energy saving trust

The future of solar energy in Scotland

Green Heat Installer Engagement Programme

2 July 2025

Net Zero Scotland
Scottish Government

LET'S DO NET ZERO

Presenters

Rachel Comrie	Green Heat Installer Engagement Assistant Programme Manager, **Energy Saving Trust**	Presenter, Q&A Panel
Josh King	Chair, **Solar Energy Scotland** and Director, **Gensource Ltd**	Presenter, Q&A Panel

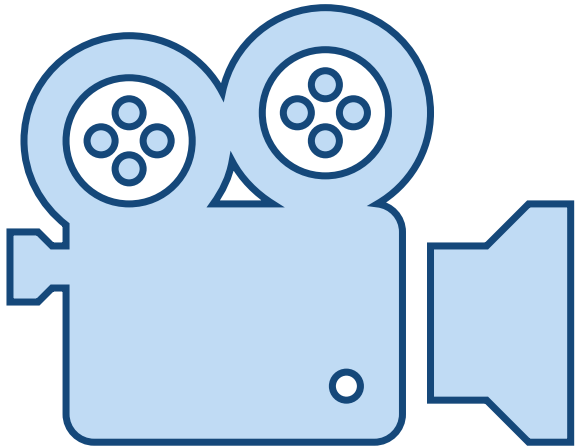
Questions

Type questions into the Questions pane of the control panel.

You can send in your questions at any time during the presentation.

These will be collected and addressed during the Q&A session at the end of the presentations.

Recording



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Green Heat Installer Engagement Programme

Rachel Comrie

02.07.2025

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Green Heat Installer Engagement Programme

Resources hub

Support hub for small businesses working on energy efficiency, heating systems and micro generation. Find research, case studies and online tools to...

Skills, funding and certification

Discover the certification requirements as an installer or assessor looking to carry out work under various schemes.

Green heat installer events

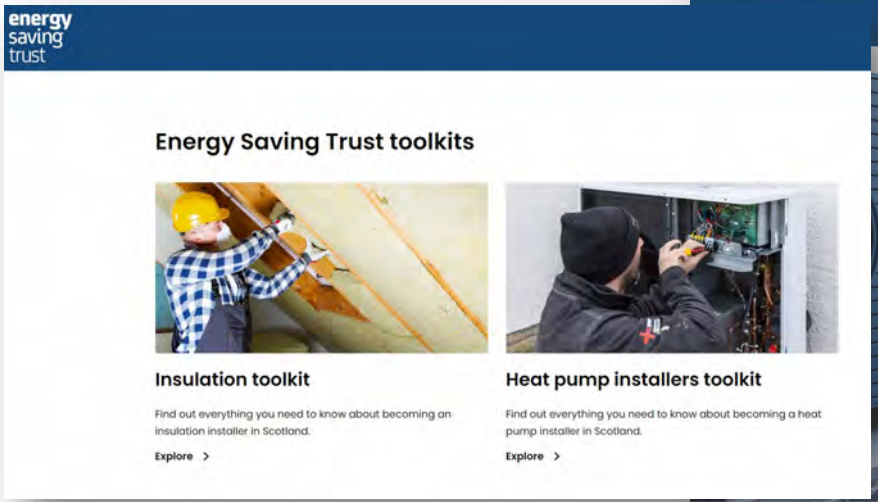
We organise networking events, webinars, workshops and information sessions. All free of charge. Find out more about our upcoming sessions.

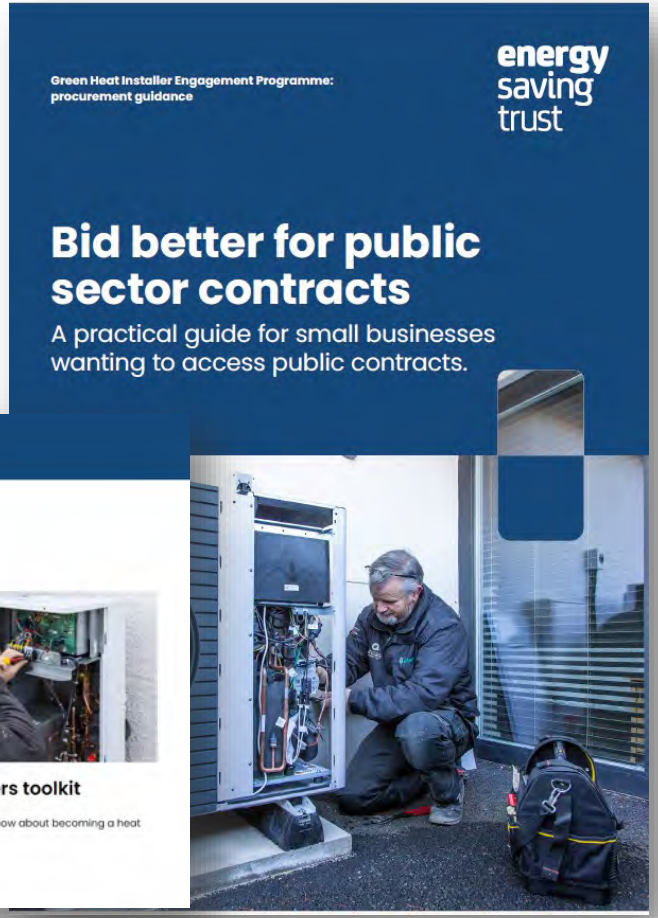
Funding for your customers

Energy Saving Trust helps consumers access funding to make energy efficiency improvements and renewable energy additions to their property.

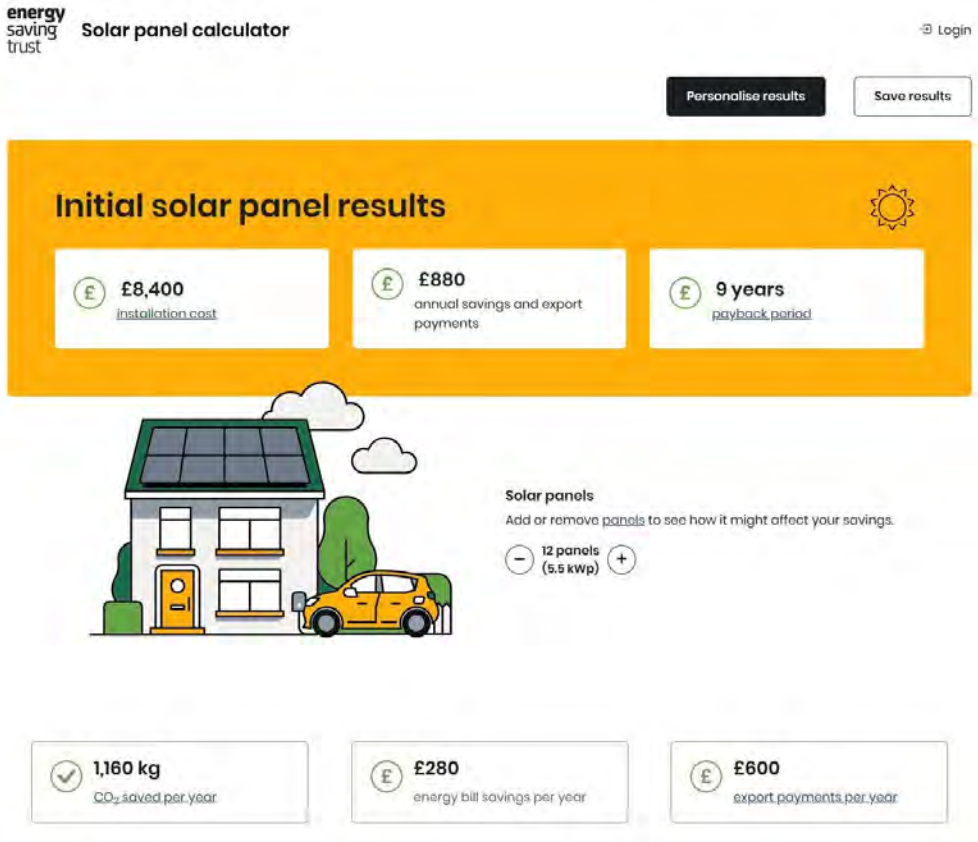
Online resources

- Procurement guide
- Case studies to encourage the industry to upskill
- Webinars
- Clean heat installer toolkits





Solar panel calculator



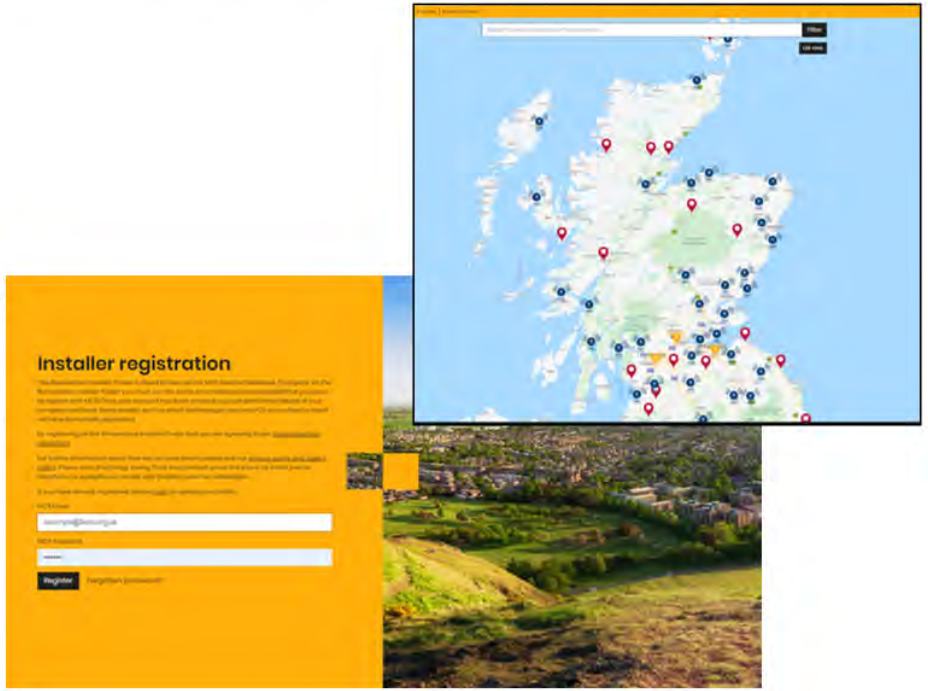
Personalise results with detail input of

- Electricity intensive appliances
- Electricity use
- The slope of your roof
- The direction your roof faces
- How much shade does your roof get
- When are you home

How much could you save with solar panels? | Solar Panel Calculator

The Renewables Installer Finder

- Free to join for MCS installers operating in Scotland
- Customer reviews of installed systems
- More than 600 reviews last year
- Customers can search by name, location and technology
- Register using MCS email address and password
- Direct links to profile page



rif.est.org.uk/Installer/Registration

Green Heat Installer Engagement Programme – useful links

Email: GreenInstallerScotland@est.org.uk

LinkedIn Group: www.linkedin.com/groups/5139242

Email updates and quarterly newsletter subscription: bit.ly/2PSatkL

Website: energysavingtrust.org.uk/business/energy-efficiency/green-installer

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Thank you!

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Scottish Government

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The Potential of Scottish Solar

Josh King

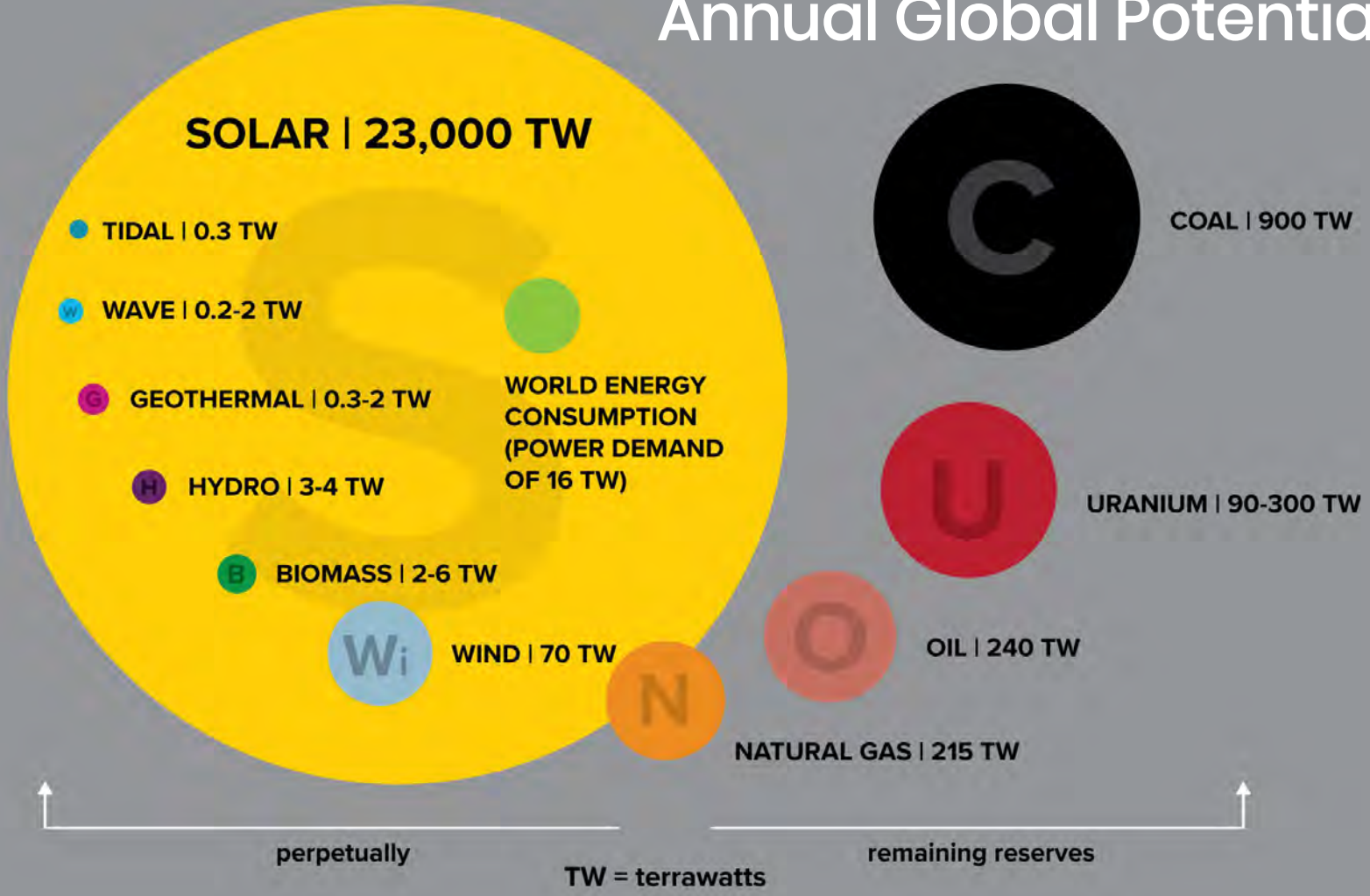
Managing Director
Gensource

Chair
Solar Energy Scotland

The Plan Today

1. The potential for Solar Energy In Scotland
2. Insights from the solar industry
3. Typical Residential Case Study
4. How PV and Battery support Heat Pumps and EVs
5. Qualifications and Certifications
6. Finance and Funding
7. The role of Solar Energy Scotland

Annual Global Potential



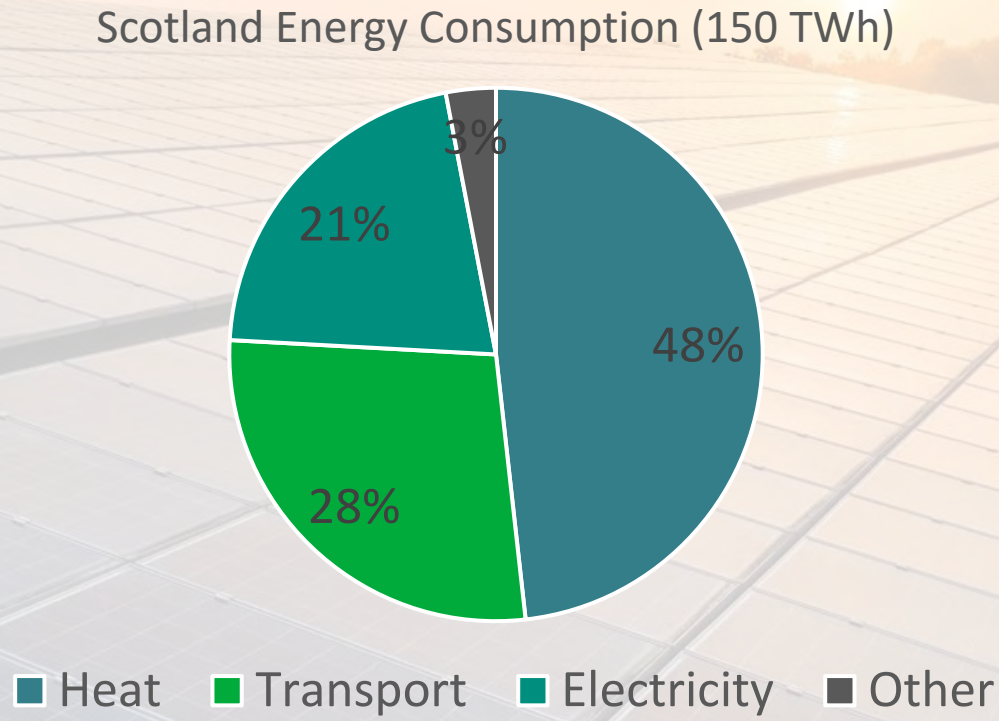
Hoy

- Enough solar energy reaches the ground on Hoy to meet all of Scotland's annual energy demands
- That includes our electricity, heat, and transport
- As technology improves, it's only a matter of time before solar energy is the most abundant energy source in Scotland

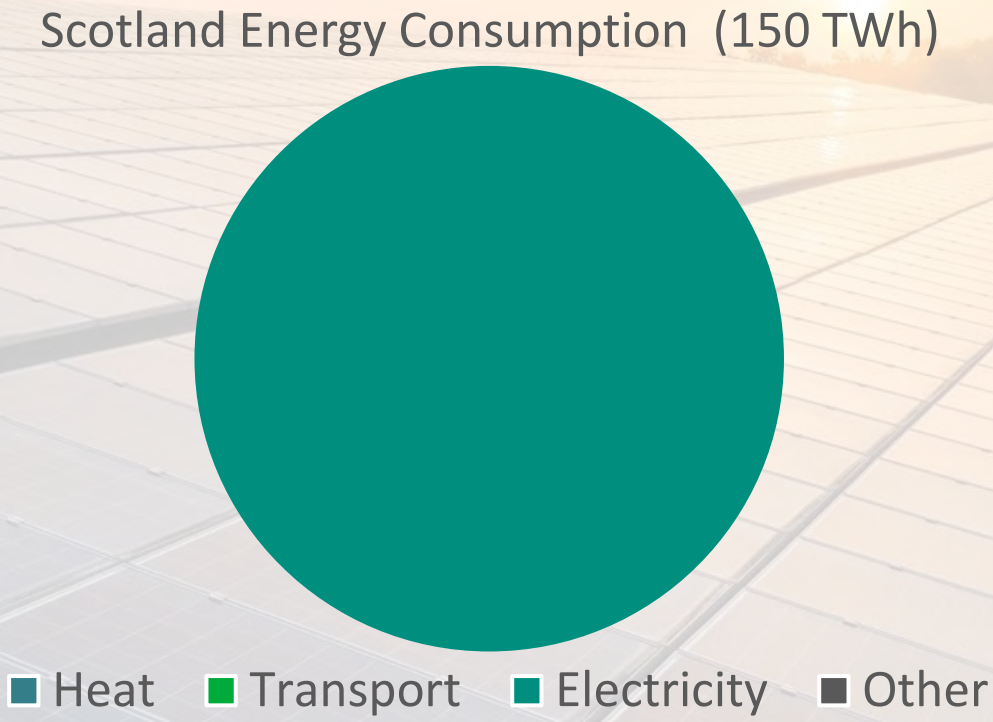
Powering Scotland

- Using today's solar farm technology, we could meet all of Scotland's electricity, heat and transport with about 2-4% of our land area
- That is not a suggested policy ambition...

Scotland's Energy Consumption



Electrification of Heat and Transport



The benefits to Scotland

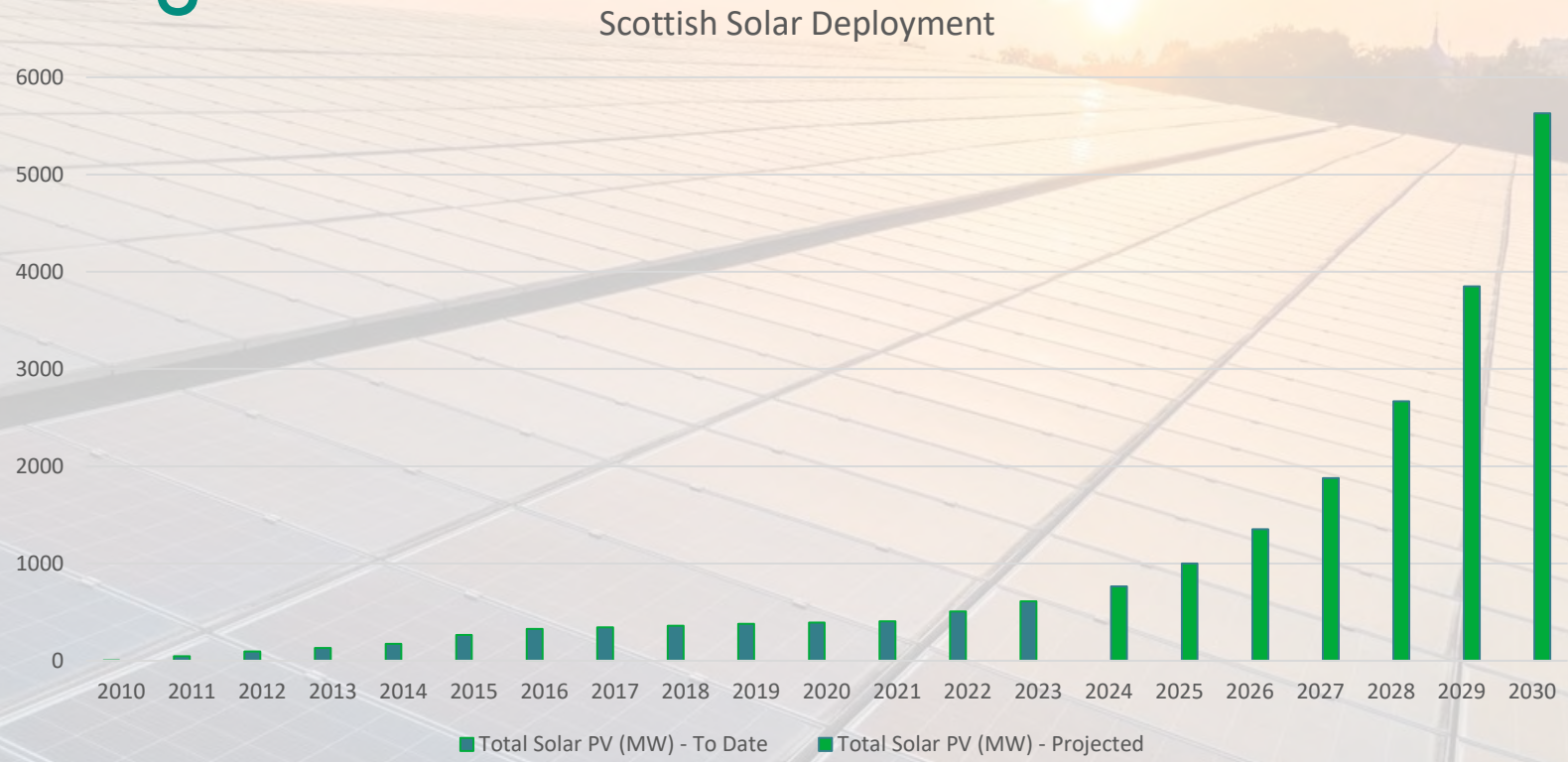
Impact	Evidence
Supercharges Electrification of Heat and Transport	Clear correlation between uptake of solar and storage, with heat pumps and EVs
Directly Impacts Consumer Bills	Scottish Power estimate 92% bill saving with SEG; Octopus Zero Bills Homes available in Scotland
Public Support	81% of public do not oppose solar farms in their area (2022, Government Survey); 74% support solar being mandatory on new homes (2024, YouGov)
Quick to Deploy	Rooftop is weeks to months in development
Supports Grid and Energy Security	Homes with solar and storage had a 5x greater impact in National Grid 'Demand Flexibility Service'
Supports Jobs and Economic Growth	Scotland's 4-6GW by 2030 ambition would provide 11,000 full-time jobs (2024, Optimat)
Cheap	Solar farm lifetime energy costs are cheaper than all other sources (inc. onshore wind, offshore wind and CCGT) (2023, DESNZ)

Scottish Solar Ambition

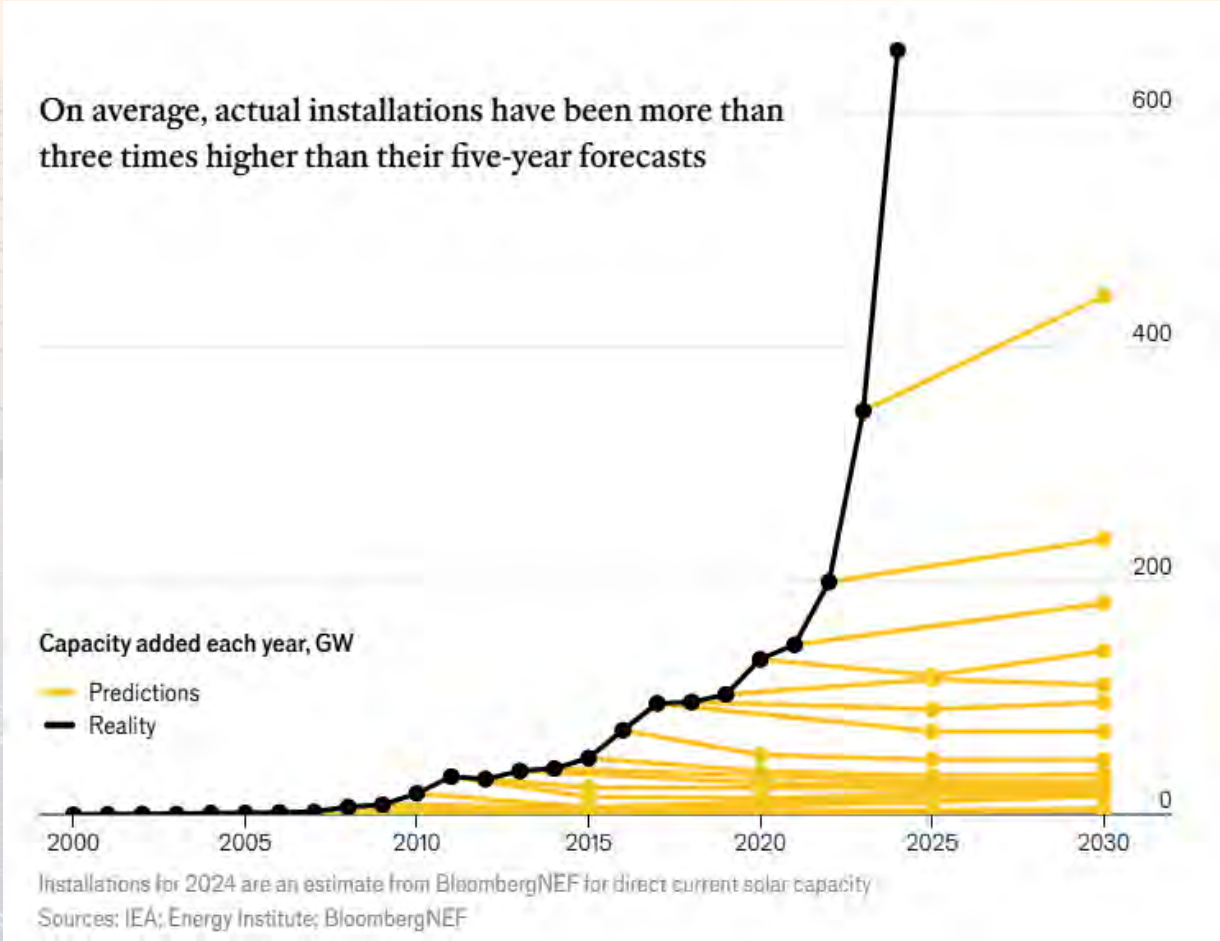
- A solar ambition of 4-6 GW
  - Approx. 2 solar panels per person
  - 15% of Electricity Consumption [3]
  - Equivalent to Torness 1 [4]
- Domestic: 1 – 1.5 GW
  - 500k homes with 2-3kW [5]
- Commercial: 0.7 – 1 GW
  - 200 SEC Centres [5]
- Utility: 2.3 – 3.5 GW
  - An area of land 7.5 x 7.5 km [5]
  - Less than golf courses or airports

Scotland 2030 Deployment Target by Sector

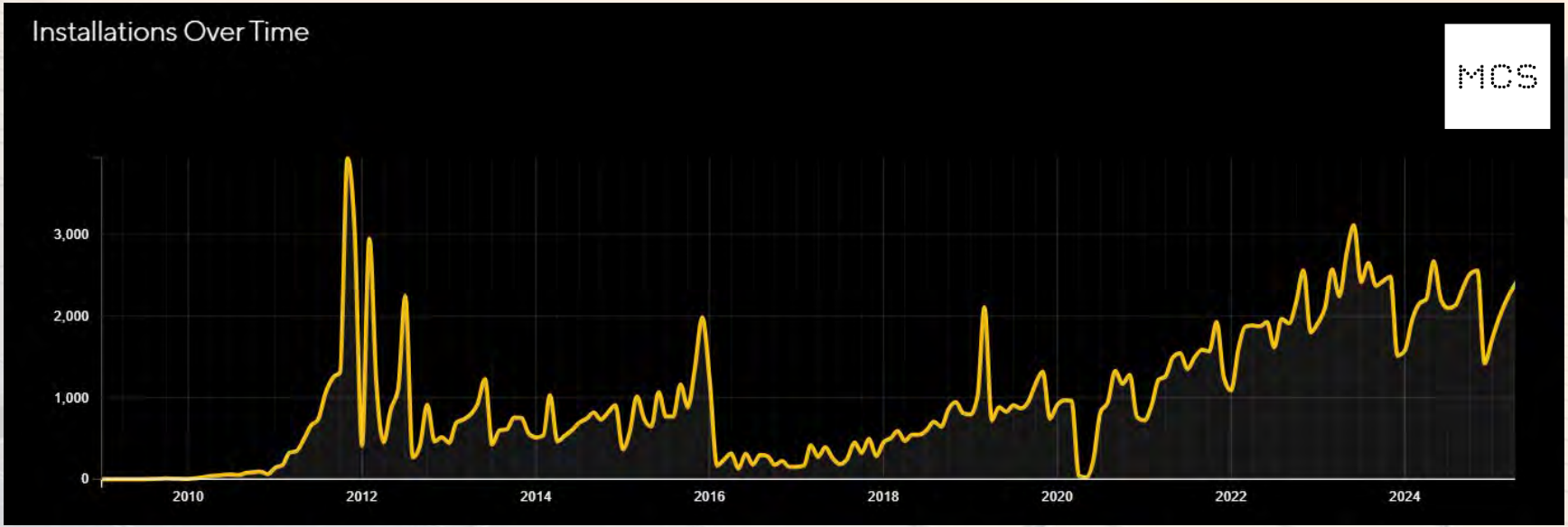
Reaching 6GW



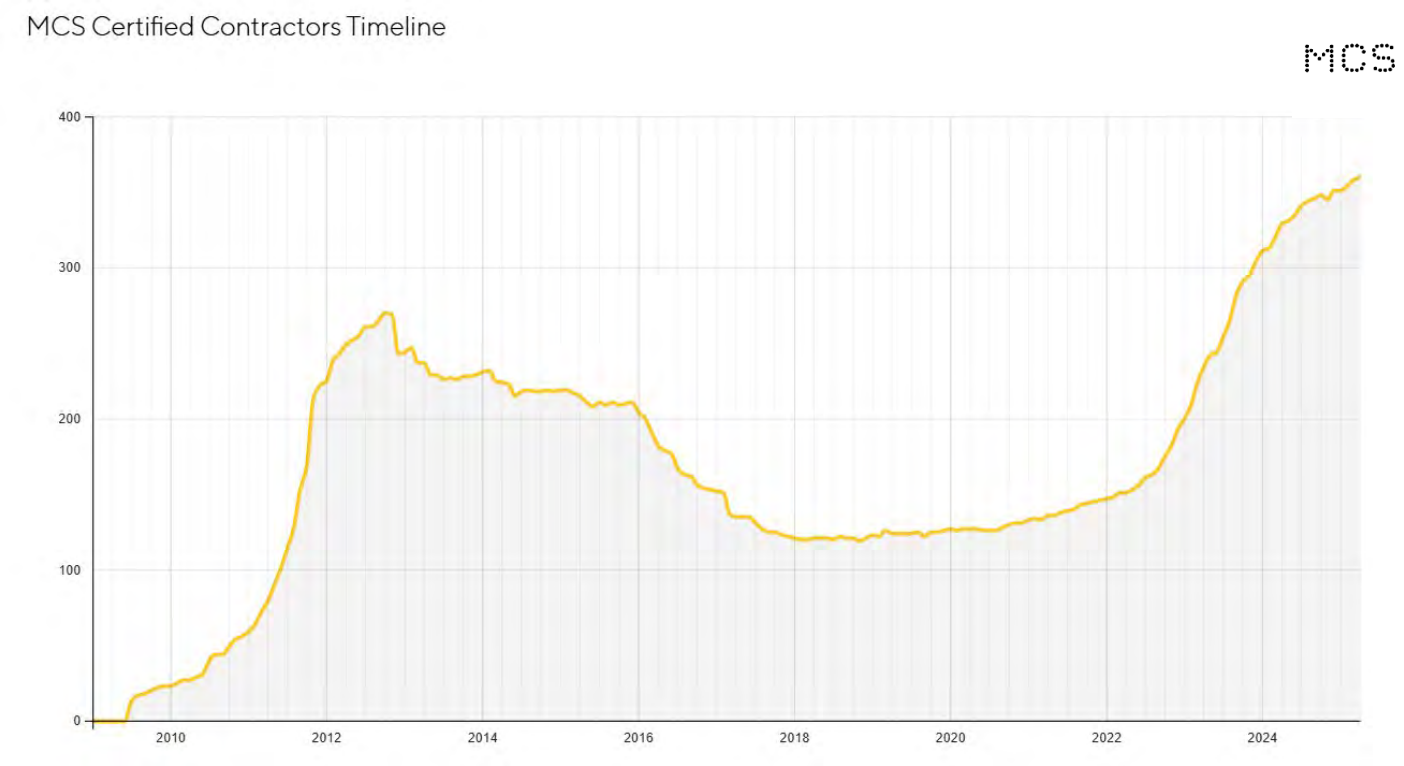
Nothing New


On average, actual installations have been more than three times higher than their five-year forecasts
600
400
200
0
Capacity added each year, GW
Predictions
Reality
2000
2005
2010
2015
2020
2025
2030
Installations for 2024 are an estimate from BloombergNEF for direct current solar capacity
Sources: IEA; Energy Institute; BloombergNEF

Market Outlook



Market Outlook

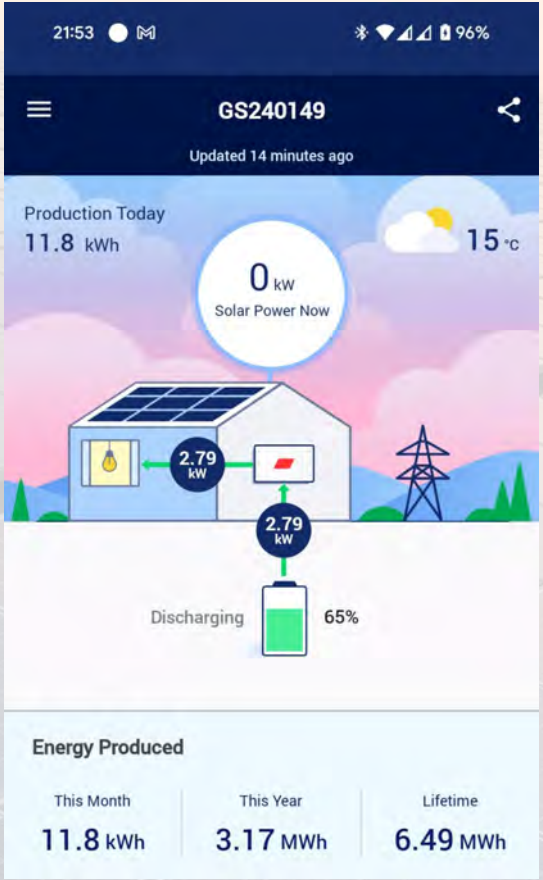


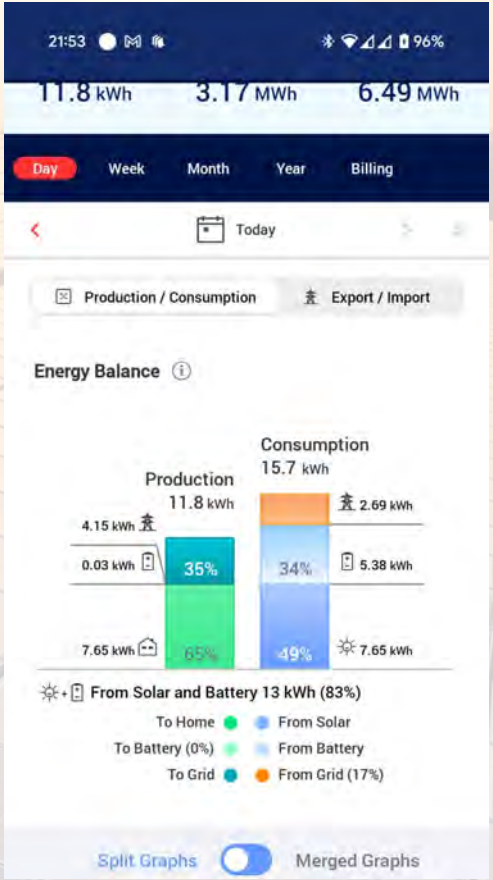
Domestic Case Study

Domestic Case Study

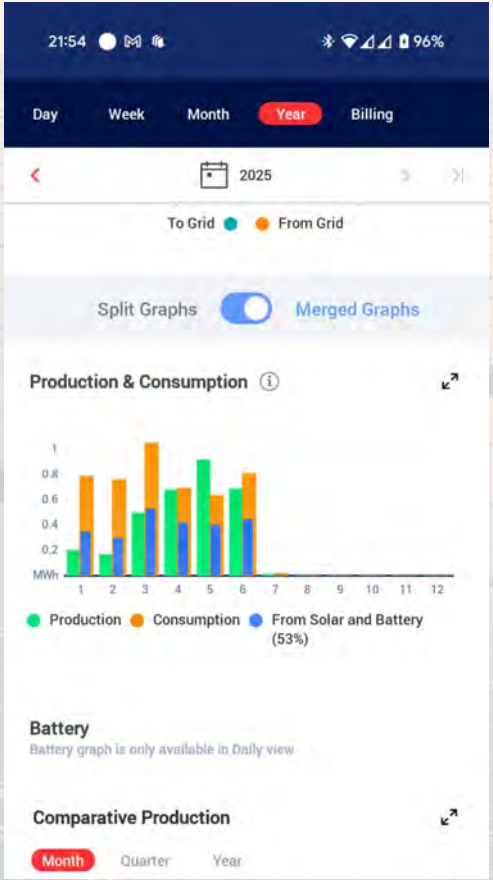
Comparison	Estimated	Actual
Home Energy Consumption (kWh)	10,800	9,200
Solar PV Production (kWh)	5,016	5,250
Total Home Energy Covered by Solar and Storage (%)	42%	47%
Payback Period	9 years	9 years

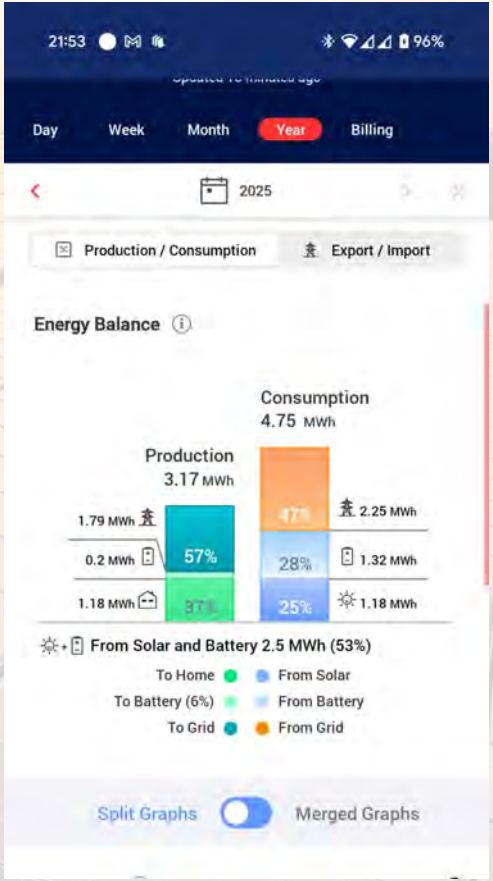
Domestic Case Study



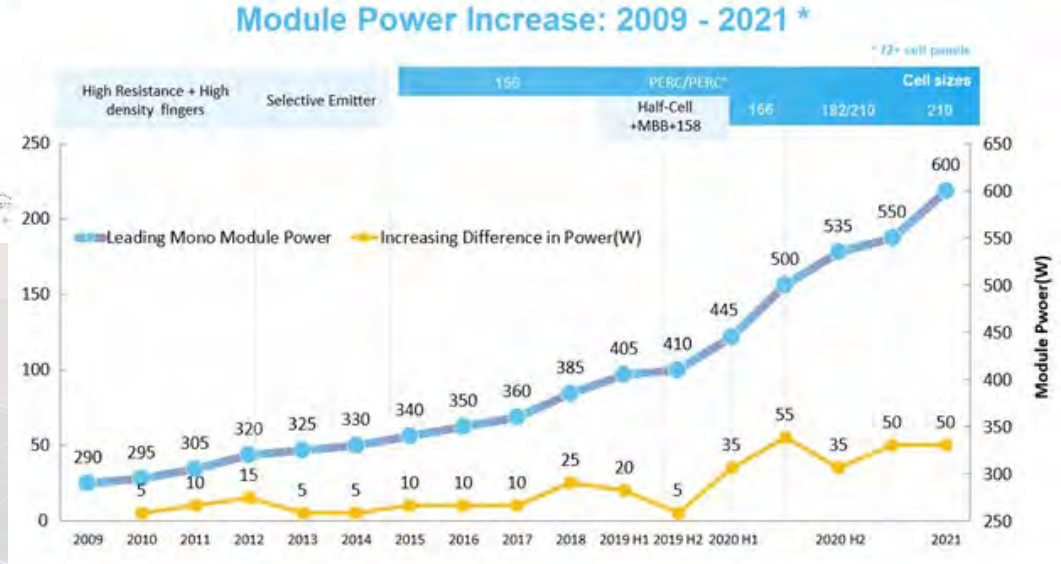


Domestic Case Study





Solar Panel Power



Solar with heat pumps and EV charging

- The typical UK home uses 3,500 kWh of electricity each year
- A heat pump will typically use 4,000 kWh electricity each year
- A typical EV driver might require 3,000kWh electricity for driving
- The impact that solar and battery can make on a typical household is growing

Solar with heat pumps and EV charging

Your low carbon tech	Your best tariff
Heat pump	Cosy Octopus
Electric car (EV)	Intelligent Octopus Go
Solar panels	Octopus Outgoing
Solar, battery storage	Octopus Flux
Battery storage	Agile + Outgoing Octopus
EV, solar	Intelligent Octopus Go
EV, heat pump	Intelligent Octopus Go
EV, solar, heat pump	Intelligent Octopus Go
Heat pump and solar	Cosy Octopus + Octopus Outgoing
Nothing yet	Agile Octopus or Octopus Tracker

Solar with heat pumps and EV charging

1. Super cheap rates between **02:00 - 05:00** every day, when you can top up your battery with any extra energy you may need.

2. A peak rate between **16:00 - 19:00**, the optimum time to discharge your battery and export surplus energy back to the grid.

Training and Qualifications

MCS Find a Training Course

https://mcscertified.com/skills-and-competency/find-a-training-course/

Places to enquire around training provision:

NICEIC
SELECT
Various
G-Tech Training
Energy Training Academy
Skills Training Group

Learners must be competent electricians and hold one of the qualifications listed below or other qualifications listed in **EAS tables A4.7 and 4.8 routes 1, 2, 3 and BS 7671: 2018 Requirements for Electrical Installations (18th Edition)** qualification

- Level 3 NVQ Diploma in Installing Electrotechnical Systems and Equipment (Buildings, Structures and the Environment) (2357)
- Level 3 NVQ Diploma in Electrotechnical Services (Electrical Maintenance) (2357)
- Level 3 Electrotechnical Qualification (5357)
- Level 3 in Electrotechnical Services Experienced Worker (2356)
- Level 3 NVQ in Electrotechnical Services – Electrical Installation (Building and Structures)
- Level 3 Electrotechnical Experienced Worker Qualification.(2346)
- Level 3 Electrotechnical in Dwellings
- EAL Building Services Engineering (Level 3) – Electrotechnical Installation
- ECS Gold Card (for domestic electrician), JIB Electrician (Not PAT tester only) or Approved Electrician Card
- Other Awarding Organisations equivalences will also be acceptable

For learners in Scotland: Any of the above or

- SVQ in Electrical Installation at SCQF level 7 + Up to date BS 7671 Requirements for Electrical Installations

Stand-alone technical certificates/vocationally related qualifications (VRQ) (non-competency based) are NOT acceptable

Finance and Funding

Scheme	Who is it for?	What does it offer?
ECO4	Low-income/benefit households	100% grant for solar panels & efficiency
Home Energy Scotland Grant/Loan	All homeowners (Scotland)	Blended Grant and Loan for Energy Efficiency (Exc. Solar)
Warmer Homes Scotland	Struggling households	Up to £10,000+ for efficiency improvements (Inc. Solar)
CARES (Local Energy Scotland)	Community groups	Grants for community solar & efficiency
VAT Relief	All households	0% VAT on solar installations (to 2027)

Solar Energy Scotland

- Quarterly Working Groups:
  - Sept 9th Glasgow

- Regular Webinars:
  - Upcoming Members Webinar on Scottish Manifesto (July)

- Solar Careers Fair:
  - November Glasgow
  - Location TBC

- Scottish Solar Conference
  - Nov 11th
  - COSLA, Edinburgh

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Q&A

You can ask questions by typing them into the **questions** box of the control panel

Panellists:

Josh King	Chair, **Solar Energy Scotland** Director, **Gensource Ltd**
Rachel Comrie	Green Heat Installer Engagement Assistant Programme Manager, **Energy Saving Trust**

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- Email: GreenInstallerScotland@est.org.uk
- LinkedIn Group: https://www.linkedin.com/groups/5139242/
- Email updates and quarterly newsletter subscription: bit.ly/2PSatkL
- Website: https://energysavingtrust.org.uk/business/energy-efficiency/green-installer/
- Heat pump and insulation installer toolkits: https://greenheattoolkit.energysavingtrust.org.uk/

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Thank you for attending