JUNE
2025

Scale of Solar 2025

Photo credit: ESB Solar

Building generation for generations

Ireland's Solar Surge: 160% Growth Since 2023

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SOLAR IRELAND

KPMG

Intelligent energy

AI is powering the energy transition - insights from global energy leaders reveal how

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See the full report

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Welcome

2025 marks a pivotal moment — not just for solar, but for how we define its place in Ireland's energy future.

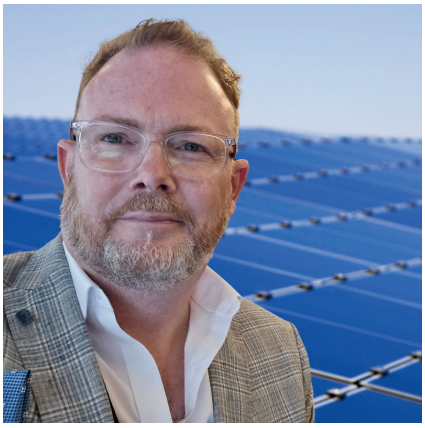
This year, we became Solar Ireland, a name that reflects the evolution of our industry from advocacy to full-scale delivery. In just a few years, we've seen solar move from the sidelines to the centre of national energy policy — with homes, businesses, and developers across the country contributing to an accelerating transition.

But this isn't just about the pace of deployment, it's about what we're building, and who we're building it for. Every rooftop array, every solar farm is part of a bigger picture: creating clean energy now, while laying the foundation for a more resilient, affordable and sustainable future.

We are, quite literally, building generation for generations, and that's what this report aims to capture.

Thank you to everyone who contributed — our members, partners, data providers, and supporters. The progress we document here belongs to all of you.

Ronan Power
CEO, Solar Ireland



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> *Ireland's solar sector is thriving, as the Scale of Solar report shows. This is proof of what we can achieve when government, industry and communities work together. That collaboration will be crucial as we move towards our climate goals and a more secure energy future.* - **Darragh O'Brien, Minister for Climate, Energy and the Environment**

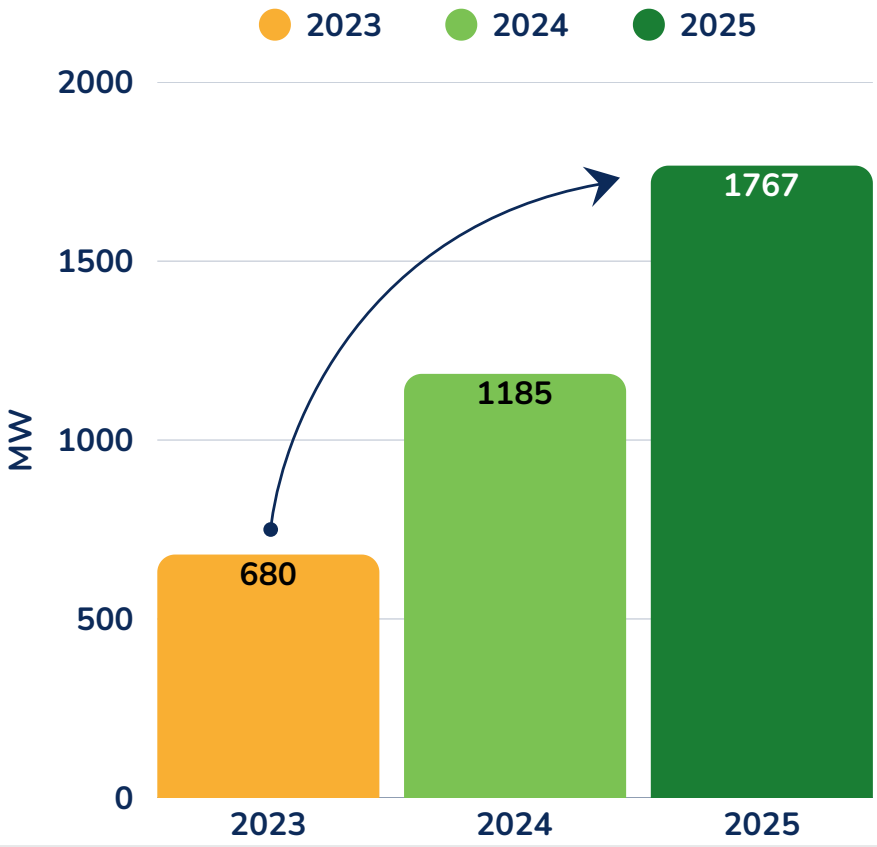
Scale of Solar 2025

An ever growing market

Ireland's solar story is no longer just about potential — it's about delivery.

In just two years, Ireland's installed solar capacity has increased by **159.8%**. When we launched our first Scale of Solar report in 2023, solar energy in Ireland was still emerging. But today, it's undeniable: solar is fast becoming one of the main pillars of Ireland's clean energy transition.

From rooftops and schools to solar farms and battery-backed hybrid systems, solar is delivering power to over 140,000 homes and currently helping cut more than 395,000 tonnes of CO_2 every year.



ESB Networks provided data on Ireland's total operational solar capacity as of 17 June 2025, with rooftop connections reported up to 30 April 2025.

Scale of Solar 2025

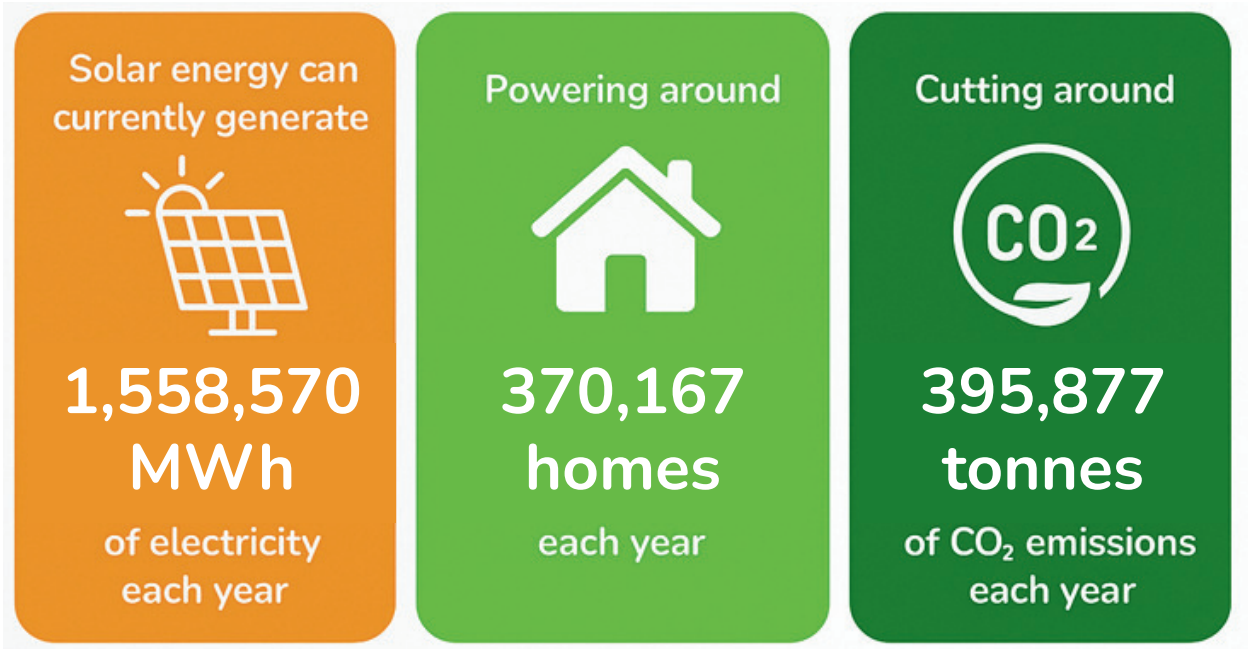
An ever growing market

In terms of output, solar PV generated an estimated 1,558,570 MWh in 2025—enough to meet the annual electricity needs of over 370,000 homes. That's a leap in both impact and ambition.

CO_2 savings alone are equivalent to over 2.6 billion kilometres of car travel—proving solar's value for climate and community alike.

Scale of Solar 2025 showcases this extraordinary growth and explores where we go next. As we build generation for generations, this report shines a light on the projects, people, and policies powering Ireland's solar future.

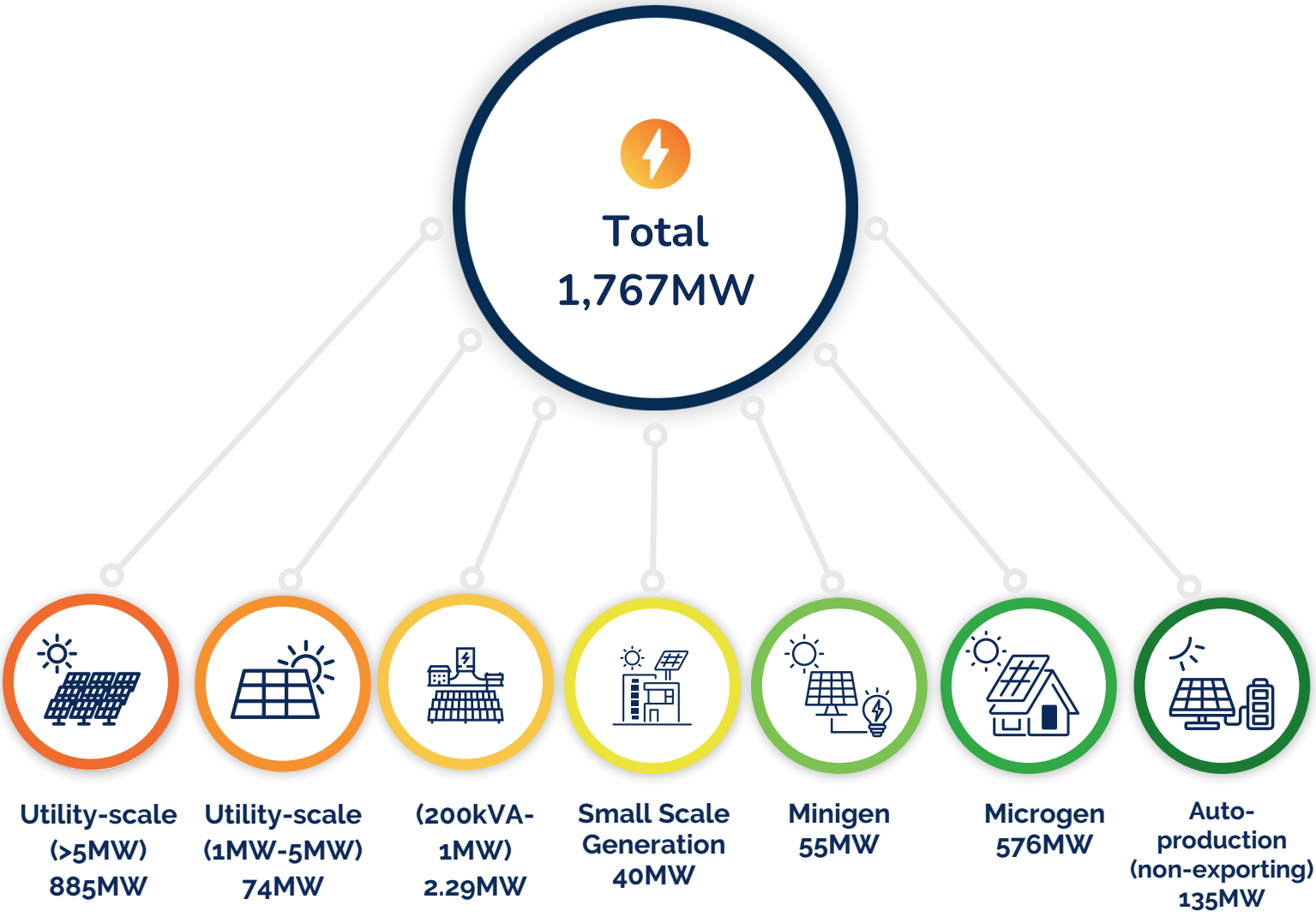
With new forecasts, fresh data, and a sharper focus on impact—from biodiversity to battery storage—this edition offers both a snapshot of progress and a guide to what's needed to reach our 8 GW target by 2030.



Equivalence between total CO_2 avoided and kilometres driven calculated using OpenCO2.net; total generation and emissions savings calculated by Dr. Paul Deane.

Scale of Solar 2025

Overview



The growth of solar energy in Ireland is remarkable. We now have over 140,000 customers harnessing the power of solar panels. In total, 1.7 GW of solar electricity generation is connected across the transmission and distribution networks with continued strong growth expected over the years ahead. Solar energy is providing a sustainable and renewable source of electricity while empowering our customers and communities to take an active role in the transition to a clean electric future together. **Nicholas Tarrant, Managing Director, ESB Networks**

Solar Farms (Utility Scale >5MW)

Built to Scale, Designed for Tomorrow

Large-scale solar farms are a cornerstone of Ireland's clean energy transition. These projects deliver renewable power directly to the grid, supporting thousands of homes and reducing reliance on imported fossil fuels.

Since Ireland's first large-scale solar farm was energised in County Meath in 2022, the sector has expanded rapidly. Installed capacity has more than quadrupled — **from 349 MW in 2023 to 885 MW across 19 sites by mid-2025** — and continues to scale through RESS and CPPAs.

With a further 752 MW in the pipeline across 30 projects, solar farms now represent a maturing market backed by strong investor confidence and growing national impact.

Beyond clean energy, these sites also support biodiversity, local jobs, and rural investment. Many offer educational visits, community benefit schemes, and environmental co-benefits such as pollinator habitats and wildflower corridors.

Designed and managed responsibly, solar farms are low-impact, high-value land uses — delivering power today while protecting ecosystems and building resilience for tomorrow. They are, in every sense, building generation for generations.

Lysaghtstown Solar Farm

A landmark in scale, biodiversity and corporate climate leadership

Power Capital's Lysaghtstown Solar Farm, Co. Cork, is one of Ireland's most ambitious solar energy projects. With 130 MW of capacity, it generates enough clean electricity to power more than 29,000 homes each year — a powerful symbol of how Ireland is scaling solar to meet climate and energy goals.

The project is backed by a Corporate Power Purchase Agreement (CPPA) with Microsoft — demonstrating how large-scale renewables are now central to both climate action and digital innovation.

> *"Microsoft is committed to partnering with all stakeholders to help Ireland on its grid decarbonisation journey while unlocking the opportunities of a digital economy and society."*

Lysaghtstown Solar Farm

A landmark in scale, biodiversity and corporate climate leadership

But Lysaghtstown delivers far more than electricity. From enhancing biodiversity to preserving heritage and supporting local communities, the project embodies a long-term, low-impact approach to land stewardship:

- Over 24,000 m² of buffer zones and 2 km of native hedgerows planted
- 19+ bird species supported across the site
- Use of ballasted foundations in sensitive areas to protect archaeological remains
- Ongoing monthly environmental audits to safeguard and improve site biodiversity
- Contributions aligned with UN Sustainable Development Goals, including Sustainable Cities, Climate Action, and Health & Wellbeing

Lysaghtstown shows how solar farms can power more than just homes — they power a cleaner future, support thriving ecosystems, and deliver climate progress we can all be proud of.

Key Stats

- Capacity: 130 MW
- Energised: December 2023
- Equivalent to annual energy demand of: 29,700+ homes
- CPPA Partner: Microsoft
- Community Impact: Biodiversity corridors, local employment, SDG-linked benefits

Utility Scale (5MW - 1MW)

Scalable, Flexible, and Growing

Solar projects in the 1–5MW range are among the most adaptable in Ireland's solar mix. This capacity band includes both large commercial rooftop systems and smaller ground-mounted solar farms — combining scale with siting flexibility and regional relevance.

As of mid-2025, the total connected capacity in this segment stands at 74 MW across 17 energised connections, up from 22 MW in 2023. Many of these projects are benefitting from the Small-Scale Renewable Electricity Support Scheme (SRESS), as well as direct private investment and growing momentum behind hybrid and behind-the-meter installations.

These systems are a vital layer in Ireland's distributed energy strategy — helping decentralise generation, strengthen regional resilience, and deliver clean energy where it's needed most. They are, in every sense, building generation for generations.

Small-Scale Solar Farms

This size category is also home to smaller, localised solar farms — typically feeding into the grid or supplying energy via direct connection to a nearby business or community service. These projects offer:

- Faster delivery timelines than large utility-scale farms
- Lower planning complexity and easier land integration
- Community proximity — often located near towns, transport hubs, or substations
- Opportunities for biodiversity enhancement and dual land use

They are increasingly recognised as the missing middle — delivering meaningful capacity while retaining the flexibility and speed of smaller infrastructure.

Techrete

Industrial Rooftop Solar Delivering Net Zero

Techrete, one of Ireland's leading manufacturers of architectural concrete façades, has put climate action at the heart of its operations. Running an energy-intensive facility six days a week — with large gantry cranes and temperature-controlled curing — the company needed to cut carbon emissions and stabilise rising energy costs.

With a goal of achieving net zero by 2030, Techrete partnered with AEI to unlock the potential of its factory roof, installing a 320 kWp rooftop solar PV system that maximises roof space without disrupting production. Completed in just 15 working days, the system now supplies a significant share of the site's daily electricity needs and is backed by an Autarco performance guarantee for output and savings.

Techrete's investment shows how heavy industry can lead on climate — transforming roof space into a cost-saving, carbon-cutting asset that delivers today and builds a more sustainable tomorrow.

Impact at Glance

- **4-year payback period**
- **26% ROI**
- **70 tonnes CO_2 saved annually**
- **Performance and savings**

Utility Scale (5MW - 1MW)

Scalable, Flexible, and Growing

Large Commercial Rooftop

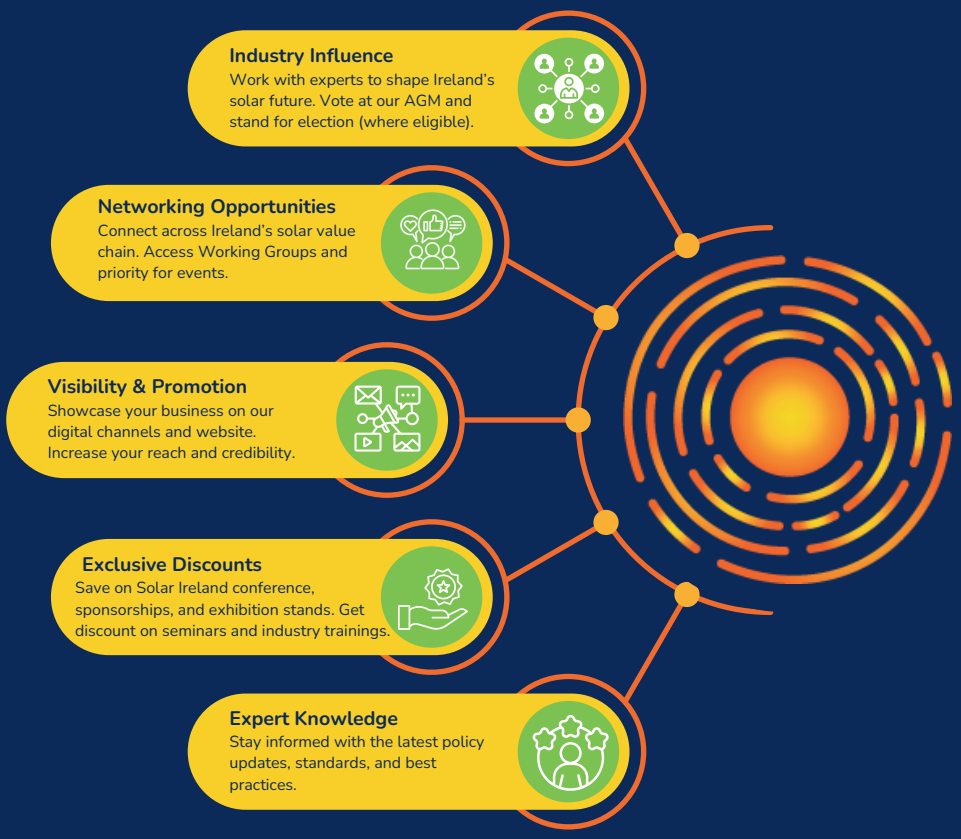
Ireland's larger businesses are increasingly turning to on-site solar as a smart way to cut emissions, reduce energy costs, and show sustainability leadership.

These 1–5MW rooftop systems are typically installed on:

- Warehouses, manufacturing and agri-food facilities
- Data centres
- Public sector buildings and university campuses

These systems often support direct on-site consumption, reducing grid demand and emissions at the point of use. They also open the door to private wire and self-consumption models, which are growing in popularity in Europe as energy prices fluctuate and sustainability targets tighten.

Explore the full list of benefits and join us today.



Bullstown Solar Farm

Powering Communities with Purpose

Bullstown Solar Farm, developed by Bullstown Solar Ltd — a wholly owned subsidiary of ESB — is more than a clean energy project. Located just southeast of Ashbourne, Co. Meath, this 8.42 MW solar farm is designed to power over 2,000 homes and to generate long-term value for the surrounding community.

The project achieved full planning permission in 2017 and successfully cleared the RESS 2 auction in 2022, ensuring delivery under Ireland's Renewable Electricity Support Scheme. Bullstown is connected to the grid via the adjacent Ashbourne 38kV substation, minimising infrastructure and disruption.

Key Stats

- Capacity: 8.2 MW
- Energised: March 2024
- Equivalent to annual energy demand of: 3,700+ homes
- RESS-backed Community Benefit Fund launching Summer 2025
- Dedicated Liaison Officer, newsletters, and traffic management plan
- Commercial rates supporting Meath County Council services
- Supports SDGs including Climate Action, Education & Wellbeing

Bullstown Solar Farm

Powering Communities with Purpose

Built with the Community in Mind

From the outset, local engagement has been central to Bullstown Solar Farm's success. A Community Liaison Officer kept residents informed throughout development and construction via newsletters and direct outreach. Construction traffic was carefully managed using a council-approved one-way system to minimise disruption to surrounding residential areas.

Long-Term Impact

Bullstown isn't just delivering clean electricity — it's delivering real value to the community. In summer 2025, ESB will launch the Bullstown Community Benefit Fund (CBF) as part of its RESS 2 commitments. This fund will support local projects aligned with Sustainable Development Goals such as climate action, education, and wellbeing — helping to build stronger, more resilient communities.

In addition, commercial rates paid to Meath County Council by the solar farm will help fund local public services, while the fund itself is designed to deliver long-term, measurable benefit to the surrounding area.

This is a project that delivers far more than electricity. It shows how solar can be deployed responsibly, respectfully, and with the long-term needs of local communities at its core.

Commercial Solar (200kVA - 1MW)

Smart Scale, Strong Impact

Ireland's commercial sector is becoming one of the most dynamic contributors to solar growth — with businesses, retail parks, agri-processors, and logistics operators embracing onsite generation to cut costs, reduce emissions, and increase energy independence.

Installations in the 200kVA to 1MW range are particularly impactful. These systems are large enough to make a real dent in energy bills and carbon footprints, but still small enough to avoid complex permitting or grid connection hurdles. As of mid-2025, 2.29 MW of capacity is now connected across 7 energised sites, up from 0.3 MW in 2023 — with many more in the pipeline.

These installations are typically deployed on:

- Warehouses, depots, and logistics hubs
- Food production and agri-business sites
- Supermarkets and retail complexes
- Educational and public facilities with high daytime loads

Why this segment matters:

- Reduces peak grid demand by generating power where it's used
- Accelerates decarbonisation of sectors with high operational emissions
- Eligible for grants like NDMG and TAMS 3
- Builds resilience against volatile energy prices
- Ideal for battery storage or future hybrid upgrades

These businesses are turning rooftops into climate solutions — proving that commercial value and climate leadership can go hand in hand, and helping to build generation for generations.

Small Scale Solar (50-200kVA)

Powering Schools, Communities, and Everyday Spaces

Sitting between microgeneration and larger commercial systems, small-scale solar (50–200kVA) is becoming an increasingly important segment in Ireland's energy mix. These systems are typically installed by businesses, schools, farms, and public buildings with consistent daytime electricity demand, offering a smart, accessible way to cut emissions and reduce grid reliance.

By mid-2025, Ireland has 40 MW of connected capacity across 328 energised connections in this range, a segment that's growing steadily, supported by improved grant access and greater awareness of the commercial and environmental benefits of solar.

Typical sites include:

- Schools and colleges
- Smaller manufacturing or food processing facilities
- Farm buildings and milking parlours
- Local authority depots, libraries, and community centres

Why this segment matters:

- Closes the gap between microgeneration and full-scale commercial solar
- Delivers localised generation at sites with high daytime use
- Minimises complexity — no planning permission needed for many rooftops
- Qualifies for SEAI's Non-Domestic Microgen Grant (NDMG)
- Simple payback: solar PV typically pays for itself within 5–7 years

Small Scale Solar (50-200kVA)

Powering Schools, Communities, and Everyday Spaces

Small-scale systems may not make headlines — but across hundreds of buildings, they're making a measurable difference. With the right supports and awareness, this segment has the potential to rapidly scale, particularly in rural areas and the public sector.

These installations are a perfect example of how we're building generation for generations — not just through big infrastructure, but through smart local action.

Leading by Example: Solar for Schools

The Department of Education's Solar for Schools programme is equipping primary and post-primary schools across Ireland with rooftop solar PV systems — many of them in this 50–200kVA range. These installations help schools:

- Cut energy costs and redirect savings to teaching and resources
- Reduce carbon emissions in line with public sector climate targets
- Serve as visible, educational tools for sustainability and STEM learning

Mini-Generation (17-50VA)

Energy Independence for Ireland's Farms and Small Businesses

Mini-generation systems — typically between 17kVA and 50kVA — are enabling a quiet but powerful solar revolution across Ireland's rural economy. These installations are ideal for farmers, food producers, and small businesses that want to reduce electricity costs and increase energy independence, especially in areas with strong daytime demand and limited grid export capacity.

As of mid-2025, Ireland has 55 MW of mini-generation capacity connected across 2,050 energised connections, more than double the number of sites recorded the year before — driven by improved grant access, simplified grid connection options, and growing awareness in the agricultural sector.

Who's using mini-generation?

- Dairy and tillage farms
- Rural agri-food processors
- Workshops, sawmills, and cold storage facilities
- GAA clubs and community buildings

What makes it work:

- Designed for self-consumption — no export required, no feed-in tariff needed
- Simplified deployment — most systems don't need planning permission
- Backed by strong supports including TAMS 3 and NDMG
- Quick payback: often 4–6 years, particularly with SEAI grant support
- Improves resilience against energy price volatility and supply concerns

Mini-Generation (17-50VA)

Energy Independence for Ireland's Farms and Small Businesses

Mini-generation is helping farms and rural businesses take control of their energy use while contributing to Ireland's climate goals — all without large infrastructure or complex contracts.

These are small systems with high impact, keeping the lights on, the fridges cold, and the pumps running, all while playing a vital role in building generation for generations right at the heart of Ireland.

Lansdowne Tennis Club – Serving Sustainability On and Off the Court

Lansdowne Tennis Club is more than a historic sporting venue — it's a hub for health, community, and now, climate action. With soaring energy costs and ambitious environmental goals, the club partnered with Ohk Energy to reduce its electricity bills and carbon footprint.

Installed in 2024, the small but impactful rooftop system features 19 high-efficiency solar panels and a Huawei hybrid inverter, supported by smart monitoring and export-to-grid capability. The installation was fully grant-supported, with zero disruption to daily operations.

Impact at a Glance

- **€6,000 saved per year on electricity**
- **20% drop in grid energy consumption**
- **Significant CO_2 reduction**
- **"Outstanding Contribution to Sustainability" award**

Auto-Production (Non-Exporting Solar)

Maximising Onsite Generation, Minimising Grid Reliance

Auto-production refers to solar PV systems that are designed solely for self-consumption, without exporting electricity to the national grid. These systems are typically larger than residential setups and are installed on land rather than rooftops — making them ideal for businesses, farms, and organisations with substantial daytime energy needs and available space.

By mid-2025, Ireland has 135 MW of operational auto-production capacity across 840 energised connections, up from 95 MW in 2023 — a clear signal that more businesses are choosing to generate their own power, on their own terms.

Where auto-production works best:

- Agri-businesses with high thermal or refrigeration loads
- Food and beverage producers
- Data centres, water treatment plants, and large commercial campuses
- Land-rich businesses not suited to rooftop installs

Why this model is gaining ground:

- No export requirement — perfect for sites without viable grid connection capacity
- Energy independence — generate exactly what you need, when you need it
- Reduces energy costs and volatility
- Future-ready — ideal for co-locating with storage or EV charging
- Makes use of non-productive land while preserving main operations

Auto-Production (Non-Exporting Solar)

Maximising Onsite Generation, Minimising Grid Reliance

These systems may not feed the grid, but they feed local resilience — helping Ireland's businesses cut costs, reduce emissions, and use their land more effectively. With streamlined planning rules and grant pathways improving, auto-production is set to keep growing, especially in rural and industrial settings.

As more organisations take control of their energy footprint, these systems are proving that you don't have to export power to make a lasting impact. They are quietly — but powerfully — building generation for generations.

Microgeneration (≤6kW)

Powering Homes, Empowering Families

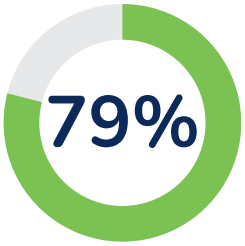
Microgeneration — rooftop solar systems installed on homes and small buildings — is not just the foundation of Ireland's solar story. It's the future of energy for hundreds of thousands of households.

By mid-2025, over 138,000 homes across Ireland are now generating their own electricity, representing 576 MW of installed capacity. That's a huge leap forward — but still only a fraction of our full potential. National estimates suggest over 1 million rooftops in Ireland are suitable for solar PV. Unlocking that potential is essential if we're to meet our 2030 Climate Action Plan (CAP) targets and build a secure, decarbonised electricity system.

Why rooftop solar matters:

- Cuts electricity bills and shields families from energy price shocks
- Improves energy security at national and household level
- Supports climate action from the ground up
- Zero VAT since 2023 makes it more affordable than ever
- Grants available through SEAI to reduce upfront cost
- No planning required for most homes

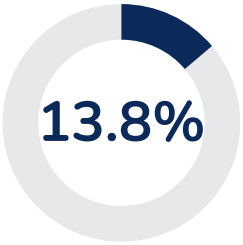
Strong Growth Year-on-Year



(2023 → 2024)

(2024 → 2025)

Over 1 million rooftops suitable for solar



of Ireland's solar-ready rooftops have adopted. There's still huge untapped potential across the country.

Microgeneration (≤6kW)

Powering Homes, Empowering Families

From consumers to producers

Microgeneration transforms households into active participants in the energy system — generating clean electricity, using it smartly, and even selling surplus back to the grid. It's a tangible way for people to take climate action, reduce their reliance on fossil fuels, and contribute to a more resilient and balanced grid.

With over 138,000 families already on board, the momentum is real. But to reach our targets, we need thousands more. Every rooftop matters. Every home that goes solar brings us closer to a future powered by communities, not commodities. This is solar where it counts most — at the heart of Irish life. And it's how we'll continue building generation for generations.

Pinergy

As one of Ireland's first solar installers, we've been helping homeowners and businesses harness the power of solar energy for over a decade.

SOLAR IRELAND Member of Solar Ireland.

Powering energy transition.

Greystones & Delgany Solar Meitheal

Community Solar, Co. Wicklow

ISolarSmart partnered with the Greystones & Delgany Sustainable Energy Community (GDSEC) to deliver their third Solar Meitheal — a locally driven, community-first initiative that brought rooftop solar to 20 homes across the area.

Meitheal, an Irish word for cooperative work, is at the heart of this project. GDSEC — a volunteer-led subgroup of Greystones Tidy Towns and a registered SEAI Sustainable Energy Community — coordinated site assessments, pooled purchasing, and access to SEAI grants. SolarSmart was selected through a competitive tender, thanks to its product quality, local presence, and proven delivery.

From December 2024 to April 2025, SolarSmart installed over 100 kWp of solar capacity — including 230 panels, Duracell battery storage, MyEnergi EDDI diverters, and ZAPPI EV chargers — tailored to the needs of each household.

Impact at Glance

- **20 homes powered by locally generated solar**
- **Significant electricity bill savings**
- **Increased energy independence**
- **Greater climate literacy for the community**

> *"Our Solar Meitheal made going solar simple and affordable for local homes, helping them take control of their energy. It's proof that grassroots action can drive lasting climate solutions. — Dave Emerson, GDSEC"*

SolarSmart° seai ENERGY AWARDS FINALIST seai.ie/energyawards

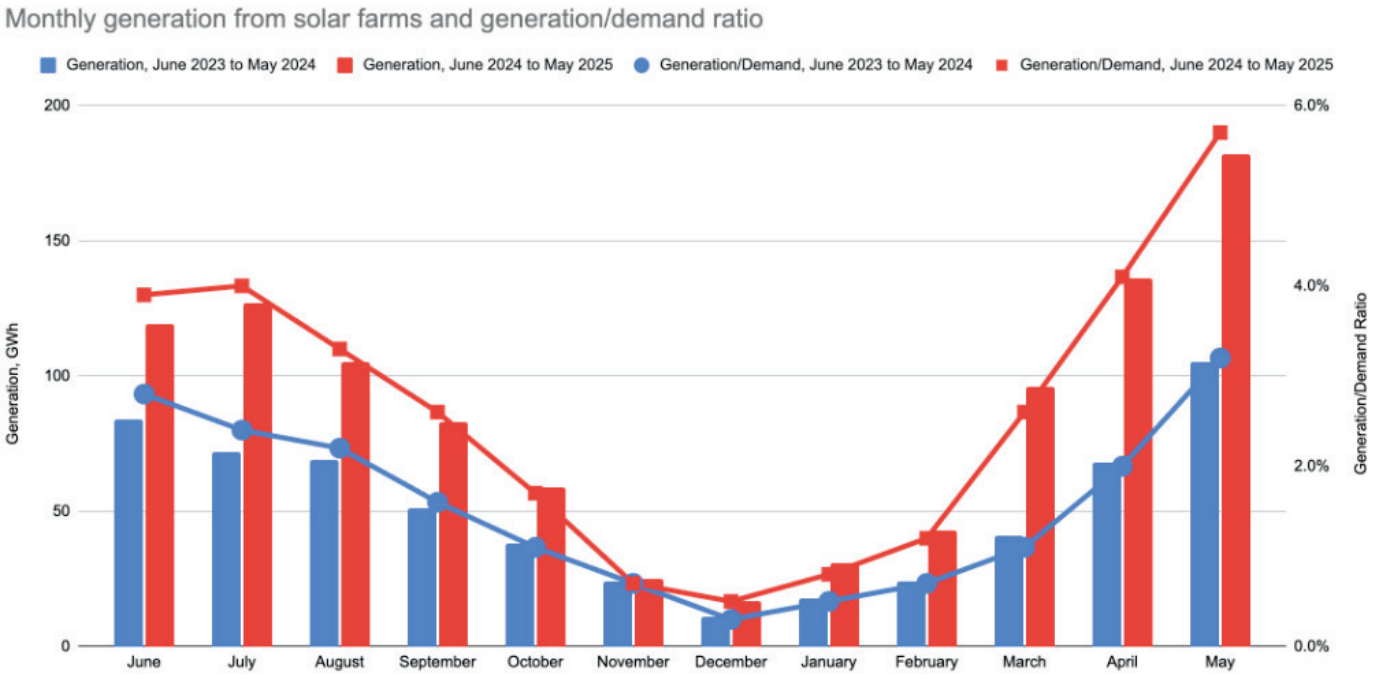
Record-Breaking Generation

Tracking Ireland's Solar Momentum, One Gigawatt at a Time

Ireland's utility-scale solar sector is entering a new era — and the numbers tell the story.

According to the Green Collective, from June 2024 to May 2025, total generation from solar farms grew by nearly 70% year-on-year. Summer 2024 set the pace with a July record of 127 GWh — only to be surpassed in April 2025 (136 GWh) and again in May 2025 (182 GWh).

In May 2025 alone, solar met 6.5% of total electricity demand — a sharp jump from 3.2% in May 2024 — showing how much ground solar has gained in just 12 months.

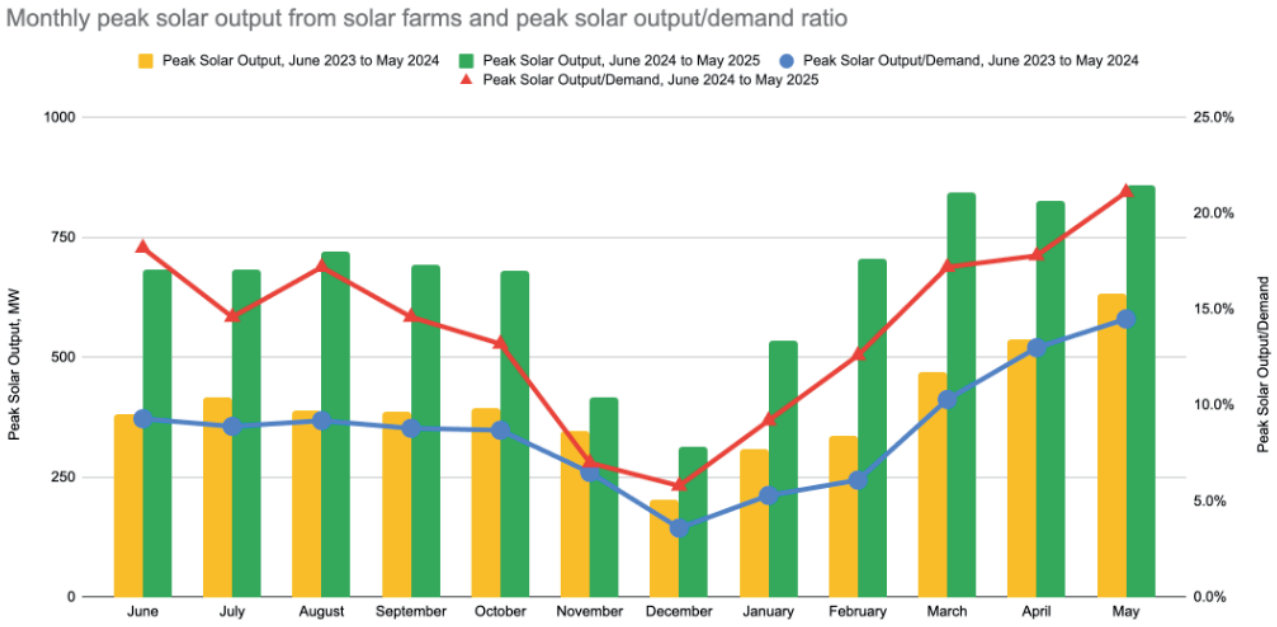


Green Collective covers all-island generation to 31 May 2025; the 6.5% demand met figure is for the Republic only (May 2025).

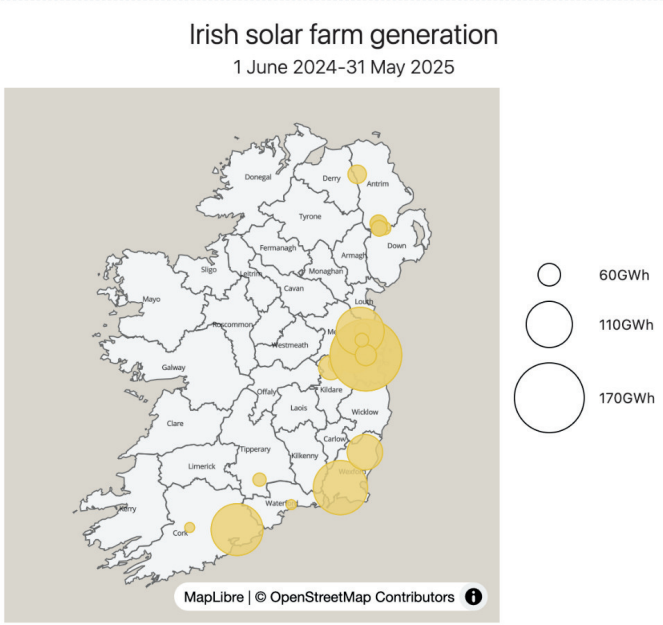
Record-Breaking Generation

Solar's Share of Peak Demand and County-Level Trends

At 1:45 pm on May 18, 2025, solar hit a new peak: 21.1% of Ireland's total electricity demand was met by utility-scale solar at that moment — the highest on record. The previous high (18.2%) occurred just the year before.



This growth isn't just national — it's regional. Meath, Wexford, and Cork now account for over 70% of all utility-scale solar generation. Cork surged in 2024, following the energisation of the Lysaghtstown Solar farm, while new capacity in Meath continues to expand the top-tier solar counties.



Excludes domestic solar. Excludes utility-scale solar not registered with SEMO.
Source: SEMO

GREEN COLLECTIVE

Technology, Storage & Innovation

From Market Signals to Smarter Systems

Ireland's solar future isn't just being built on rooftops and fields — it's being powered by a quiet revolution in technology and system behaviour.

The Storage Shift Has Begun

Since late 2024, the way Ireland's battery energy storage systems (BESS) operate has changed. With reduced incentives for ancillary services, storage providers have pivoted to wholesale markets — charging when prices dip (often during high solar output) and discharging during peak demand.

April 2025 marked a turning point: even Turlough Hill, Ireland's iconic pumped hydro station, was observed charging during the day — a clear signal of solar's growing impact on market dynamics and grid timing. This behavioural shift is laying the groundwork for a more responsive, renewables-driven grid. But it's only the beginning.

What's Powering the Shift

Battery Energy Storage Systems (BESS)

From add-on to essential. With curtailment pressures and grid constraints growing, BESS is key to maximising solar's value. By enabling time-shifting of generation, batteries help reduce waste, support grid stability, and unlock better project economics.

→ SolarPower Europe projects 63 GW of BESS deployment in Europe by 2028. Ireland's role may be small, but it is critical.

Technology, Storage & Innovation

From Market Signals to Smarter Systems

Hybrid Installations

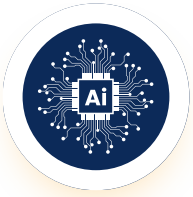
Solar + storage + smarts. Hybrid systems are on the rise, especially as regulatory clarity improves. These setups allow solar farms to store power, optimise export, and engage with flexibility markets — a model increasingly pursued by Irish developers.

Floating Solar: Turning Water into Watts

Floating PV offers a smart dual-use solution. EU players like BayWa r.e. are leading the way with over 300 MW installed on inland water bodies. In Ireland, the NATURSEA-PV project is pioneering offshore floating solar, exploring marine structure durability, biofouling, and public engagement.

Top 3 Tech Trends to Watch

Smart hybrid systems (solar + battery + EV)



AI-powered energy management in C&I sites

Floating solar – from reservoirs to marine pilots

Irish Policy and Regulatory Developments

Solar remains Ireland's fastest connecting renewable energy resource, with approximately 950 rooftop systems coming online week[1] and a pipeline of over 21 GW of solar and solar-hybrid projects.[2] This exceptional growth has been matched by the rapid progress in the policy and regulatory landscape.
New planning and grid frameworks are now in place, and consultations are now expected on planning and environmental assessment thresholds. Work is also underway on a successor to the Renewable Electricity Support Scheme (RESS).

Accelerating Renewable Energy Delivery

- **October 2024:** The Government's Accelerating Renewable Electricity Taskforce (ARET) begins quarterly meetings with leading industry bodies, including Solar Ireland.

Routes to Market

- **September 2024:** Nearly 1 GW of solar wins RESS 4 — nearly double RESS 3.[3]
- **January 2025:** Small-Scale RESS opens — supporting 50kW–6MW projects for communities, SMEs, and farms.

Grid

- **September 2024:** ECP-GSS published — doubles grid connection capacity from 2026 (Solar Ireland recommended).
- **April 2025:** Aligned with Solar Ireland recommendations, grid application window opens under ECP 2.5.1 & "Hybrids II" Consultation opens.

Planning

- **October 2024:** Planning & Development Act 2024 signed — includes 3 of 6 Solar Ireland proposals.
- **April 2025:** 1st revision of National Planning Framework is finalised including solar sections and regional targets (broadly aligned with the Solar Ireland submission).

[1] Figures provided by ESBN for Microgeneration connections in Q1.
[2] This pipeline includes projects at pre-planning, planning, connection and in construction and is based on work completed by the Solar Ireland policy team working with Patrick Calnan (Reasire).
[3] 959.84 MW of solar was successful in RESS 4, in comparison to 497.6 MW in RESS 3.

Key EU Policy and Regulatory Developments

The Irish solar sector is increasingly shaped by three key EU frameworks:

- the Renewable Electricity Directive (RED III);
- the Net Zero Industry Act (NZIA) and Clean Industrial State Aid Framework (CISAF);
- the Energy Performance of Buildings Directive (EPBD).

1. **The Acceleration of Planning and Grid Permitting Timelines and RED III**

Changes to Ireland's Planning Act are now required to meet RED III's two-year timeframe[4] for securing both planning approval and grid connection. This shift demands stronger pre-application engagement. Work is also underway to define Renewables Acceleration Areas (RAAs), where projects would benefit from faster permitting timelines.

2. What's next for RESS? The Auction Alphabet: RESS, NZIA and CISAF

Ireland's RESS Auctions have supported nearly 3.8 GW of solar to date. With RESS 5 potentially the final auction under current EU rules, Ireland has applied for an extension. A successor scheme is now being developed to align with NZIA and CISAF[5], with industry input essential to ensure effective design.

3. Residential Rooftop Solar Requirements

The EPBD mandates all new residential buildings be solar ready by 2029. Ireland's 2025 Climate Action Plan includes supportive measures:

- Transposing EPBD into national law
- A roadmap to phase out fossil fuel boilers
- Expanded support through BER assessors, SEAI One-Stop Shops, and Sustainable Energy Communities.

[4] Ireland is currently the subject of infringement proceedings for failing to introduce national laws to ensure that onshore renewable projects can be permitted within a two-year window by 1 July 2024.
[5] These include rules for auctions to include non-price evaluation criteria relating to sustainability, supply chain resilience, and innovation and accelerated state aid approval for renewable energy projects.

Ireland in the EU & Global Context

Local Momentum, Global Movement

Ireland's solar growth is part of a much wider energy transition — and while our footprint is small, our trajectory is strong.

Just a few years ago, Ireland ranked among the EU's lowest for solar deployment. By mid-2025, we've reached over 1.76 GW installed — moving firmly into the middle tier of European performers.

Under EU law, we must fast-track permitting, normalise rooftop solar on public and commercial buildings, and achieve a 45% renewable energy share by 2030.

Progress is visible — from rooftop planning exemptions to the Solar for Schools programme and the Clean Export Guarantee — but more is needed: faster grid connections, clear hybrid policies, and stronger support for rooftop and storage.

In the World: Small but Strategic

Global solar grew by 400 GW in 2023 and will double again by 2028. Ireland's scale is modest — but our edge lies in smart deployment. Microgeneration, battery storage, and innovation in floating solar and agrivoltaics give us a platform to lead in agility, equity, and integration.

By aligning with EU best practice and leveraging local innovation, Ireland can lead in integration — even if not in size. Ireland may not lead in gigawatts — but we can lead in agility, equity, and smart integration. That's how we build generation for generations.

Environmental, Social & Economic Impact

Beyond Megawatts: What Solar Means for Ireland

The growth of solar in Ireland isn't just changing how we power our homes and businesses — it's creating jobs, reducing emissions, and supporting communities across the country. From rooftops to rural fields, every panel installed delivers more than electricity.

Carbon Reduction: Emissions Cut Where It Counts

Since 2022, Ireland's installed solar capacity has avoided approximately 523,000 tonnes of CO_2, equivalent to over 3.4 billion kilometres of car travel. With every new system, we reduce our reliance on fossil fuels, cut carbon, and bring Ireland closer to its climate targets.

Social Value: From Classrooms to Communities

Solar systems are now installed in over 140,000 homes, hundreds of farms, and dozens of schools and sports clubs. These systems:

- Lower energy bills
- Increase resilience for rural businesses
- Serve as living sustainability tools in education
- Fund biodiversity zones and pollinator projects on solar farms
- Strengthen Ireland's energy independence — especially in times of price volatility

> *"What once felt like potential is now progress. The pace of solar development across Ireland shows what can happen when policy, industry, and public ambition align. This is not just the energy transition — it's a social and economic opportunity for every community."* – ***Declan Cullinane, Chair of Solar Ireland's Board of Directors***

Environmental, Social & Economic Impact

Beyond Megawatts: What Solar Means for Ireland

Real-World Impact: Education, Employment, Environment

Solar projects are bringing new learning opportunities, site visits, and upskilling efforts across Ireland — from school STEM projects to solar farm training days. On the ground, they're also revitalising underused land, protecting native habitats, and contributing to Ireland's just transition.

Economic Impact: A Billion-Euro Industry in the Making

Solar isn't just supporting energy — it's supporting employment, enterprise, and exchequer revenue. According to the Sunrise: Economic Impacts of the Solar Energy Industry in Ireland, the country's solar sector could deliver[1]:

Capacity and benefits	1.4GW in 2024	8GW in 2030	2025-2030
The total economic output across capital investment activities and operations	€1bn - €1.2bn	€1.2bn - €1.4bn	€6.2bn - €7.3bn
Additional GVA for the Irish economy arising from the Industry's activities	€437m - €514m	€480m - €566m	€2.3bn - €2.7bn
Total employment income earned by workers in the sector	€230m - €270m	€258m - €304m	€1.2bn - €1.4bn
Total employee and employer PRSI and employee income tax paid to the Exchequer	€54m - €63m	€61m - €72m	€293m - €344m
Commercial rates contributions	€4.6m - €5.4m	€43m - €51m	€164m - €193m
Contribution to Community Benefit Funds	€1.3m - €1.6m	€12m - €15m	€49m - €58m

[1] Solar Powering Ireland: Economic Impacts of the Solar Energy Industry in Ireland, KPMG, 2024

This is more than a projection — it's already happening. Recent years have seen a surge in development activity, which is now translating into record levels of investment and M&A activity.

Environmental, Social & Economic Impact

Beyond Megawatts: What Solar Means for Ireland

As more projects reach planning, grid connection and route-to-market milestones, international investors are moving fast to secure Irish solar assets.

> *We anticipate a strong pipeline of projects reaching key development milestones over the coming years, which should continue to drive M&A activity in the sector.* - ***James Delahunt, KPMG Partner, Corporate Finance, Head of Energy and Natural Resources***

Players like Octopus Renewables, Greencoat Renewables, and NTR have actively expanded their portfolios, while domestic and global funds are raising capital earmarked for Irish solar. Investors are especially drawn to projects with RESS contracts, which guarantee more stable returns and mitigate revenue risk.

With Ireland expected to fall short of its offshore wind target, solar and onshore wind will play an even bigger role in closing the renewable energy gap this decade. To meet the government's 8 GW solar goal by 2030, annual capacity must grow by 780–1,330 MW each year — driving further jobs, capital spend, and supply chain opportunities.

While challenges remain — from interest rate volatility to stricter ESG scrutiny on solar panel sourcing — confidence in Ireland's solar market remains strong.

Environmental, Social & Economic Impact

Beyond Megawatts: What Solar Means for Ireland

A Just Transition: Powered by People

A clean energy future isn't just about megawatts — it's about making sure that everyone benefits from the transition. A just transition ensures that access to renewable energy, green jobs, and lower energy bills doesn't depend on income, geography, or background.

EnergyCloud: Clean Power, Shared Fairly

EnergyCloud is a shining example of social innovation in action. By capturing surplus renewable energy — which would otherwise go unused — and redirecting it to households in energy poverty, it ensures that clean power reaches those who need it most. It's proof that climate action can also be social action.

WISE(IR): Women Leading the Energy Transition

WISE(IR) — Women in Solar Energy Ireland — is helping to shape a more inclusive energy future. Through mentoring, advocacy, and visibility, the network is ensuring women are empowered across technical, policy, and leadership roles. Because a diverse solar industry is not just fairer — it's stronger.

A just transition doesn't happen by accident — it happens when equity is built into every stage, from rooftop panels to national policy. For communities, the economy, and climate action, solar is proving to be more than clean energy: it's a robust investment in Ireland's resilient, shared future.

Future Outlook

Scaling Smart, Growing Together

Ireland's solar story has shifted from start-up to scale-up — but our biggest chapters still lie ahead. With over 1.76 GW installed by mid-2025 and momentum across every segment, solar is now a central pillar of our clean energy future. The question is no longer if solar will lead — but how far, how fast, and how fairly.

What's Next

To meet our 2030 targets and RED III obligations, Ireland will need:

- 8 GW of installed solar capacity — nearly five times today's total
- A resilient grid with storage, hybrid, and flexible connection policies
- Supportive finance and planning structures for SMEs, communities, and farmers
- Ongoing development of rooftop, ground-mounted, and co-located solar
- Innovation in floating PV, agrivoltaics, and solar+storage systems
- A skilled workforce — ready to deliver solar safely, efficiently, and at scale

Key Policy Enablers

Alongside long-term planning, there are several practical, near-term steps that can unlock progress:

- Publish a decision on co-located hybrids (as promised), with a full framework for true hybrids to follow
- Finalise a supportive model for private wires, developed in consultation with industry
- Design a successor to RESS to avoid auction gaps and ensure continuity for onshore development
- Protect rooftop solar grant levels, especially for lower-income households
- Streamline planning, permitting, and connection pathways for smaller-scale and community-led projects

Future Outlook

Scaling Smart, Growing Together

Technology to Watch

Ireland's next wave of growth will be shaped by:

- Battery Energy Storage Systems (BESS) – critical to reduce curtailment and enable hybrid solar
- Floating solar – emerging through pilots on inland waters and international partnerships
- Agri-solar – dual land use models for farming and clean generation
- Smart grid and digital integration – making solar a responsive, decentralised backbone
- Community and cooperative ownership – increasing fairness and local value

A Decade to Deliver

This is a decade of transformation — and solar is one of the most visible, scalable, and inclusive tools we have. With clear policy direction, continued collaboration, and bold leadership across government, industry, and civil society, we can turn today's momentum into long-term security.

> *Ireland's solar sector has never been stronger — or more essential. We're not just building capacity. We're building confidence. We're powering homes, schools, and farms. We're restoring habitats and rethinking how energy can work for people. This is what it means to build generation for generations.* — ***Ronan Power, CEO, Solar Ireland***

References, Credits & Acknowledgements

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Key Contributors:

- *ESB Network: Grid connection and capacity data (as of 31/05/2025)*
- *Green Collective: National generation and market data*
- Dr. Paul Deane: calculation of total electricity generation and emissions savings.
- *SolarPower Europe: European trends and battery outlook*
- *KPMG Ireland: Investment and market commentary*
- *SEAI: Rooftop and microgeneration data*
- *Solar Ireland Members: Insights, case studies, and local impact stories*

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- *Green Collective National Data 2023–2025*
- OpenCO2.net calculation of equivalence between total carbon tonnes avoided and kilometers driven.
- *Irish Examiner, June 2025*

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For a full list of sources, visit www.solarireland.ie/news

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