

Solar in Scotland

Delivering long term sustainable jobs

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AES Solar

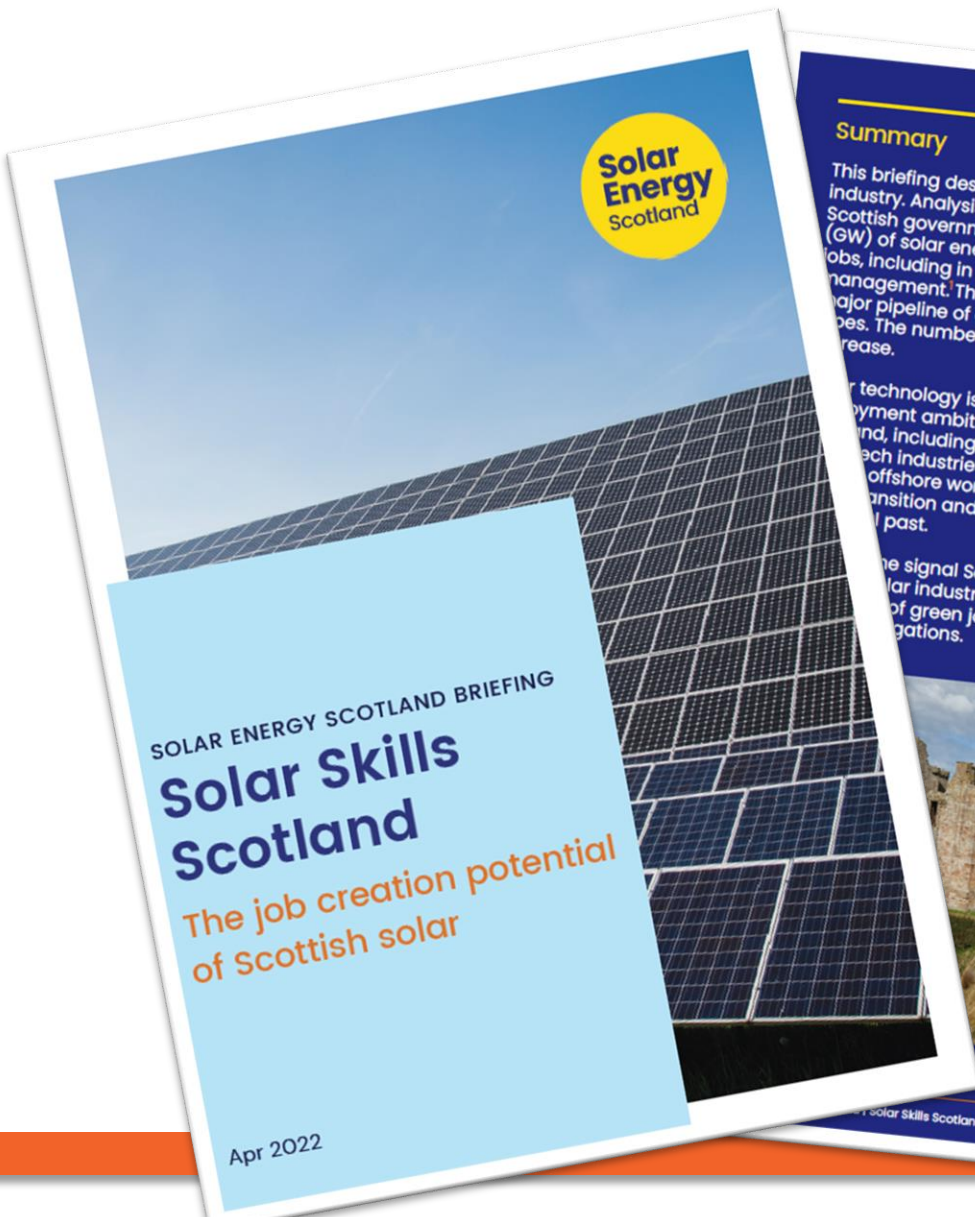
- Established 1979
- Installation Services Across Scotland and parts of UK
- Manufacture Solar Thermal Collectors
- 30+ Employees
 - Consultancy, design, manufacturing installation, O&M
- 2021 Highlands and Islands Enterprise Award for Excellence in Upskilling, Reskilling and Emerging Leaders

Celebrating

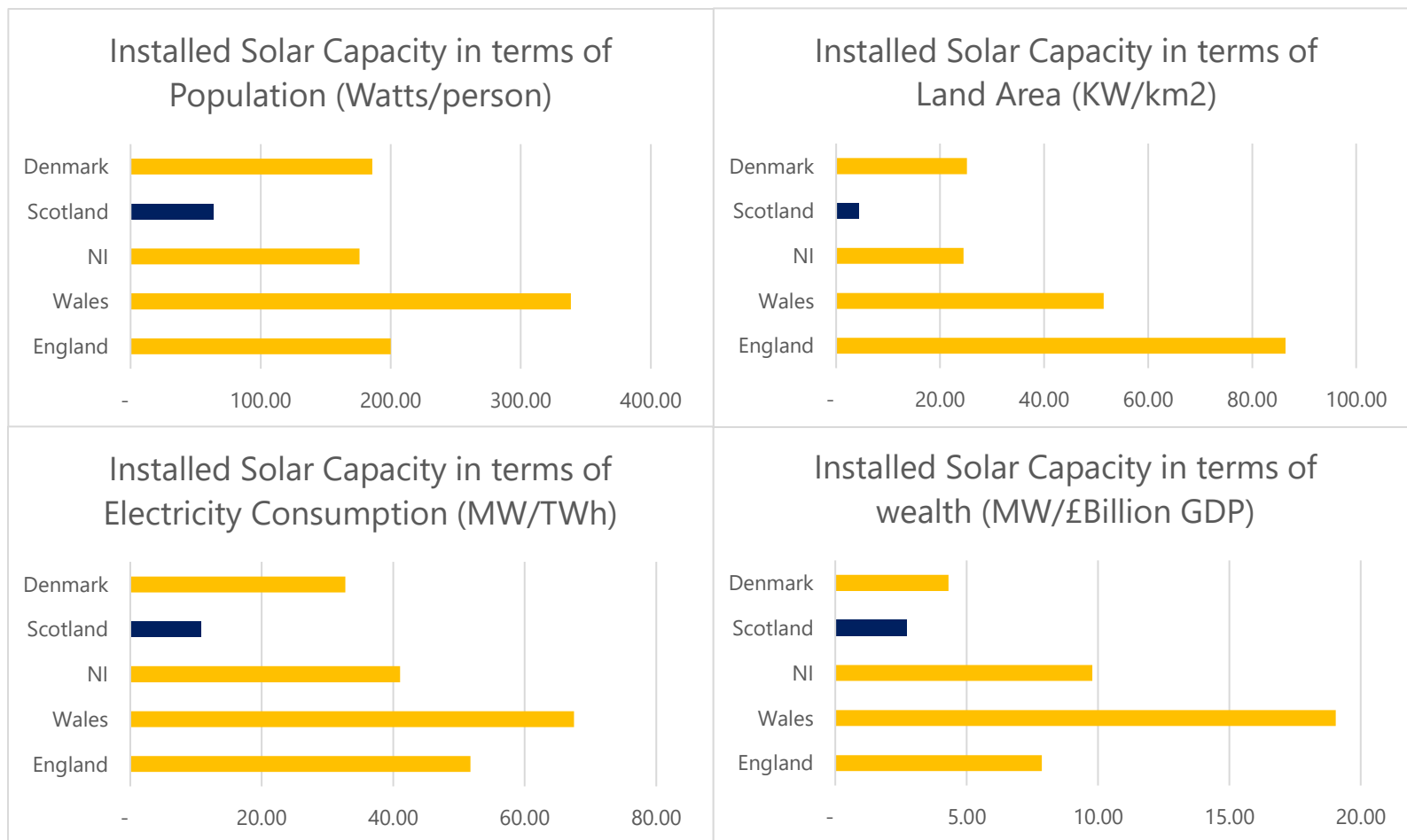


**40 trips around the sun
and still going strong.**

Solar Skills Scotland



Where are we now?



[1a]

Where could we be?

Scotland 2030 Deployment Target by Sector

- A solar ambition of 4-6 GW
 - Approx. 1kW per person
 - 15% of Electricity Consumption [2]
 - Equivalent to Torness 1 [3]
- Domestic: 1 – 1.5 GW
 - 500k homes with 2-3kW [4]
- 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 [6]

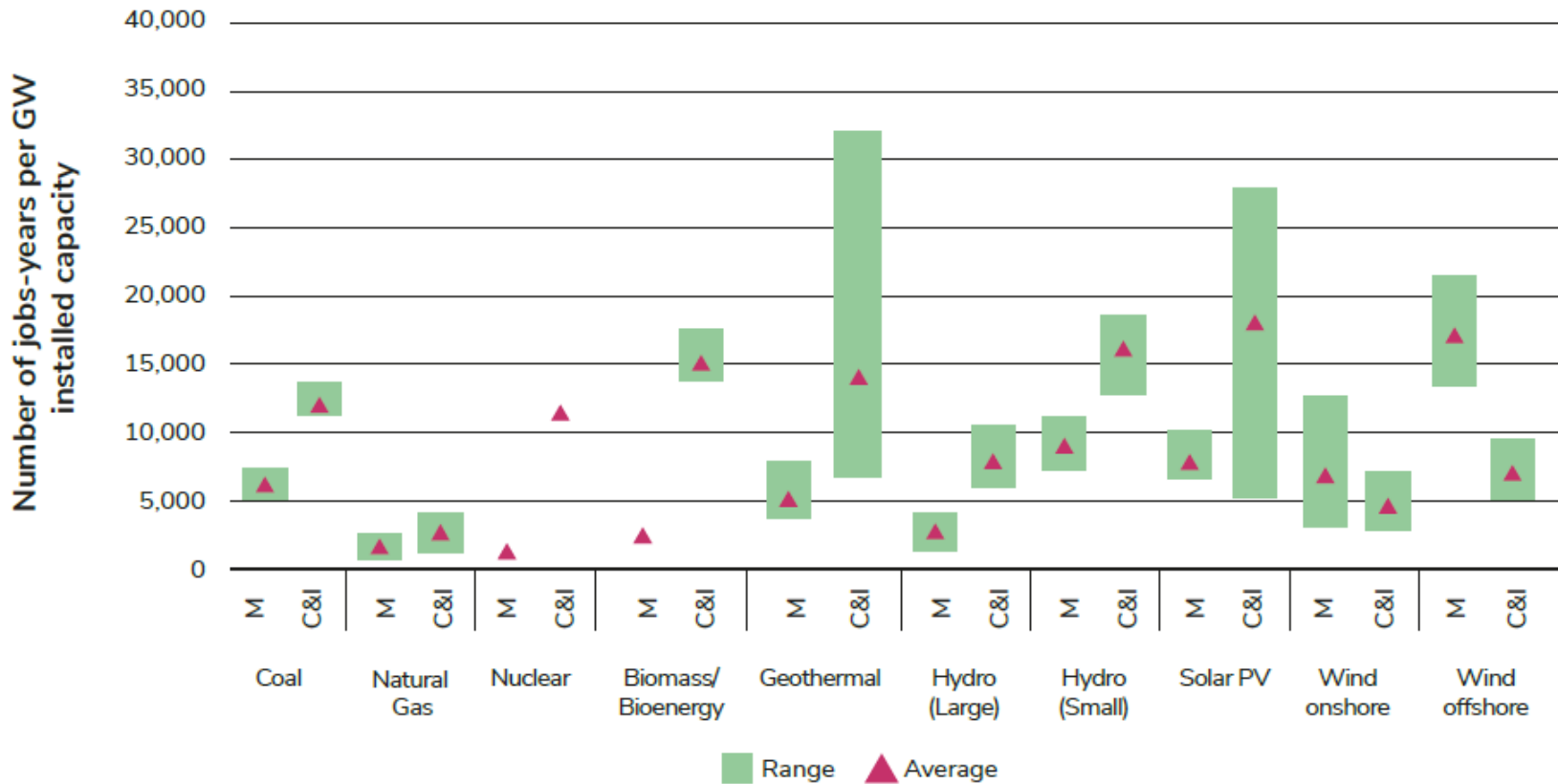


Solar Employment Potential

Source data	Source data relates to	Analysis	Jobs by 2030 (4GW deployed capacity)	Jobs by 2030 (6GW deployed capacity)
Solar Energy Industries Association ⁵	US	Solar Energy Scotland	10,033	15,050
Office for National Statistics ⁶	UK	Solar Energy Scotland	5,597	8,644
Solar Power Europe ⁷	EU	Solar Energy Scotland	5,623	8,434

Solar Employment Potential

Figure 1a. Gross job-years created in manufacturing (M) and construction and installation (C&I) per GW of installed capacity

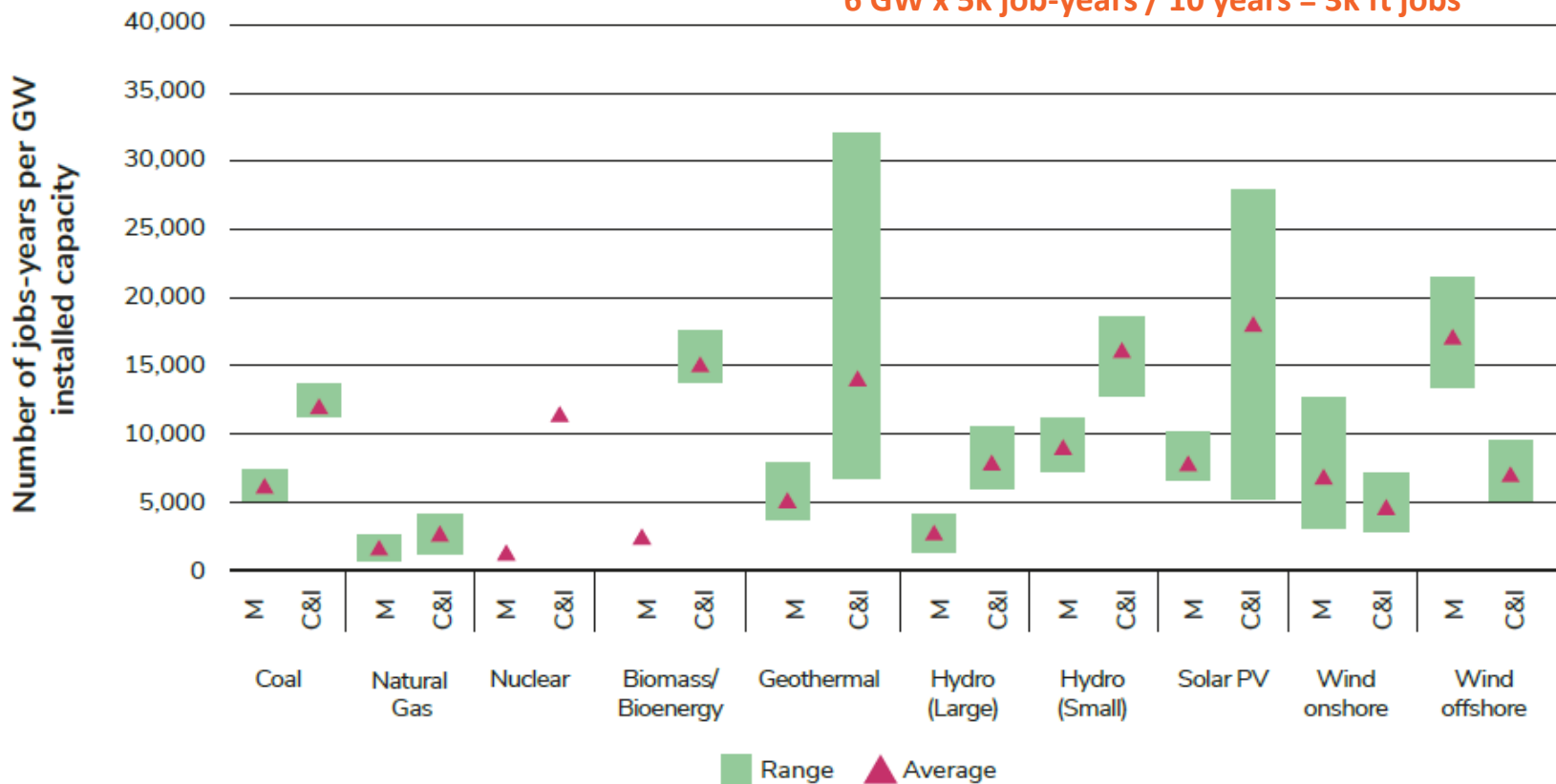


[9]

Solar Employment Potential

Figure 1a. Gross job-years created in manufacturing (M) and construction and installation (C&I) per GW of installed capacity

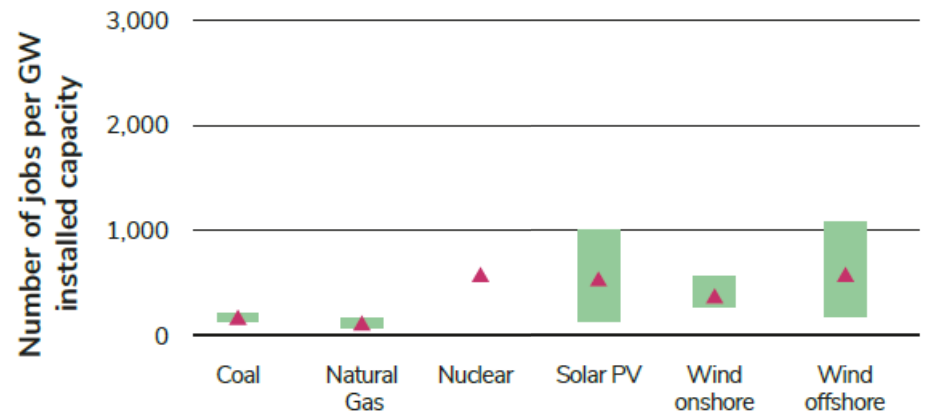
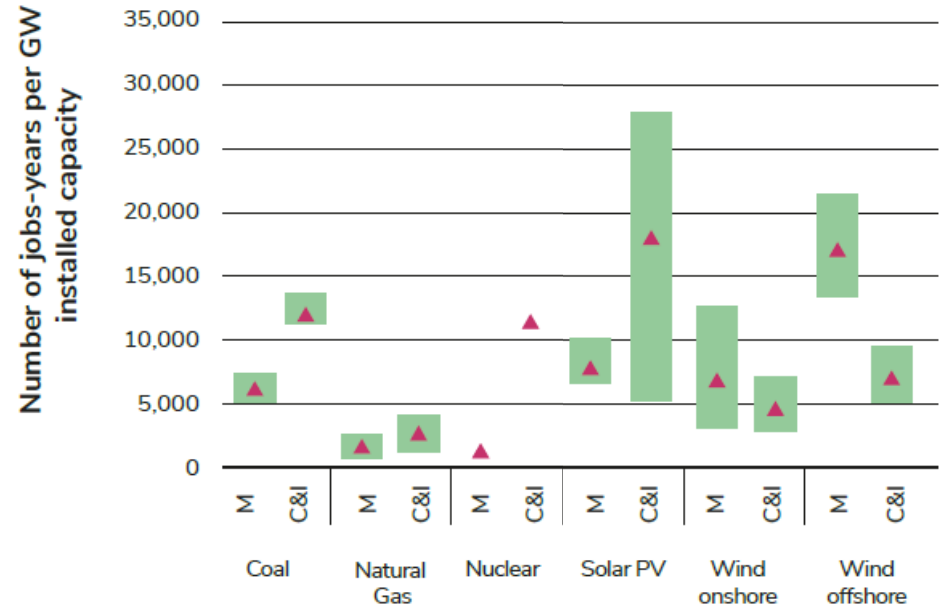
6 GW x 27.5k job-years / 10 years = 16.5k ft jobs
 6 GW x 5k job-years / 10 years = 3k ft jobs



[9]

Long Term Sustainable Jobs

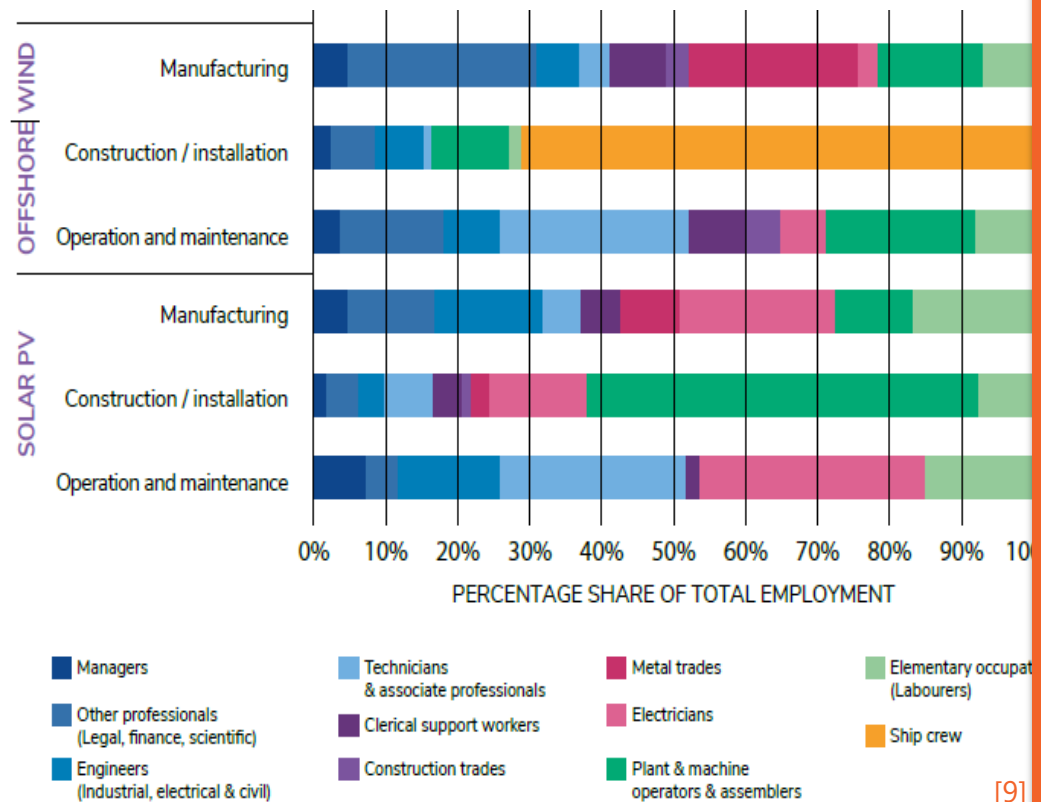
- Investment in green energy creates more **net** jobs
- Jobs related to design and build often treated as transient (job-years)
- Sustained deployment beyond 2050 = high quality careers



[9]

Supporting Solar Skills

- “[Policies supporting job creation and training] will prevent the situation of green skills demand being stimulated by government policy, but not being matched by equivalent action to meet this demand, leading to skills bottlenecks and/or programme failure due to unskilled operators” -OECD/Cedefop (2014, p.12)
- Solar provides full range of careers from highly skilled to elementary labour
- Rapid increase in deployment = rapid increase in employment
- Skills gap and labour shortage already causing serious bottleneck



What's next?

- Scottish Government to set clear ambition (4-6GW) and stable policy
- Cross collaboration with industry, government and academia
- Create, attract, upskill, reskill talent



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References

[1]: National comparison of solar deployment in terms of various metrics. Calculations based on data from the following sources.

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2. UK Nations Populations ONS - <https://www.ons.gov.uk/peoplepopulationandcommunity/populationandmigration/populationestimates/bulletins/annualmidyearpopulationestimates/mid2019estimates>
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4. Irradiance of Capital - <https://mcs-certified.com/wp-content/uploads/2019/08/Irradiance-Datasets.xlsx>
5. Share of Electricity Consumption (2017) - https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/770768/Regional_Electricity_Generation_and_Supply.pdf
6. UK GDP Comparison - https://en.wikipedia.org/wiki/Countries_of_the_United_Kingdom#cite_note-ONSCOUNTRYPROFILES-9
7. Denmark Deployment 2018-2019 - <https://www.eurobserv-er.org/photovoltaic-barometer-2020/>
8. Denmark Population - <https://datacommons.org/place/country/DNK>
9. Denmark Area - <https://www.dst.dk/en/Statistik/emner/geografi-miljoe-og-energi/areal/areal>
10. Denmark Electricity Consumption - https://en.wikipedia.org/wiki/Electricity_sector_in_Denmark#:~:text=Denmark%20sits%20at%20an%20an%20electricity,and%2031%20TWh%20in%20Denmark.
11. Denmark GDP - <https://datacommons.org/place/country/DNK>

[2]: Scottish electrical energy consumption -

<https://scotland.shinyapps.io/Energy/?Section=RenLowCarbon&Subsection=RenElec&Chart=RenElecTarget>

[3]: Torness 1 and 2 Annual Generation - <https://www.world-nuclear.org/reactor/default.aspx/TORNESS-1>

[4],[5],[6]: Calculations available on request

[7]: Scotland's Fair Share: Solar's role in achieving net-zero in Scotland - <https://solarenergyuk.org/resource/scotlands-fair-share-solars-role-in-achieving-net-zero-in-scotland/>

[8]: Solar Skills Scotland - The job creation potential of Scottish solar

[9]: Green job creation, quality and skills: A review of the evidence on low carbon energy - <https://ukerc.ac.uk/publications/green-jobs/>

[10]: The Little Green Energy Company - <https://www.tlgec.co.uk/>

FOSSIL FUELS



OFFSHORE WIND



ONSHORE WIND



SOLAR PV



0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%
 PERCENTAGE SHARE OF TOTAL EMPLOYMENT

- Managers
- Other professionals (Legal, finance, scientific)
- Engineers (Industrial, electrical & civil)
- Technicians & associate professionals
- Clerical support workers
- Construction trades
- Metal trades
- Electricians
- Plant & machine operators & assemblers
- Elementary occupations (Labourers)
- Ship crew