and flexible energy mix.

The growth of solar energy in Ireland is one of the clearest examples of how our energy transition is moving from ambition to delivery. In just 12 months, Ireland added 1 GW of solar capacity, helping to strengthen Ireland's energy resilience, reduce emissions and increase the share of domestically generated renewable electricity on our system.

As electricity demand continues to grow, driven by electrification across homes, transport and industry, investment in renewable energy infrastructure will be essential. Solar is already making an increasingly important contribution to Ireland's electricity system and will continue to play a key role in supporting energy resilience, economic competitiveness and a sustainable energy future.

While 2030 remains a critical milestone, we must also look beyond it. The decisions we make today will shape Ireland's energy system for decades to come, and technologies like solar will be central to delivering a resilient, affordable and low-carbon electricity system for future generations.

This report highlights both the significant progress achieved across the sector and the opportunities that lie ahead as Ireland continues to build the energy system of the future. **- Darragh O'Brien, Minister for Climate, Environment and Energy**

Technology Breakdown

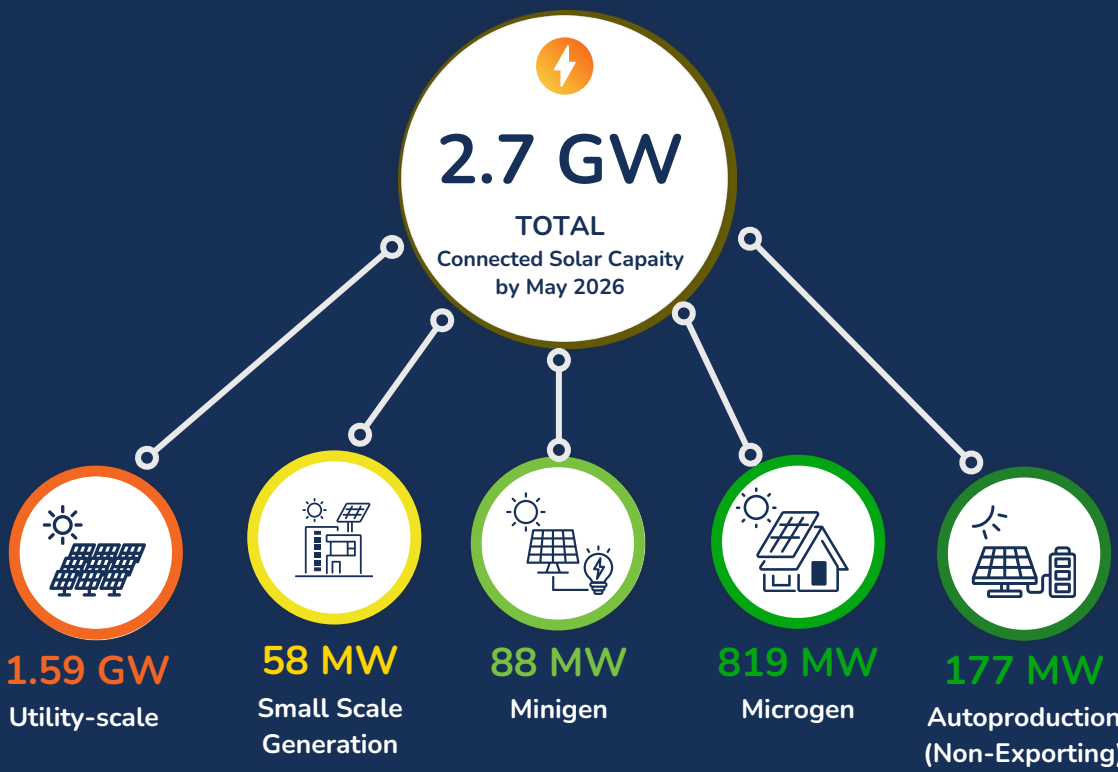
Where Solar Is Being Built

Ireland's solar sector now spans a broad range of technologies, scales and deployment models, reflecting the increasingly diverse role solar is playing within the energy system.

While utility-scale solar farms continue to account for the largest share of installed capacity, strong growth is also taking place across commercial rooftops, farms, schools, and community buildings, industrial facilities and homes throughout the country.

This diversity is becoming one of the defining characteristics of Ireland's solar transition. Large-scale projects are delivering substantial volumes of renewable electricity directly to the grid, while distributed generation is bringing electricity production closer to where energy is consumed.

Together, these different deployment models are contributing to a more flexible, resilient and participatory energy system. The following sections provide an overview of the main segments driving solar deployment across Ireland as of May 2026.



ESB Networks provided data on Ireland's total operational solar capacity as of 12 June 2026, with rooftop connections reported up to 31 May 2026.

Technology Breakdown

Utility-Scale Solar (>5MW)

Utility-scale solar continues to account for the largest share of Ireland's connected solar capacity and remains the primary driver of recent deployment growth.

By May 2026, more than 1.5 GW of utility-scale solar had been connected across transmission and distribution networks, supplying significant volumes of renewable electricity directly to the grid. These projects are playing an increasingly important role in supporting Ireland's decarbonisation targets, energy security and long-term electricity supply diversification.

The growth of utility-scale solar is also contributing to regional investment, local authority revenues and community benefit funding across the country. Many projects now incorporate biodiversity measures, habitat enhancement and long-term land stewardship practices alongside electricity generation.

As deployment continues to scale, utility-scale solar is becoming an increasingly important component of Ireland's wider energy infrastructure, supporting both national climate objectives and the transition towards a more flexible electricity system.

Technology Breakdown

Clonfad Solar Farm: Delivering Renewable Energy at Scale

Located in County Westmeath, Clonfad Solar Farm is one of Ireland's largest solar energy projects and a significant milestone in the country's renewable energy transition. Developed by Statkraft, the project spans approximately 260 hectares and comprises almost 300,000 solar panels with a total capacity of 174 MWp.

Fully energised in 2026, Clonfad is expected to generate enough renewable electricity to avoid approximately 40,000 tonnes of CO_2 emissions annually while making a significant contribution to Ireland's growing supply of domestically generated clean energy.

Beyond its scale, the project demonstrates how large renewable energy developments can deliver environmental, social and economic value alongside electricity generation.

During construction, the project supported approximately 250 workers at peak activity and engaged a range of local suppliers, contractors and service providers, contributing to the regional economy and supporting local employment.

Environmental protection and biodiversity enhancement were integrated throughout the development. Measures included dedicated wildlife exclusion zones, protection of existing badger setts, ongoing environmental monitoring and the use of specialised construction approaches in archaeologically sensitive areas. Waste management practices were also guided by circular economy principles.

Technology Breakdown

Clonfad Solar Farm: Delivering Renewable Energy at Scale

Community engagement formed a key part of the project's delivery. A dedicated Community Liaison Officer worked closely with local residents, schools, businesses and community groups throughout construction.

Clonfad demonstrates how utility-scale solar can contribute not only to Ireland's climate and energy objectives, but also to local communities, biodiversity and regional economic development.

Clonfad Solar Farm at a Glance

- 174 MWp installed capacity
- ~300,000 solar panels
- 260 hectares site area
- 40,000 tonnes CO_2 emissions avoided annually
- 250 workers at peak construction
- 500,000+ accident-free work hours

Technology Breakdown

Mid-Scale Solar (1-5MW)

Mid-scale solar projects continue to play an important role within Ireland's evolving solar market, bridging the gap between large utility-scale developments and smaller distributed generation.

This segment includes a mix of commercial rooftop systems, smaller solar farms and localised energy projects supplying electricity to nearby businesses, agricultural operations and communities.

Projects within the 1–5MW range can often be delivered more quickly and flexibly than larger infrastructure developments, while still contributing meaningful renewable generation capacity to the system.

The growth of this segment also highlights the increasing diversity of Ireland's solar market, with deployment taking place across industrial facilities, logistics centres, agri-food operations and regional energy projects throughout the country.

> *EirGrid reached a key milestone in Ireland's renewable energy transition in April 2026, with grid-scale solar generation exceeding 1 GW for the first time, enough to power over 500,000 homes. This reflects sustained progress in connecting large-scale solar to the national grid and marks a step change in Solar's contribution to Ireland's generation mix. The continued integration of grid-scale solar on the transmission system will be critical to enabling the electrification of the economy and supporting future growth in demand.* - Thomas Foody, Head of Connection Projects South, EirGrid

Technology Breakdown

Lehinch Solar Farm: Regional Delivery in Action

Located in County Offaly, Lehinch Solar Farm demonstrates the growing contribution of medium-scale solar projects to Ireland's renewable electricity system.

Developed through a joint venture between Shannon Energy and Obton, the project was commissioned in June 2024 and has an installed capacity of 6.28 MWp with an export capacity of 4 MW. The solar farm supplies clean electricity through a long-term corporate power purchase agreement (CPPA), demonstrating the growing role of private-sector renewable energy procurement in supporting Ireland's energy transition.

Lehinch forms part of an increasingly important segment of Ireland's solar market, bridging the gap between rooftop generation and larger utility-scale solar farms. Projects of this scale can contribute meaningful volumes of renewable electricity while supporting local investment and helping businesses access long-term renewable energy supply.

Project Snapshot

- 6.28 MWp Installed Capacity
- 4 MW Export Capacity
- June 2024 Commissioned
- Fixed-Tilt Solar PV
- Route to Market: Corporate PPA with Boston Scientific

2025 Impact

4.54 GWh Generated
~1,000 Homes Equivalent Powered
~1,150 Tonnes CO_2 Avoided

Technology Breakdown

Commercial & Industrial Solar (200kVA–1MW)

Solar installations within the 200kVA–1MW category continued to expand throughout 2025 and into 2026, reflecting growing demand for larger-scale on-site electricity generation across Ireland's commercial and industrial sectors.

These systems are typically deployed across manufacturing facilities, logistics centres, food production sites, warehouses and large commercial buildings, helping organisations reduce exposure to electricity price volatility while increasing long-term energy resilience.

By generating electricity closer to demand, commercial and industrial solar is also contributing to a more decentralised and flexible energy system. Many installations within this category are increasingly being paired with battery storage and energy management technologies to maximise self-consumption and operational efficiency.

As electricity demand continues to grow across industry and business, this segment is expected to play an increasingly important role in supporting Ireland's wider decarbonisation and energy security objectives.

Technology Breakdown

Activ8 – Tayto Snacks Rooftop Solar Installation, Co. Meath

In 2026, Activ8 Solar Energies completed a major rooftop solar installation at the Tayto Snacks production facility in Ashbourne, Co. Meath, representing Tayto's largest renewable energy investment to date.

The 772 kWp rooftop system comprises 1,734 solar panels and is expected to generate approximately 667 MWh of electricity annually, supplying around 10% of the facility's annual electricity demand.

The project reflects the growing role of on-site solar generation within Ireland's manufacturing sector, as businesses seek greater energy resilience, lower carbon emissions and increased control over electricity costs amid continued market volatility and rising demand for electrification.

The installation is expected to reduce carbon emissions by approximately 146 tonnes of CO_2 annually and was supported through SEAI's Non-Domestic Microgeneration Grant (NDMG) scheme.

Tayto Snacks at a Glance

- 772 kWp rooftop solar installation
- 1,734 solar panels installed
- Approx. 667 MWh annual generation
- Supplies ~10% of site electricity demand
- Approx. 146 tonnes CO_2 avoided annually

Watch the video:

Technology Breakdown

Small-Scale Solar (50–200kVA)

Sitting between microgeneration and larger commercial systems, small-scale solar installations in the 50–200kVA category continued to expand throughout 2025 and into 2026, supporting a growing range of commercial, agricultural and public-sector energy users across Ireland.

This segment typically includes medium-sized rooftop systems installed on farms, schools, retail premises, community buildings and smaller industrial facilities, where electricity generated onsite can directly offset daytime demand.

While individually smaller than utility-scale or large commercial installations, these projects collectively represent an increasingly important layer within Ireland's distributed energy landscape. They are helping broaden participation in the energy transition while bringing renewable electricity generation closer to where energy is consumed.

As electricity prices, energy resilience and sustainability continue to shape investment decisions, small-scale solar is becoming an increasingly accessible option for organisations seeking long-term operational savings and lower carbon emissions.

Technology Breakdown

Community-Led Solar Adoption in Newbridge

What began as a single homeowner enquiry has evolved into a neighbourhood-led solar initiative, demonstrating how solar adoption can spread through communities and accelerate the transition to clean energy.

In May 2026, SolarSmart completed a collaborative residential solar project in a new housing development in Newbridge, Co. Kildare. Following an initial enquiry from one resident, four neighbouring households came together to install solar and battery systems, reducing costs through a coordinated approach while increasing the overall impact of the project.

Each home installed a 7.5 kWp solar PV system comprising 16 solar panels, a hybrid inverter and a 9 kWh battery storage system. Because the homes shared similar characteristics, including modern energy-efficient construction, air-to-water heat pumps and comparable electricity consumption, the consultation, design and installation process could be streamlined across the group.

The systems are expected to meet approximately 90% of each household's annual electricity requirements, with around 72% of generated solar electricity consumed directly within the home.

The project highlights the growing role of solar in supporting household energy resilience while also demonstrating the value of community engagement in accelerating adoption.

Newbridge Neighbourhood Solar at a Glance

- 4 participating households
- 30 kWp installed solar capacity
- 36 kWh battery storage
- €4,800+ combined annual savings
- 8 tonnes CO_2 avoided annually
- 4 additional households now exploring solar

Technology Breakdown

Mini-Generation (17–50kVA)

Mini-generation continued to grow steadily across Ireland throughout 2025 and into 2026, driven by increasing uptake among farms, schools, small businesses, community facilities and public buildings.

Systems within this category are typically designed to support high levels of self-consumption, helping energy users reduce electricity costs while increasing resilience against energy market volatility.

Mini-generation also plays an important role in widening participation in Ireland's energy transition by enabling a broader range of organisations and smaller energy users to invest directly in renewable electricity generation.

These systems are particularly well suited to buildings and operations with consistent daytime electricity demand, where onsite generation can offset a significant share of electricity consumption while increasing awareness and engagement with energy use.

As awareness, installer capacity and technology integration continue to improve, mini-generation is expected to remain an important contributor to Ireland's distributed and decentralised energy future.

Mini-Generation in Action

Solar supporting organisations across Ireland's communities and local economies

Technology Breakdown

Auto-production (Non-Exporting Solar)

Non-exporting solar generation continued to expand throughout 2025 and into 2026 as more organisations prioritised on-site electricity generation, self-consumption and long-term energy resilience.

These systems are designed to supply electricity directly to the host site without exporting excess generation to the grid, making them particularly attractive for manufacturing facilities, logistics centres, food production sites and other energy-intensive commercial operations.

By generating electricity closer to demand, auto-production systems help businesses reduce exposure to electricity price volatility while increasing operational control over energy supply and consumption.

The continued growth of non-exporting solar reflects a broader shift towards decentralised energy participation and increasing interest in local energy security across Ireland's commercial and industrial sectors.

As battery storage, smart controls and energy management technologies continue to evolve, auto-production is expected to become an increasingly important component of Ireland's future electricity system.

Why Organisations Choose Auto-Production

Auto-production systems generate electricity for onsite use only, with **no export to the grid**.

01 Reduce Electricity Costs
Generate your oen electricity and lower ongoing energy bills.

02 Increase Resilience
Strenghten energy resilience and reduce exposure to price volatility.

03 Greater Control
More control over energy production and consumption.

04 Future Ready
Designed to integrate with battery storage and smart energy management systems.

Technology Breakdown

Microgeneration (≤6kW)

Microgeneration continued to expand rapidly across Ireland throughout 2025 and into 2026, with connected capacity surpassing 800 MW by May 2026.

The segment has become one of the most visible parts of Ireland's solar transition, with households, farms, schools and small businesses increasingly participating directly in renewable electricity generation.

Typically installed on homes and smaller buildings, microgeneration systems allow electricity users to generate power onsite, reduce reliance on imported electricity and participate more directly in the energy transition through self-consumption and export generation.

Supported by continued policy support, growing public awareness and improving technology integration, rooftop solar is becoming an increasingly familiar feature across homes and communities throughout Ireland.

Beyond electricity generation, microgeneration is also helping strengthen public engagement with renewable energy by enabling consumers and communities to play a more active role within Ireland's evolving electricity system.

Household Energy Resilience Snapshot

For many households, microgeneration is increasingly being viewed not only as a decarbonisation measure, but also as a long-term energy resilience investment.

A typical residential rooftop solar system can generate a significant share of a household's annual daytime electricity demand, helping reduce exposure to electricity price volatility while increasing visibility and control over energy use.

Technology Breakdown

As battery storage adoption continues to grow, more households are also beginning to store excess daytime generation for evening consumption, increasing self-consumption and reducing reliance on imported electricity during peak demand periods.

The continued expansion of microgeneration reflects a broader shift towards more decentralised and participatory energy systems, where homes and communities play a more active role in how electricity is generated and consumed across Ireland.

Public Participation in Ireland's Solar Transition

The continued growth of rooftop solar has been supported by strong levels of public participation across both domestic and non-domestic grant schemes.

- Over 100,000 domestic solar grants have been supported through the SEAI Domestic Solar PV Programme since launch
- Non-domestic solar uptake continues to expand across SMEs, farms and community buildings
- Solar PV is increasingly being integrated into broader home retrofit programmes through the One Stop Shop scheme
- Growing interest in self-consumption and onsite generation reflects increasing public engagement with energy resilience and decentralised electricity generation

A Day in the Life of an Irish Solar Home

Microgeneration puts clean, renewable electricity in the hands of households, farms, schools and small businesses across Ireland.

Rooftop solar systems are helping Irish homes generate their own electricity, reduce bills, and build resilience for the future.

MORNING Solar powers your day

Daylight hits your solar panels and powers your home. Electricity is used for everyday appliances like lights, kettles, washing machine, and more.

MIDDAY Excess energy charges your battery

When your solar system generates more than needed, the extra energy charges your battery instead of going to waste.

GRID Surplus power exported

If your battery is full and you're using less power, extra solar electricity is exported to the grid, supporting Ireland's clean energy future.

EVENING Stored energy powers your home

As the sun goes down, your battery kicks in, powering your home with clean energy you stored earlier, reducing your need to buy power from the grid.

Record-Breaking Generation

Solar generation reached new highs throughout 2025 and into 2026, reflecting the rapid growth of installed capacity across Ireland's electricity system.

Over the 12 months from June 2025 to May 2026, solar generated more than 1.17 TWh of electricity across the Republic of Ireland, representing the highest annual solar output recorded to date. This milestone reflects the continued expansion of both utility-scale solar farms and distributed rooftop generation across homes, farms, schools, businesses and public buildings.

As deployment accelerated across all market segments, solar increasingly contributed to daytime electricity supply during periods of strong generation conditions, helping reduce reliance on fossil fuel generation and supporting lower-carbon system operation.

Several months established new records for both solar output and contribution to national electricity demand, with solar becoming an increasingly visible component of Ireland's electricity mix during peak daytime periods. These records demonstrate not only the scale of recent deployment but also the growing role solar is playing in supporting Ireland's energy security, affordability and decarbonisation objectives.

The increasing contribution of both utility-scale and rooftop solar is also beginning to influence wider system behaviour. Ireland is now exhibiting the early characteristics of the "duck curve" observed in more mature solar markets, with strong daytime solar generation reducing net demand from the grid and reshaping electricity demand profiles.

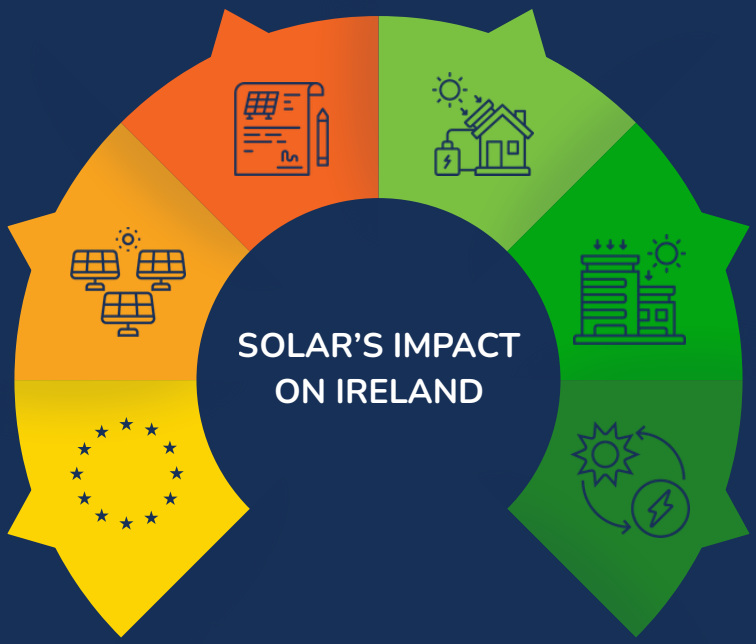
This reflects solar's growing operational role within Ireland's electricity system and highlights the need for continued investment in flexibility, battery storage and network infrastructure to maximise the value of renewable generation.

Record-Breaking Generation

100,000+
DOMESTIC SOLAR PV GRANTS SUPPORTED THROUGH THE SEAI

190,000+
HOMES & BUSINESSES CONNECTED TO ROOFTOP SOLAR

37.1%
HIGHEST INSTANTANEOUS SOLAR CONTRIBUTION TO ELECTRICITY DEMAND



460,000+
HOMES EQUIVALENT POWERED BY SOLAR

13.1%
SOLAR SHARE OF EUROPEAN ELECTRICITY GENERATION IN 2025

1.17 TWh
SOLAR ELECTRICITY GENERATED IN IRELAND (JUN 2025-MAY 2026)

The continued rapid growth in both utility-scale solar projects and rooftop olar installations over recent years is a powerful reflection of the contribution individuals, communities and renewable project developers are making to supporting our climate goals. The electricity network now supports 2.7 GW of solar generation, from large utility-scale developments to domestic rooftop systems. Each year, approximately 50,000 new solar installations are completed across homes, farms, businesses and communities throughout the country. Sustaining this momentum will help realise our climate ambitions and help shape a cleaner, resilient and electrified future for all. - Nicholas Tarrant, Managing Director, ESB Networks.

Solar + Battery

Building a More Flexible Power System

As solar generation continues to expand across Ireland, battery storage is becoming an increasingly important part of the evolving electricity system.

As renewable generation grows across Ireland's electricity system, flexibility and energy storage are becoming increasingly important in balancing supply and demand and supporting efficient system operation.

Historically, battery charging patterns in Ireland were largely concentrated during overnight periods. More recently, battery behaviour has evolved as participation in electricity markets and flexibility services has increased, resulting in more frequent charging and discharging activity across the system.

At the same time, increasing solar generation is contributing to cleaner daytime electricity availability, reinforcing the complementary relationship between solar generation, flexibility and energy storage.

Periods of strong solar generation are increasingly coinciding with battery charging activity, reflecting the growing interaction between renewable generation, electricity markets and system flexibility.

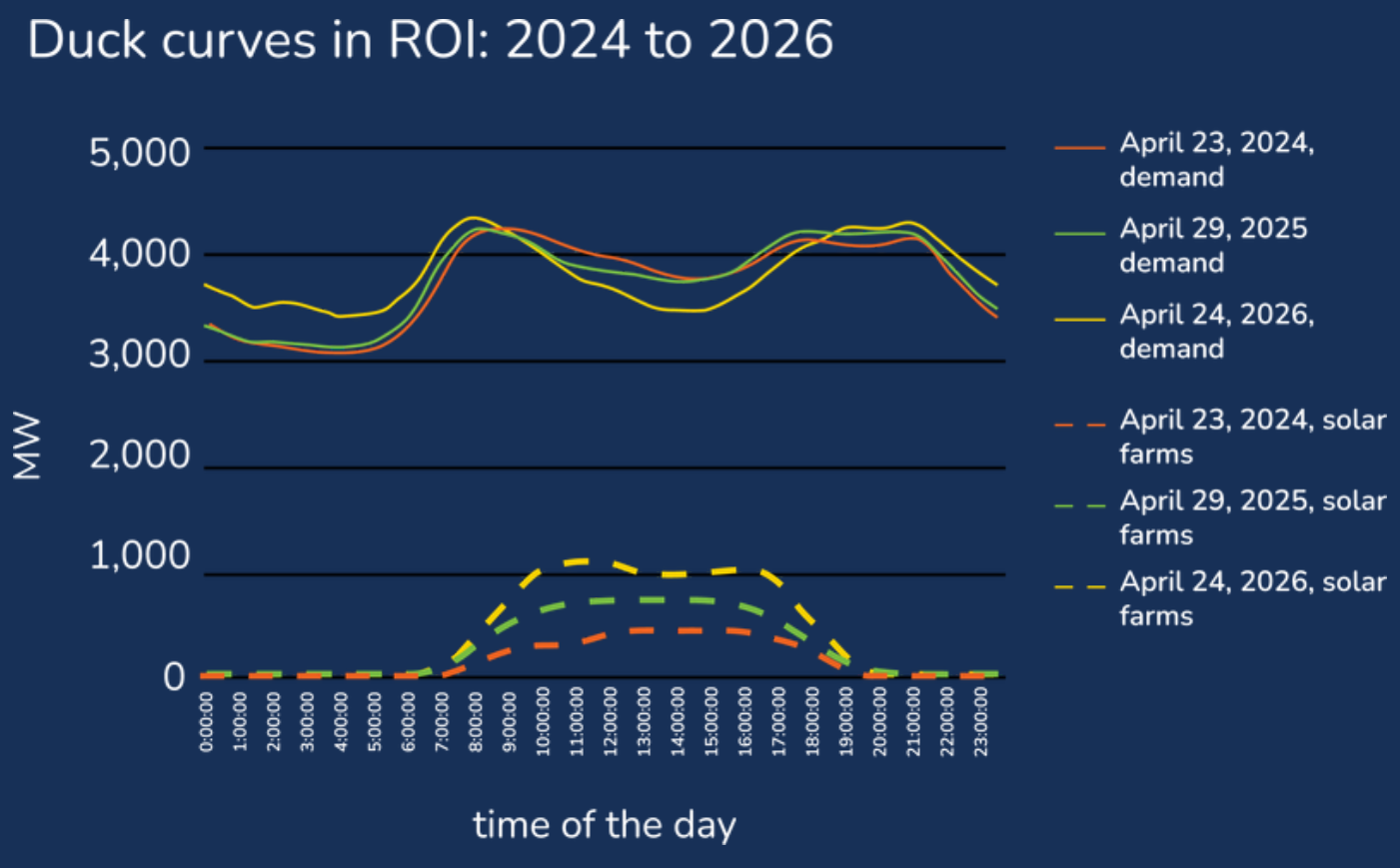
This reflects the growing operational relationship between solar generation, storage and wider system evolution. By storing electricity during periods of strong generation and discharging during higher demand periods, batteries can support grid stability, improve renewable electricity utilisation and contribute to a more flexible electricity system.

As renewable generation continues to grow, flexibility technologies such as battery storage will also play an increasingly important role in helping the electricity system maximise the use of available renewable electricity. Supporting greater levels of system flexibility can help reduce periods where renewable generation cannot be fully utilised due to network or system constraints.

Solar + Battery

The continued growth of both solar generation and battery storage reflects a broader transition within Ireland's electricity system, from one focused primarily on generation capacity towards one increasingly shaped by flexibility, system integration and efficient use of renewable electricity. As deployment continues to accelerate, the relationship between solar, storage and grid operation is expected to become increasingly important.

As solar deployment expands across both rooftops and solar farms, Ireland is beginning to experience more pronounced daytime reductions in grid demand followed by sharper evening demand increases. Known internationally as the "duck curve", this trend has emerged in many solar-rich electricity systems and reflects the growing influence of solar generation on electricity demand patterns and system operation. The emergence of this trend in Ireland highlights the increasing importance of flexibility, storage and demand-side participation as solar continues to scale.



Solar & Energy Resilience

Ireland’s energy system continues to face significant exposure to international energy market volatility, imported fossil fuels and growing electricity demand driven by electrification across transport, heating and industry.

Against this backdrop, solar energy is becoming an increasingly important part of Ireland's broader energy resilience landscape.

Unlike imported fossil fuels, solar generation is produced domestically and can be deployed across a wide range of scales and locations, including homes, farms, businesses, public buildings and utility-scale energy infrastructure throughout the country.

This ability to generate electricity closer to where energy is consumed is becoming an increasingly important characteristic of Ireland’s evolving electricity system. Distributed generation can help reduce pressure on the wider network, strengthen local energy resilience and increase participation across communities and businesses.

At the same time, larger utility-scale solar projects are contributing growing volumes of renewable electricity directly to the grid, supporting Ireland’s transition towards a more diversified and lower-carbon energy mix.

During May 2026, solar generation supplied a peak instantaneous contribution of 37.1% of electricity demand, demonstrating the increasingly important role domestic renewable generation can play in supporting Ireland's energy resilience.

The continued expansion of solar generation also has broader economic implications. Increasing levels of domestic renewable electricity generation can help reduce exposure to imported fuel costs and international market disruption while supporting regional investment and long-term infrastructure development.

As Ireland's electricity system continues to evolve, solar is becoming more than a source of renewable electricity. It is increasingly contributing to energy resilience, system flexibility, public participation and the long-term transformation of Ireland's energy infrastructure.

Solar & Energy Resilience

Together with continued investment in networks, storage and electrification, solar will play an increasingly important role in supporting a more secure, resilient and sustainable energy future for Ireland.

Ireland's Energy Exposure Snapshot

Ireland's energy system is evolving. Solar energy is playing an increasingly important role in building a secure, flexible and resilient future.

FROM IMPORTED FOSSIL FUELS TO DOMESTIC RENEWABLE RESILIENCE

1. ENERGY EXPOSURE TODAY

Reliant on Imported Fossil Fuels

- High reliance on imported fossil fuels for electricity, heat and transport.
- Exposed to international price volatility and geopolitical risk.
- Fossil fuel imports cost Ireland billions each year and impact energy security.

Ireland remains vulnerable to global energy markets.

2. GROWING ELECTRICITY DEMAND

Electrification is Driving Demand

- Transport electrification (EV uptake increasing).
- Heat electrification (heat pumps replacing fossil fuels).
- Industry electrification and process efficiency.
- Electricity demand expected to increase significantly over coming decades.

More electricity will be needed to power our future economy.

3. BUILDING ENERGY RESILIENCE

Domestic Renewables are the Solution

- Solar generation produced in Ireland.
- Renewable electricity from wind and other sources.
- Energy storage supporting a flexible system.
- Distributed generation empowering homes, farms, businesses & communities.

More domestic renewable generation means greater energy security, lower costs and stronger resilience.

37%

Peak instantaneous contribution to electricity demand from solar

Solar in Action

Powering Everyday Ireland

Beyond national targets and electricity system metrics, the growth of solar energy is increasingly being seen across homes, farms, schools, businesses and communities throughout Ireland.

What was once less visible in Ireland's electricity system is now becoming part of everyday infrastructure, supporting electricity generation closer to where energy is consumed while helping households, organisations and businesses strengthen energy resilience and reduce long-term electricity costs.

This shift is broadening participation in Ireland's energy transition by enabling more communities and energy users to engage directly with renewable electricity generation and self-consumption.

From schools reducing operational costs and increasing sustainability awareness among students, to farms improving energy resilience and businesses strengthening operational efficiency, solar is increasingly being integrated into the places where people live, work and learn.

The following examples highlight how solar deployment is beginning to deliver practical economic, environmental and operational benefits across everyday Ireland.

Solar in Schools

Schools are becoming an increasingly visible part of Ireland's wider solar transition, with growing interest in rooftop solar installations across educational settings.

While financial and operational considerations can still present challenges for some schools, solar energy is increasingly being recognised as an opportunity not only to reduce electricity demand from the grid, but also to strengthen awareness and engagement around sustainability and energy use among students and local communities.

Solar in Action

Initiatives such as the Solar for Schools programme are helping support early adoption and increasing visibility of renewable energy technologies within educational environments, while also contributing to broader conversations around climate action, electrification and Ireland’s future energy system.

The visibility of rooftop solar within schools can help normalise renewable energy technologies within everyday life and increase awareness of the infrastructure and skills that will play an important role in Ireland’s long-term energy transition.

Carrigaline Community School: Solar in Action

Carrigaline Community School in Co. Cork demonstrates how solar energy is becoming an increasingly practical solution for Ireland's education sector. In 2025, the school partnered with Verde Energy Group to install a 60 kWp rooftop solar system comprising 114 solar panels, helping reduce electricity costs while supporting the school's sustainability objectives.

The project demonstrates the growing role schools can play in Ireland's energy transition. By generating electricity on-site, educational facilities can reduce operating costs, improve energy resilience and create opportunities to engage students with renewable energy technologies in a practical setting.

"*The project was cost positive to CCS and was described as a 'no brainer' when approved by our Board of Management. The work in school created little or no disruption and we are happy to recommend Verde to other schools.*" Pat Looney, Principal, Carrigaline Community School

Carrigaline Project Snapshot

- 60 kWp installed capacity
- 114 solar panels
- 58,949 kWh estimated annual generation
- 15 tonnes of CO_2 avoided annually
- €15,557 estimated annual electricity cost savings
- 25.9% of annual electricity demand supplied by solar

Solar in Action

Solar on Farms

Agriculture is becoming an increasingly important part of Ireland's solar transition, with growing levels of interest in rooftop and on-farm solar generation across a wide range of farming sectors.

For many farms, solar generation offers an opportunity to reduce electricity costs, strengthen operational resilience and increase long-term control over energy use, particularly for businesses with consistent daytime electricity demand.

Strong uptake under schemes such as the TAMS Solar Capital Investment Scheme has demonstrated significant interest among farmers in investing in onsite renewable electricity generation. Thousands of applications have been submitted in recent years, reflecting growing recognition of solar as both an economic and operational investment within the agricultural sector.

At the same time, recent changes to grant thresholds and expenditure limits have created challenges for some farm types and project sizes, particularly where electricity demand extends beyond core agricultural operations. This has increased concern across parts of the sector around long-term accessibility and the ability to fully maximise the potential of on-farm solar generation.

Despite these challenges, solar deployment across Irish agriculture is expected to continue expanding as farms increasingly seek greater energy resilience, lower operational costs and participation in Ireland's wider energy transition.

Solar in Action

Kildangen Farm: Solar Supporting Sustainable Agriculture

Mark and Edna Moore of Kildangen Farm in Kinnegad, Co. Meath installed a rooftop solar and battery storage system to reduce energy costs, improve sustainability and increase energy independence on their farm.

Commissioned in October 2024, the system was installed by PV Generation and comprises 136 solar panels, 35 kWh of battery storage and smart energy management technology. Since installation, it has generated more than 70 MWh of clean electricity, helping the farm reduce energy costs, increase self-sufficiency and lower its reliance on imported electricity.

The project demonstrates how solar and battery storage can support Irish farms by reducing energy bills, increasing self-sufficiency and making better use of locally generated renewable electricity.

Project Snapshot

- 60.5 kWp rooftop solar installation
- 35 kWh battery storage
- 70.6 MWh generated since installation
- 33.5 tonnes CO_2 avoided
- 84% of solar generation consumed onsite
- 31% overall energy self-sufficiency
- More than 50% of farm electricity supplied by solar during May 2026

Solar in Action

Solar in Industry and Businesses

Solar deployment across Ireland's commercial and public-facing sectors continued to expand throughout 2025 and into 2026, as organisations increasingly invested in onsite renewable electricity generation to support energy resilience, operational efficiency and long-term sustainability objectives.

Large rooftop solar systems are now being deployed across manufacturing facilities, logistics centres, retail operations, tourism destinations and public attractions throughout the country, helping organisations reduce exposure to electricity market volatility while strengthening control over energy consumption.

For many businesses and organisations, solar generation is increasingly being viewed as part of wider operational infrastructure investment, particularly as electricity demand continues to grow through electrification, automation and energy-intensive operations. Commercial rooftop solar is also contributing to a more decentralised electricity system by generating electricity closer to demand and increasing participation across the wider economy.

Dublin Zoo: Solar Supporting Conservation

Dublin Zoo has combined sustainability and conservation through the installation of a 500 kWp rooftop solar system across 11 buildings throughout its 28-hectare campus.

Designed and delivered by Ohk Energy, the project is expected to generate more than 400,000 kWh of clean electricity annually, supplying approximately 10% of the Zoo's electricity demand while reducing reliance on fossil fuels. Beyond the environmental benefits, the project provides a highly visible example of renewable energy in action for the hundreds of thousands of visitors who pass through the Zoo each year.

The installation required careful planning around the wellbeing of the animals, including scheduling works on the Gorilla House around the gorillas' daily routines, demonstrating how renewable energy projects can be delivered alongside conservation priorities.

County Spotlight

Solar Powering Local Communities

Solar deployment is increasingly becoming visible across counties and communities throughout Ireland, reflecting the growing role of renewable electricity generation within local economies, businesses and everyday infrastructure.

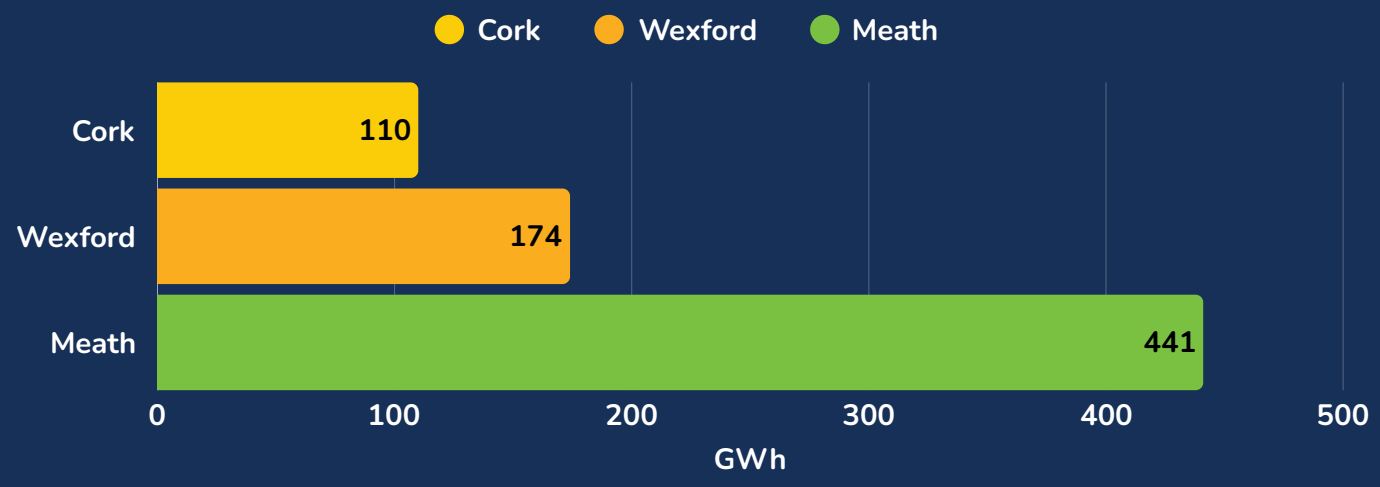
Generation data for the 12 months to May 2026 highlights how Ireland's solar landscape is becoming increasingly geographically diverse. While Meath remains the country's leading solar county, strong growth in counties such as Wexford and Cork demonstrates how deployment is expanding across multiple regions.

While national capacity growth provides an important measure of progress, county-level deployment helps demonstrate how the energy transition is taking shape across different regions, sectors and communities throughout the country.

From utility-scale solar farms supporting regional investment and electricity generation, to rooftop systems installed on homes, farms and businesses, solar deployment is becoming increasingly embedded within local energy systems and community infrastructure.

The following county spotlight examples highlight different dimensions of Ireland's evolving solar landscape, including both large-scale renewable infrastructure and growing levels of distributed participation.

Top Generating Counties (June 2025-May 2026)



Source: GreenCollective June 2026 and ESBN 31 May 2026

County Spotlight

County Meath: Utility-Scale Solar Leadership

County Meath has emerged as one of Ireland's leading regions for utility-scale solar deployment, reflecting the growing role of large-scale renewable electricity infrastructure within the county's evolving energy landscape.

The county has seen significant levels of solar development in recent years, contributing to Ireland's wider renewable electricity generation capacity while supporting regional investment, construction activity and long-term infrastructure delivery.

County Meath remains Ireland's leading solar county and continues to account for the largest share of utility-scale solar generation nationally. However, the evolution of Meath's contribution also reflects the wider expansion of solar deployment across Ireland. While the county accounted for a very large share of national solar generation in the early stages of market development, increasing deployment across additional regions has gradually broadened Ireland's solar landscape.

427 MW
UTILITY-SCALE CAPACITY

#1
SOLAR GENERATING COUNTY IN IRELAND

7
SOLAR FARMS LARGER THAN 10 MW

441 GWh
SOLAR ELECTRICITY GENERATED (June 25 - May 26)

COUNTY MEATH
Powering communities, and supporting a cleaner, more resilient Ireland.

County Meath has been at the forefront of Ireland's solar journey, hosting some of the country's earliest utility-scale solar farms. While it remains Ireland's leading solar-generating county, solar growth is now accelerating nationwide, reflecting the expanding contribution of communities across Ireland to the renewable energy transition.

Source: GreenCollective June 2026 and ESBN 31 May 2026

County Spotlight

This reflects the transition from early concentration towards more geographically distributed growth, as new projects continue to come online across counties throughout Ireland.

Utility-scale solar projects across Meath are helping supply increasing volumes of renewable electricity directly to the grid while also demonstrating how renewable energy infrastructure is becoming more visible across local communities and regional economies.

The growth of solar deployment within the county also reflects broader national trends, including increasing electricity demand, the expansion of renewable generation and growing interest in strengthening Ireland's long-term energy resilience through domestic infrastructure investment.

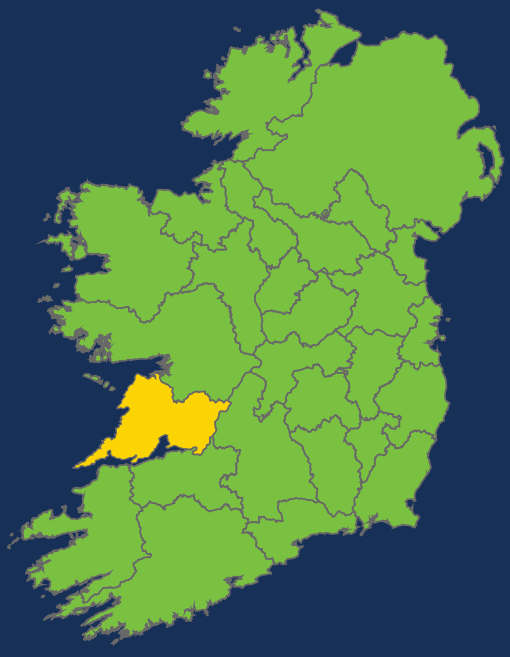
Rooftop Solar Participation: County Clare

County Clare has emerged as one of Ireland's strongest examples of distributed rooftop solar participation, recording the highest number of small-scale solar systems per capita nationally.

#1
HIGHEST NUMBER OF ROOFTOP SYSTEMS PER CAPITA NATIONALLY

51
ROOFTOP SOLAR SYSTEMS PER 1,000 PEOPLE

MORE THAN
€4.8 m
IN ESTIMATED ANNUAL SAVINGS AND EXPORT PAYMENTS



COUNTY CLARE
Power generated where it's needed most.

County Clare is one of Ireland's leading counties for rooftop solar, with homes, farms, schools and businesses embracing clean energy. Its success highlights the growing role of local generation in building a more resilient and sustainable energy future.

Source: Kilowatt June 2026 and SEAI | Estimates and rankings based on small scale (rooftop) solar systems.

County Spotlight

The continued growth of rooftop solar across the county highlights increasing participation from households, farms, businesses and communities in Ireland's wider energy transition.

Unlike utility-scale generation, rooftop solar reflects a highly distributed model of renewable electricity generation, with energy being generated directly on homes, farms and commercial buildings throughout local communities.

This type of distributed participation is becoming an increasingly important part of Ireland's evolving electricity system, helping broaden engagement with renewable generation while supporting self-consumption, local energy resilience and visibility of the energy transition within everyday life.

The continued expansion of rooftop solar also reflects growing public awareness of renewable energy technologies and increasing interest in reducing long-term exposure to electricity price volatility through onsite electricity generation

EVERY ROOFTOP COUNTS

Solar is saving money, cutting emissions, and building a stronger Ireland.

190,000+

ROOFTOP SYSTEMS OPERATING IN IRELAND

€81M +

ESTIMATED SAVINGS & EXPORT PAYMENTS IN 2026 (YTD)

155,000+ TONNES CO_2

ESTIMATED EMISSIONS AVOIDED FROM ROOFTOP SOLAR OVER THE LAST 12 MONTHS

Source: Kilowatt June 2026 and SEAI | Estimates and rankings based on small scale (rooftop) solar systems.

Economic Impact, Investment & Opportunity

As Ireland's solar sector continues to expand, its contribution is increasingly being measured not only through installed capacity and electricity generation, but also through investment, economic activity and long-term infrastructure development.

The rapid growth of solar deployment in recent years has attracted significant levels of domestic and international investment, supporting project development, construction activity, supply chain growth and job creation across Ireland. As the sector moves from early-stage deployment towards large-scale delivery, investment activity provides an increasingly important indicator of market confidence and future growth potential.

Investment and Market Confidence

Ireland continues to attract strong international investor interest in solar energy, supported by growing electricity demand, a stable policy environment and clear long-term renewable energy ambitions.

Despite a more uncertain global interest rate environment and ongoing challenges associated with planning and grid delivery timelines, investment appetite for Irish solar assets remains robust. The sector continues to attract a broad range of investors, lenders and developers seeking exposure to Ireland's growing renewable energy market.

Strong project pipelines and increasing levels of project maturity have continued to support transaction activity throughout 2025 and into 2026. Recent years have seen significant merger and acquisition activity alongside major project financings, reflecting increasing market liquidity as projects progress through development, construction and operational phases.

The continued participation of international investors highlights growing confidence in the long-term role of solar within Ireland's future electricity system.

Source: KPMG June 2026 analysis and Sunrise: Economic Impacts of the Solar Energy Industry in Ireland

Economic Impact, Investment & Opportunity

Economic Contribution

The economic impact of solar extends beyond electricity generation alone. Investment in solar projects supports activity across engineering, construction, manufacturing, professional services, operations and maintenance, creating economic opportunities throughout the project lifecycle.

According to KPMG's Sunrise: Economic Impacts of the Solar Energy Industry in Ireland report, continued growth in the sector could contribute more than €2.3 billion in gross value added (GVA) to the Irish economy and support between 5,500 and 7,100 jobs by 2030.

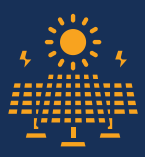
Recent deployment trends suggest that Ireland remains on a trajectory broadly consistent with these projections, with connected solar capacity having grown rapidly in recent years and project pipelines continuing to expand.
As solar deployment increases across utility-scale projects, businesses, farms, homes and public infrastructure, the sector's contribution to regional investment, workforce development and long-term economic resilience is expected to continue growing.

SOLAR'S ECONOMIC OPPORTUNITY FOR IRELAND

Delivering Ireland's 2030 solar ambitions will support jobs, investment, economic growth and energy resilience.

€2.3 BILLION+
POTENTIAL CONTRIBUITION TO IRELAND'S ECONOMY (GVA) BY 2030

5,500 - 7,100
POTENTIAL JOBS SUPPORTED



5 - 6 GW
ADDITIONAL SOLAR CAPACITY REQUIRED TO MEET 2030 AMBITIONS

0.8 - 1.3 GW
INDICATIVE ANNUAL DEPLOYMENT REQUIRED THROUGH 2030

Source: KPMG June 2026 analysis and Sunrise: Economic Impacts of the Solar Energy Industry in Ireland

Economic Impact, Investment & Opportunity

Looking Ahead

Ireland's solar sector enters the second half of the decade with strong underlying fundamentals.

Continued growth in electricity demand, increasing electrification across transport, heating and industry, and sustained policy support are expected to support further deployment across both utility-scale and distributed generation.

At the same time, maintaining momentum will require continued progress across planning, grid delivery and wider infrastructure investment. The planned expansion of Ireland's electricity networks represents an important opportunity to unlock future renewable energy growth and support greater levels of system flexibility and battery storage integration.

Market certainty will also remain a key consideration for investors. Future renewable electricity support schemes, grid connection policies and market frameworks will play an important role in shaping investment decisions and long-term deployment trajectories.

The challenge for the coming decade is not whether investment capital is available to support Ireland's solar sector, but whether the wider delivery ecosystem can convert strong project pipelines into connected capacity at the scale required to meet Ireland's future electricity needs.

STRONG INTERNATIONAL INVESTOR INTEREST SUPPORTED BY

GROWING ELECTRICITY DEMAND

CORPORATE PPAs

POLICY CERTAINTY

LONG-TERM RENEWABLE ENERGY TARGETS

Source: KPMG June 2026 analysis and Sunrise: Economic Impacts of the Solar Energy Industry in Ireland

Skills and Workforce

Delivering Solar at Scale

The rapid growth of Ireland's solar sector is creating new opportunities across engineering, construction, project delivery, operations, planning, policy and professional services. As deployment accelerates across utility-scale, commercial and distributed generation, workforce capacity is becoming an increasingly important enabler of delivery.

To better understand the sector's workforce needs, Solar Ireland partnered with Collins McNicholas in 2026 to launch its first Renewable Energy Workforce & Skills Survey. While the findings represent an early industry snapshot, several clear themes are already emerging.

Respondents reported continued demand for engineers, project managers, electricians, planning specialists and technical delivery roles. Grid expertise, planning and permitting capability, electrical engineering, project management and solar-specific technical experience were among the most frequently identified skills bottlenecks.

Many organisations also expect workforce requirements to increase over both the short and medium term, reflecting continued confidence in project pipelines and long-term sector growth. At the same time, respondents highlighted challenges associated with recruiting experienced personnel, particularly in specialist technical and delivery-focused roles.

The findings reinforce a broader reality facing Ireland's renewable energy sector: achieving climate and energy targets will require investment not only in infrastructure, but also in people.

As Ireland moves towards higher levels of renewable electricity generation, electrification and system integration, workforce planning will become increasingly important across the entire energy ecosystem. Delivering the next phase of growth will require continued collaboration between industry, Government, education providers and training organisations to ensure that skills development keeps pace with deployment.

Skills and Workforce

Workforce Snapshot

ROLES IN DEMAND
Engineers
Project Managers
Electricians
Planning Specialists
Technicians & Commissioning Specialists

SKILLS BOTTLENECKS
Grid Expertise
Planning & Permitting
Electrical Engineering
Project Delivery & Management
Solar technical Experience

KEY WORKFORCE PRIORITY

Expanding training, upskilling and industry experience pathways to build the talent pipeline needed for Ireland's growing solar sector.

Solar Ireland is actively supporting this effort through partnerships and engagement across the skills ecosystem, including collaboration with ARMSA Academy, Green Tech Skillnet and Green Tech HQ. These initiatives are helping to strengthen awareness of career opportunities, support upskilling and professional development, and build the talent pipeline needed to support Ireland's energy transition.

Solar Ireland will publish the full findings of the Renewable Energy Workforce & Skills Survey later this year. The results will help inform future industry engagement, workforce planning discussions and policy recommendations aimed at supporting the skills and talent required to deliver Ireland's renewable energy ambitions.

> *The energy transition is ultimately a people transition. Developing the skills and talent needed to support Ireland's growing solar sector will be essential to delivering our renewable energy ambitions.* - **Michelle Murphy, Director, Collins McNicholas**

Ireland in the EU & Global Context

Ireland's solar sector has entered a period of rapid growth, with connected capacity increasing significantly across utility-scale, commercial and distributed generation over recent years.

While this acceleration marks an important milestone in Ireland's energy transition, it is taking place against the backdrop of a much broader transformation occurring across global and European energy systems.

Solar energy is now one of the fastest-growing sources of electricity generation in the world. From record deployment levels and falling technology costs to growing contributions to energy security and industrial competitiveness, solar is increasingly being recognised as a strategic infrastructure asset rather than solely a climate solution.

Across Europe, solar has become an increasingly important part of the electricity system, supporting decarbonisation, reducing exposure to imported fossil fuels and strengthening long-term energy resilience. Many European markets have now spent more than a decade scaling solar deployment across both utility-scale and rooftop applications, offering valuable insights into the policies, infrastructure and investment frameworks that support sustained growth.

Ireland's recent progress demonstrates strong momentum and growing market maturity. However, comparisons with global and European trends also highlight the scale of opportunity that remains as the country continues to expand renewable electricity generation, electrify more sectors of the economy and strengthen energy security.

The following sections place Ireland's solar market within this wider international context, exploring global deployment trends, Europe's evolving solar landscape and the opportunities that lie ahead for Ireland as it moves from rapid growth towards long-term delivery at scale.

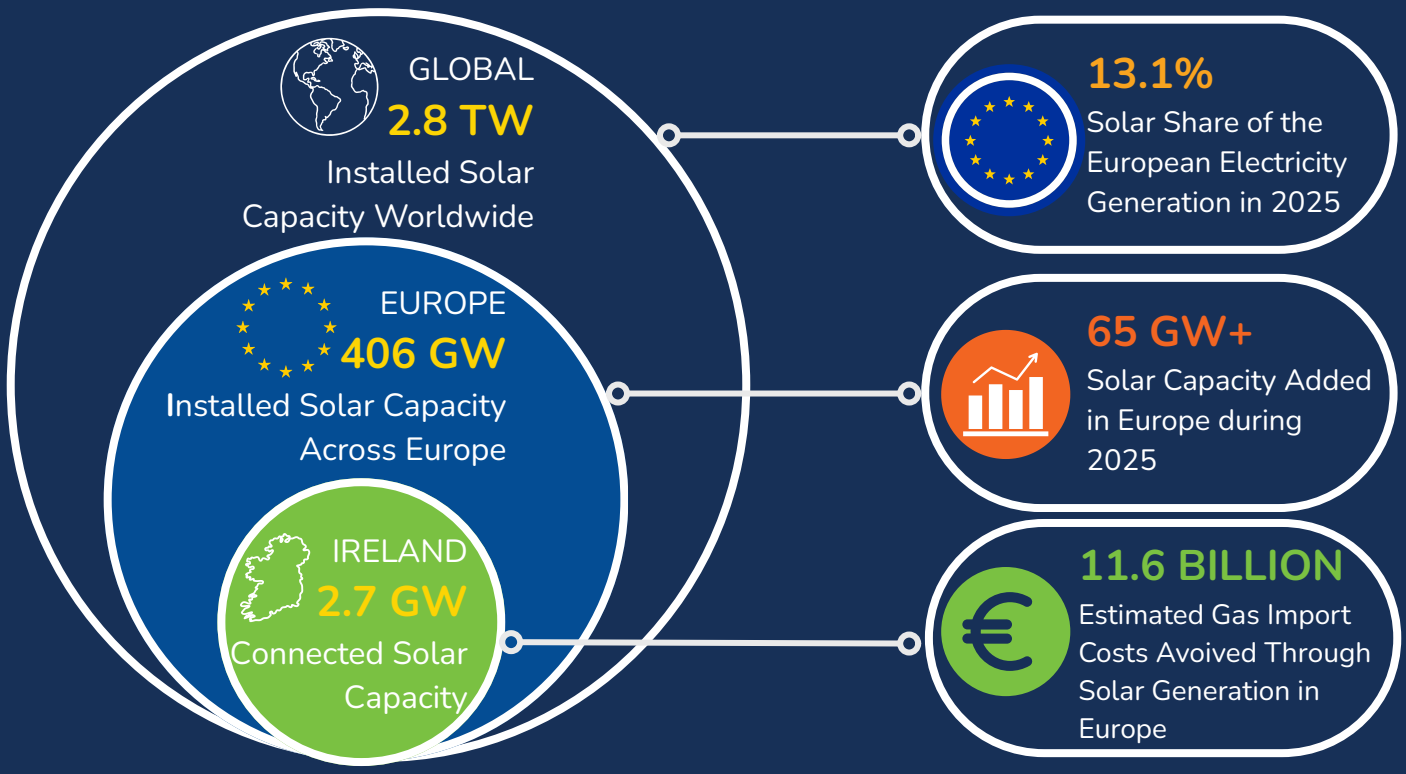
Ireland in the EU & Global Context

Global Solar Landscape: From Gigawatts to Terawatts

The global solar industry is experiencing one of the fastest technology deployment cycles in modern history. It took almost seven decades for the world to install its first terawatt of solar capacity. The second terawatt was added in just two years.

By the end of 2025, global installed solar capacity had reached approximately 2.8 TW, following almost 590 GW of new installations during the year. Global Solar Council projections indicate the world could surpass 3 TW of installed solar capacity during 2026, with annual installations expected to approach **1 TW per year by the end of the decade.

Solar is also playing an increasingly important role within the global electricity system. In 2025, solar generated approximately 2,778 TWh of electricity, representing 8.75% of global electricity demand, compared with just 1% a decade earlier.



Source: SolarPower Europe, Ember

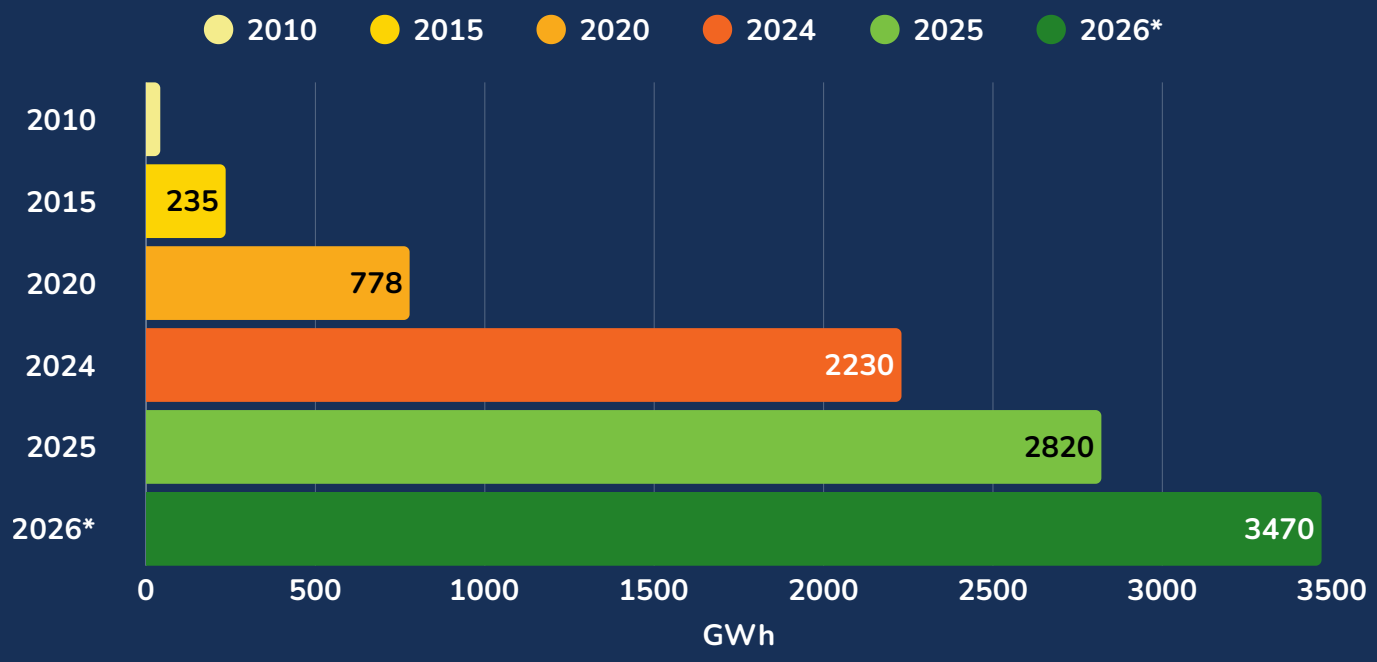
Ireland in the EU & Global Context

For the first time, solar generation exceeded global wind generation and moved close to surpassing nuclear generation, reflecting its emergence as one of the world's most important sources of new electricity supply.

During the first half of 2025 alone, solar contributed approximately 83% of the increase in global electricity demand, helping renewable electricity generation overtake coal generation globally for the first time.

This rapid expansion has been driven by significant reductions in technology costs, supportive policy frameworks, growing energy demand and increasing recognition of solar's role in energy security, industrial competitiveness and economic resilience.

Looking ahead, annual global solar additions are projected to rise from approximately 665 GW in 2026 towards 1 TW per year by 2030. However, achieving the Global Solar Council's aspiration of 8 TW of installed solar capacity by 2030 will require accelerated investment in grid infrastructure, energy storage, supply chains and renewable energy deployment worldwide.



*Forecast for end of 2026
Source: Global Solar Council, SolarPower Europe

Ireland in the EU & Global Context

Europe's Solar Transition: From Ambition to Delivery

Europe has become one of the world's most advanced solar markets, demonstrating how renewable electricity can move from an emerging technology to a mainstream component of the energy system.

By the end of 2025, Europe had installed approximately 406 GW of solar capacity, following the addition of 65.1 GW during the year. While annual installations contracted slightly compared with 2024, deployment remained near record levels and significantly above historical averages.

Solar's contribution to Europe's electricity system continues to increase. In 2025, solar accounted for approximately 13.1% of European electricity generation, up from 11.1% in 2024 and 9.37% in 2023, reflecting the growing role of solar within Europe's energy mix.

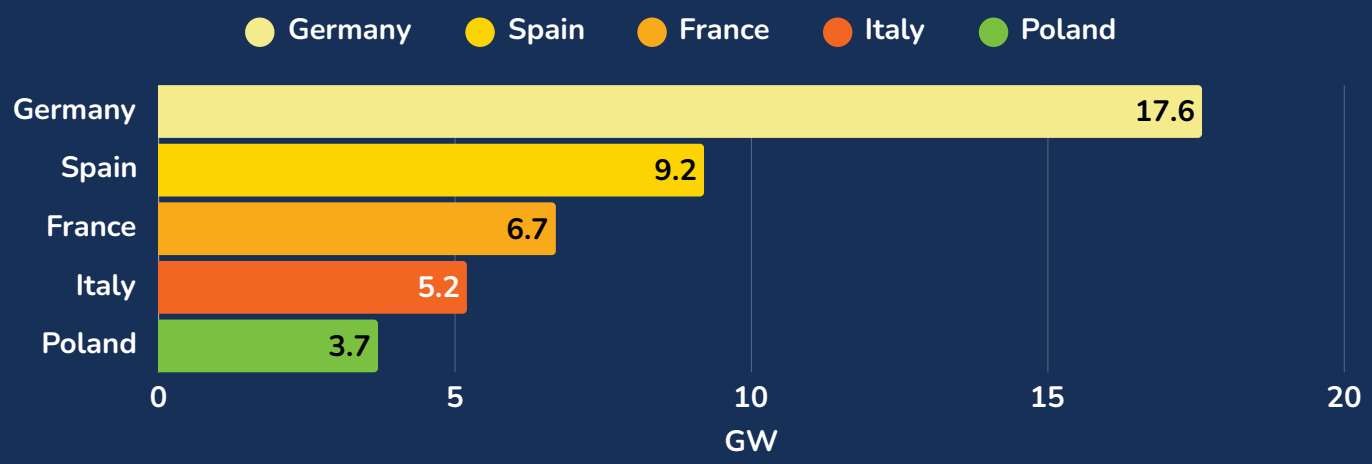
Importantly, Europe's solar transition is no longer being driven solely by climate objectives. Solar is increasingly viewed as a strategic asset supporting energy security, affordability, industrial competitiveness and resilience against geopolitical and energy market volatility.

According to SolarPower Europe's Solar Saves analysis, solar generation has helped Europe avoid an estimated €11.6 billion in gas import costs, demonstrating the growing economic and security value of domestic renewable electricity generation.

While Germany, Spain and France remain Europe's largest solar markets, deployment growth is increasingly broad-based. Emerging markets such as Romania and Bulgaria recorded some of the strongest year-on-year growth rates in 2025, highlighting how solar adoption is accelerating across a wider range of economies and electricity systems.

Ireland in the EU & Global Context

Europe's Largest Solar Markets by New Capacity Added (2025)



At the same time, Europe is entering a new phase of policy development. The implementation of RED III and the Net-Zero Industry Act (NZIA) reflects a shift from policies focused primarily on deployment volumes towards frameworks that also consider permitting efficiency, energy system integration, supply chain resilience and industrial competitiveness.

This evolution recognises that the next phase of the energy transition will depend not only on installing more renewable generation, but on ensuring that grids, storage, workforce capacity and supply chains can support deployment at scale.

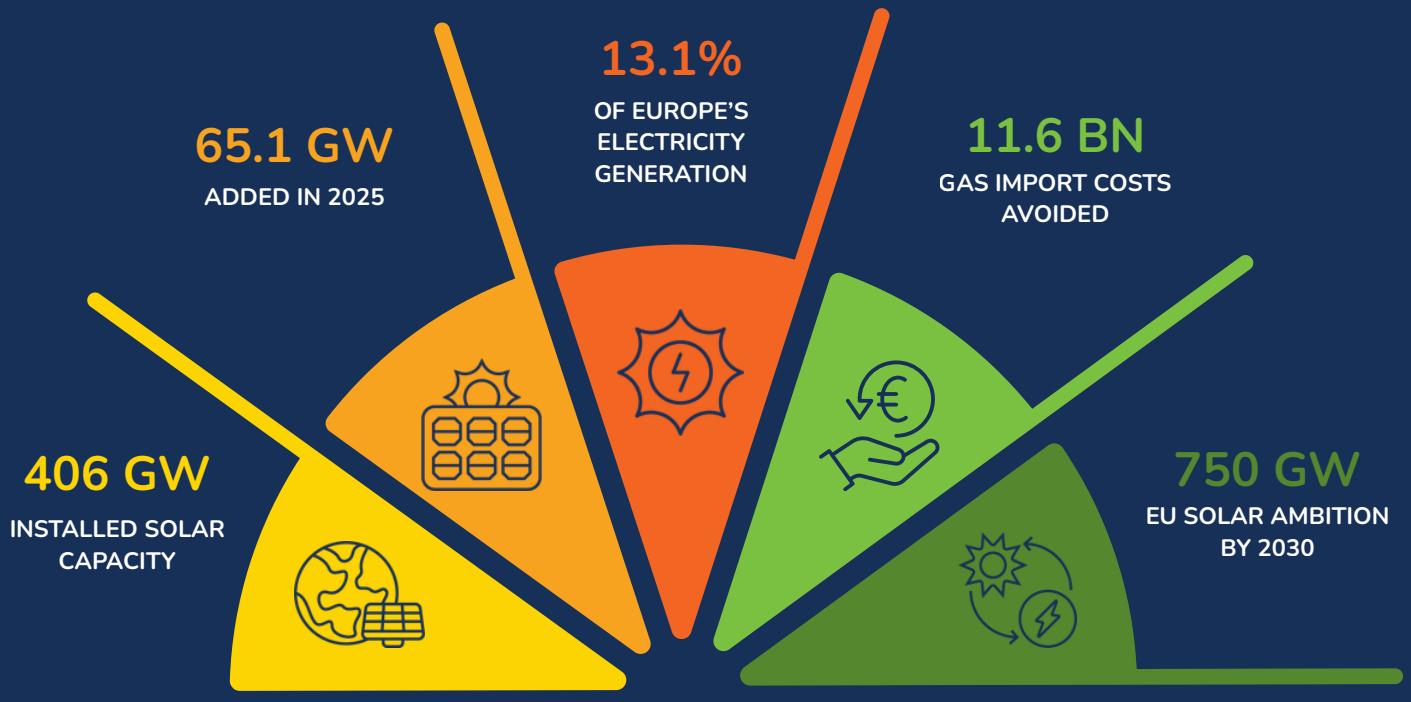
Looking ahead, SolarPower Europe projects approximately 718 GW of installed solar capacity by 2030 under its medium scenario. While this represents substantial continued growth, it remains below the EU's broader ambition of 750 GW, highlighting the need for continued investment, policy certainty and infrastructure delivery across the continent.

Europe's experience demonstrates that achieving large-scale solar deployment requires more than ambitious targets. It requires long-term policy certainty, efficient permitting systems, grid readiness, workforce development and investment frameworks capable of supporting sustained growth over multiple decades.

Ireland in the EU & Global Context

For Ireland, these lessons are increasingly relevant as the country moves from rapid deployment towards long-term system integration and delivery at scale.

Europe Solar's Momentum



Ireland in Context: An Emerging Solar Market with Significant Growth Potential

Ireland's solar sector has undergone a period of exceptional growth in recent years, transforming from one of Europe's smaller solar markets into one of its fastest-growing.

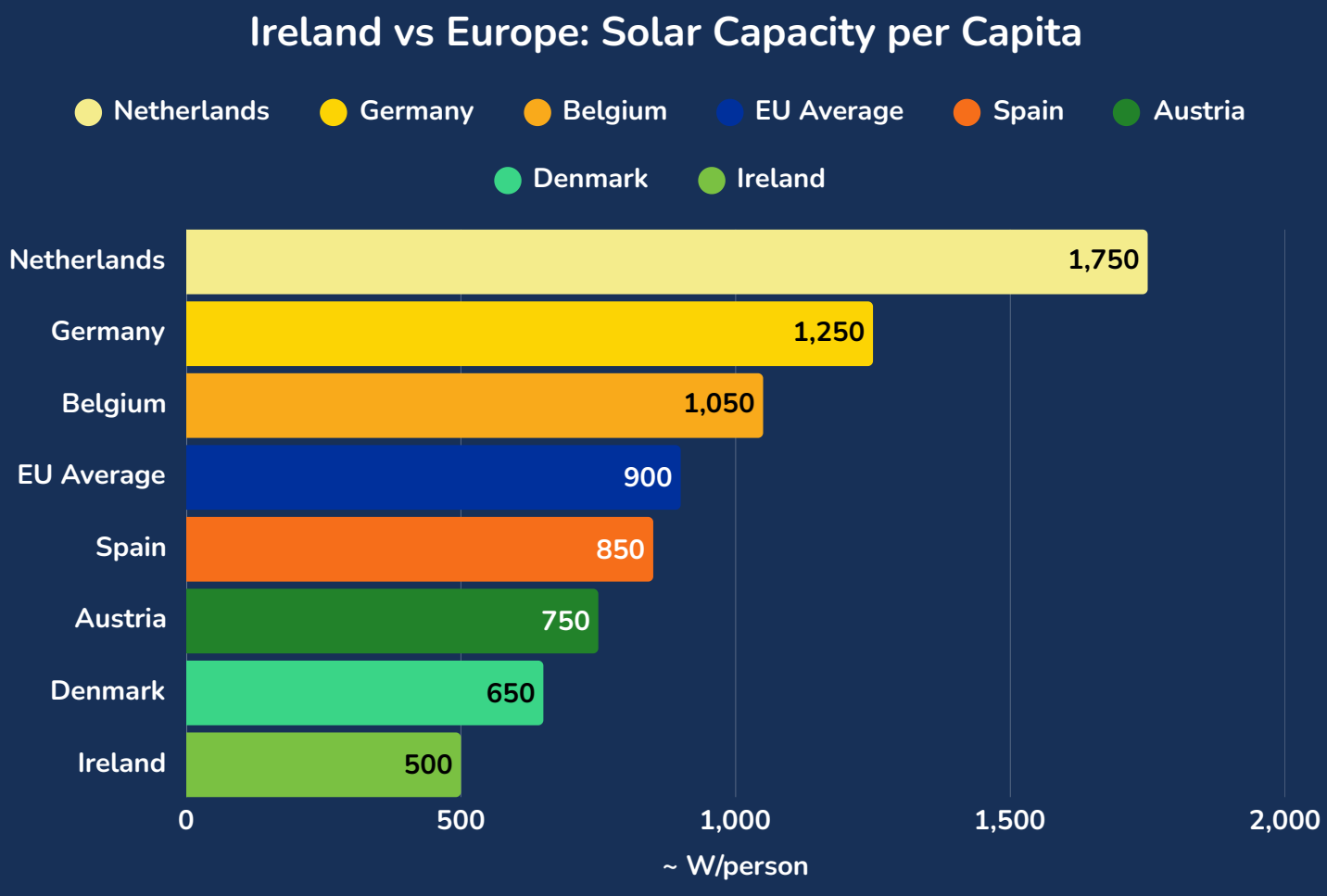
Connected solar capacity increased from approximately 680 MW in 2023 to 2.7 GW by May 2026, representing growth of almost 300% in just three years. This rapid acceleration reflects increasing deployment across utility-scale solar farms, commercial installations, distributed generation and rooftop solar systems nationwide.

Ireland in the EU & Global Context

While this growth marks a significant milestone for Ireland's energy transition, the country continues to operate from a comparatively lower solar deployment base than many European markets.

Across Europe, solar deployment has been expanding for more than a decade, supported by long-term policy frameworks, investment certainty, grid development and sustained market growth. As a result, many European countries have achieved substantially higher levels of installed solar capacity per capita and stronger solar penetration across their electricity systems.

Ireland's recent growth therefore represents both a success story and an indication of the scale of opportunity that remains.



Ireland in the EU & Global Context

The continued expansion of rooftop solar, commercial and industrial installations, battery integration and utility-scale deployment suggests that solar is becoming an increasingly important part of Ireland's future electricity system. However, achieving the next phase of growth will depend on maintaining investment momentum and ensuring that planning, grid infrastructure, workforce development and market frameworks can support delivery at scale.

The experience of leading European solar markets demonstrates that deployment can continue to accelerate well beyond current Irish levels when supported by clear policy direction and long-term certainty.

As Ireland moves towards higher levels of electrification across transport, heating and industry, solar is expected to play an increasingly important role in meeting future electricity demand while strengthening energy security and reducing reliance on imported fossil fuels.

The challenge for the next decade is not whether solar can contribute meaningfully to Ireland's energy system. The challenge is how quickly Ireland can build on recent momentum and capture the full economic, environmental and energy security benefits available through continued solar deployment.

Ireland has increased its solar capacity per capita significantly in recent years, but remains below the European average, highlighting the substantial opportunity for future growth.

POWERING EVERY PART OF IRELAND

Homes | Farms | Schools | Businesses | Communities

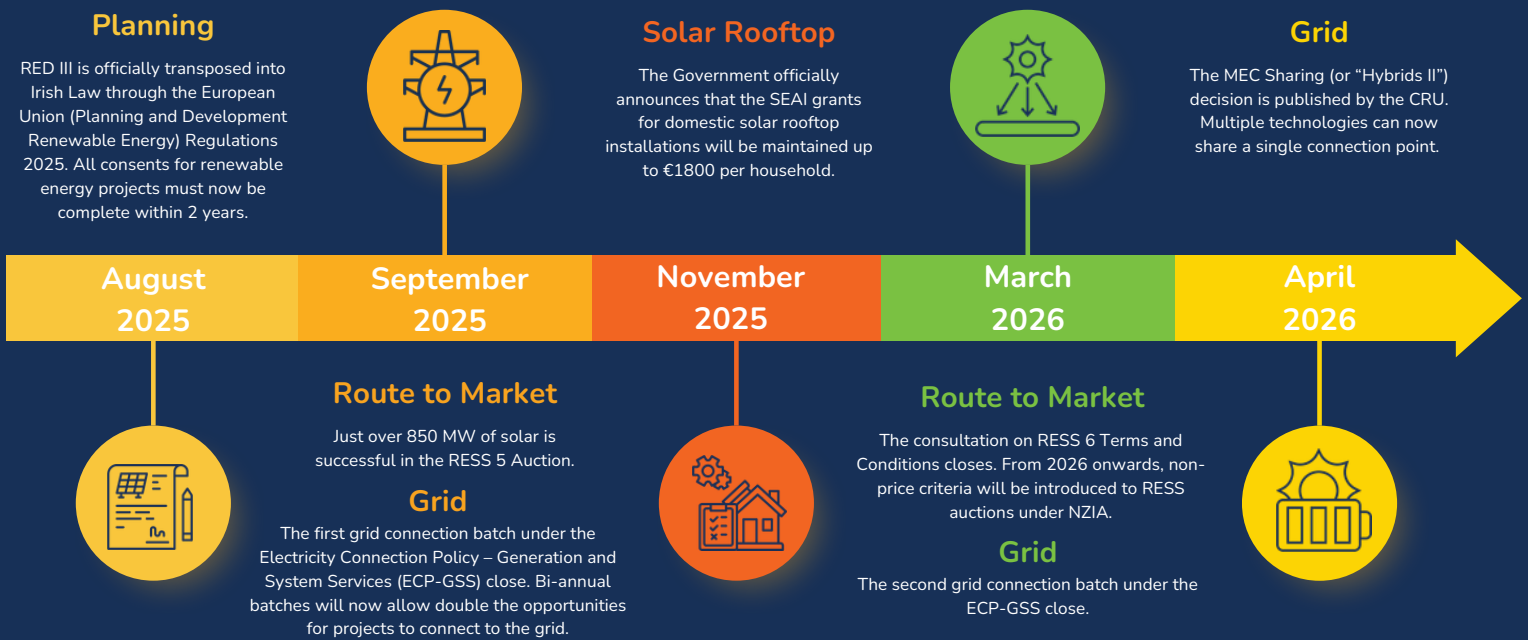
Policy & Regulatory Landscape

Ireland's solar sector has entered a decisive delivery phase.

Rapid deployment growth over the past two years has demonstrated the sector's ability to scale. The policy challenge is now shifting from market creation towards delivery at scale.

As Ireland moves towards its 2030 targets, the effectiveness of the policy and regulatory framework will increasingly be judged not only by ambition, but by its ability to support project delivery, system integration and long-term investment certainty.

Over the past 12 months, several policy and regulatory developments have improved the outlook for solar deployment across utilityrooftop and distributed generation.



Policy & Regulatory Landscape

Route to Market: Expanding Pathways for Solar Growth

The route-to-market landscape continued to evolve throughout 2025 and into 2026.

The RESS 5 auction resulted in more than 850 MW of successful solar capacity, reinforcing solar's role as a key contributor to Ireland's renewable electricity pipeline.

At the same time, consultation on RESS 6 marked the beginning of the transition towards NZIA-aligned auctions, introducing non-price criteria focused on resilience, sustainability and energy system integration.

These changes signal an important shift within renewable procurement frameworks. Future delivery will increasingly depend not only on price competitiveness, but also on wider system value and supply chain considerations.

Planning Reform: From Policy to Implementation

The transposition of RED III into Irish law represented one of the most significant planning developments affecting the renewable sector in recent years.

The introduction of accelerated consenting timelines creates an opportunity to improve project certainty and reduce delivery risk. However, achieving the intended benefits of RED III will depend on implementation.

Planning reform, grid processes and permitting frameworks will need to operate cohesively if accelerated timelines are to translate into accelerated deployment.

Policy & Regulatory Landscape

Rooftop Solar & Public Participation

Policy support for distributed solar also strengthened during the year.
The Government decision to maintain domestic rooftop solar supports up to €1,800 per household provided continued visibility for consumers and installers while supporting ongoing participation in microgeneration.

As rooftop deployment expands, distributed generation is expected to play an increasingly important role within Ireland's energy transition, supporting public participation, energy resilience and local electricity generation.

Europe's Next Phase: Competitiveness, Resilience and Delivery

At European level, renewable energy policy is entering a new phase.
While in recent years have focused primarily on accelerating renewable deployment, the policy agenda is increasingly broadening to include industrial competitiveness, supply chain resilience, energy security and strategic autonomy.

For the solar sector, this transition is most visible through the implementation of the Net-Zero Industry Act (NZIA) and the continued delivery of RED III, both of which will have important implications for Ireland's future deployment framework.
The NZIA introduces new requirements designed to support the development of European clean technology manufacturing. While improving resilience across the renewable supply chain is to be supported, further clarity in respect of the importation of components from third countries is required.

From 2026 onwards, Member States will be required to introduce non-price criteria, under Article 26, into a portion of renewable electricity auctions, including considerations linked to sustainability, resilience, responsible business conduct and energy system integration.

For Ireland, this represents a significant transition point.

Policy & Regulatory Landscape

Historically, renewable procurement frameworks have been strongly price-led. The introduction of NZIA criteria creates an opportunity to broaden assessment frameworks while also raising important questions around implementation, market readiness and the interaction between cost competitiveness and industrial objectives.

At the same time, uncertainty continues to exist around wider EU external relations, global trade dynamics and supply chain dependencies, particularly in relation to critical components used across the solar value chain.

These developments reinforce the importance of maintaining secure, resilient and diversified supply chains while ensuring deployment momentum is maintained. Alongside NZIA, RED III continues to reshape the regulatory environment through accelerated permitting requirements and shortened timelines for renewable energy projects, placing increased emphasis on streamlined administrative processes and coordinated implementation at national level.

The transposition of RED III into Irish law marks an important milestone. However, the effectiveness of these reforms will depend not only on legislative timelines, but also on implementation and alignment across planning, grid and administrative processes.

Solar Ireland has consistently highlighted the importance of coordination between planning and grid frameworks to ensure accelerated consenting can translate into accelerated delivery.

Taken together, these developments signal a broader transition across Europe, from policy frameworks focused primarily on deployment volumes towards a system capable of delivery at scale.

For Ireland, the challenge is now ensuring that new requirements strengthen rather than slow momentum while continuing to support investment certainty and long-term deployment growth. acceleration towards 2030 targets.

Policy & Regulatory Landscape

Looking ahead, the effectiveness of Ireland's policy framework will be judged not only on ambition, but on delivery outcomes.

Achieving gigawatt-scale deployment on an annual basis will require continued alignment across planning, grid connections, support schemes, workforce development and market design.

As deployment accelerates, long-term visibility will also become increasingly important. Greater clarity around renewable electricity ambitions beyond 2030, including the development of 2035 and 2040 targets, would help support investment certainty, workforce planning, supply chain development and long-term infrastructure delivery.

The next phase of Ireland's energy transition will depend not only on how quickly projects can be approved, but on how effectively the wider delivery ecosystem can support deployment at scale.

The challenge for the remainder of the decade is no longer whether solar can scale, but whether the wider delivery ecosystem can scale with it.

+600MW
Expected Additional Capacity in 2026

STORAGE
Growing Integration with Batteries

SKILLS
Workforce Expansion Required

GRID
Infrastructure Delivery Critical

BEYOND 2030
Planning Today for Future Energy Needs

Future Outlook

From Momentum to Delivery

What was once considered an uncertain part of Ireland's electricity system is now becoming increasingly embedded across homes, farms, businesses, communities and utility-scale infrastructure throughout the country.

Recent growth in connected capacity, generation output and distributed participation reflects accelerating momentum across the sector, supported by growing public awareness, declining technology costs and increasing demand for renewable electricity generation.

At the same time, Ireland's wider electricity system is entering a period of significant transformation. Growing electrification across transport, heating and industry is expected to increase electricity demand substantially over the coming decades, reinforcing the importance of continued investment in renewable generation, system flexibility, grid infrastructure and workforce capacity.

The continued expansion of solar generation presents significant opportunities across energy security, regional investment, economic development and public participation in the energy transition. However, maintaining delivery momentum will require long-term coordination across policy, planning, grid infrastructure, skills development and market design.

As solar deployment continues to accelerate, the sector is also becoming increasingly integrated with wider electricity system evolution, including battery storage, flexibility services, distributed generation and changing electricity demand patterns.

The coming years are expected to play an important role in determining how quickly Ireland can continue scaling renewable electricity generation while supporting affordability, resilience and long-term infrastructure delivery. The growth achieved across the sector in recent years demonstrates both the scale of opportunity and the pace at which deployment can occur when investment, policy and delivery frameworks align.

Future Outlook

Looking ahead, maintaining this momentum will require continued investment not only in renewable generation, but also in the enabling conditions that support deployment at scale. Grid infrastructure, planning processes, workforce capacity, supply chains, market frameworks and public participation will all play an increasingly important role in determining how quickly and effectively Ireland can continue expanding solar generation.

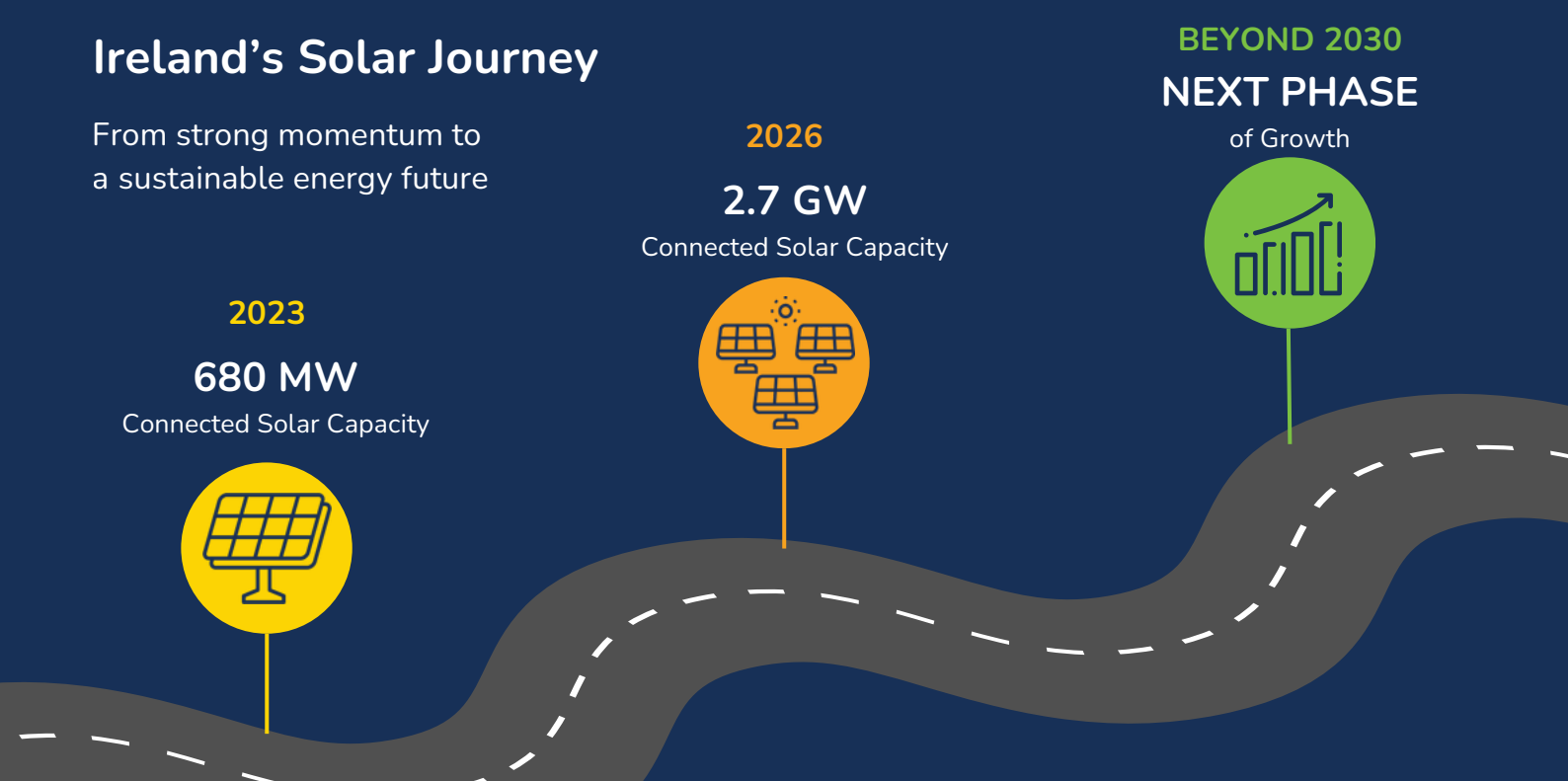
Achieving gigawatt-scale deployment on an annual basis will require continued alignment across planning, grid connections, support schemes, workforce development and market design. The next phase of Ireland's energy transition will depend not only on how quickly projects can be approved, but on how effectively the wider delivery ecosystem can support deployment at scale.

As solar generation continues to increase, greater attention will also be required on system integration, including storage deployment, flexibility services and the management of increasing periods of renewable dispatch down, ensuring that Ireland can maximise the value of the renewable electricity it generates.

As Ireland looks beyond 2030, solar energy is expected to play an increasingly important role in supporting a resilient, affordable and low-carbon electricity system, helping to meet growing demand while strengthening energy resilience and economic competitiveness.

Ireland's Solar Journey

From strong momentum to a sustainable energy future



References, Credits & Acknowledgements

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Key Contributors:

- *ESB Network: Grid connection and capacity data (as of 31/05/2026)*
- *Green Collective: National generation, battery outlook and market data*
- *Global Solar Council: Global trends and outlook*
- *SolarPower Europe: European outlook*
- *KPMG Ireland: Investment and market commentary*
- *SEAI: Rooftop and microgeneration data*
- *Collins McNicholas: workforce and skills data*
- *Solar Ireland Members: Insights, case studies, and local impact stories*

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- *Ember: Global Electricity Review 2025*
- *Green Collective National Data 2023–2026*
- OpenCO2.net *calculation of equivalence between total carbon tonnes avoided.*
- *Kilowatt: 12 June 2026 live data*

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Ireland's grid, in real time.