ENERGY INCIDENT REGISTER

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PLANNING EVIDENCE PACK

Tesco Extra, Nantyffin Road - Solar Panels

Incidents on record and planning decisions nearby, for a 0.7 MW solar PV site

APPLICATION NUMBER
2026/0669/PLD

PLANNING AUTHORITY
Swansea

LOCATION
Tesco Extra Nantyffin Road Swansea Enterprise Park, Swansea, United Kingdom

PACK REFERENCE
EIR-PACK-D-TESCO-EXTRA-NANTYFFIN-ROAD-SOLAR-PANELS-

DATA AS OF
29 October 2026

REVIEW STATUS
Made automatically for a decided application, free to read. Not desk-reviewed.

Contents

	At a glance	3
	The site on a map	4
	The site and the UK record	5
1	Key findings for this site	6
2	Incidents in the UK (96)	6
3	Planning decisions on solar PV schemes nearby	11
4	Every recorded incident within 50 km	13
5	Grid-scale incidents at sites of a similar size	13
6	Lessons for a grid-scale site	14
7	Worldwide context	29
8	Kept apart: other battery entries in the UK (0)	31
9	Using this pack	31
10	How this pack was made and checked	32

Every figure in this pack comes from the register or the government planning database as they stood on 29 October 2026. Each numbered section names its sources, and every incident links to its entry page, which lists all sources.

At a glance

Tesco Extra, Nantyffin Road - Solar Panels

SOLAR PV INCIDENTS IN THE UK

96

4 classed as major

Section 2

NEAREST UK INCIDENT

80 km

EIR-1453, Highburn Close, Burnham-on-Sea and Highbridge

Section 2

NEAREST REFUSED SCHEME

7.8 km

Gwenlais Uchaf Farm, Swansea

Section 3

SCHEMES REFUSED WITHIN 40 KM

9

final outcome refused, of 15 sites with a refusal, withdrawal or appeal

Section 3

SCHEMES TAKEN TO APPEAL

5

3 refused on appeal, 2 granted on appeal

Section 3

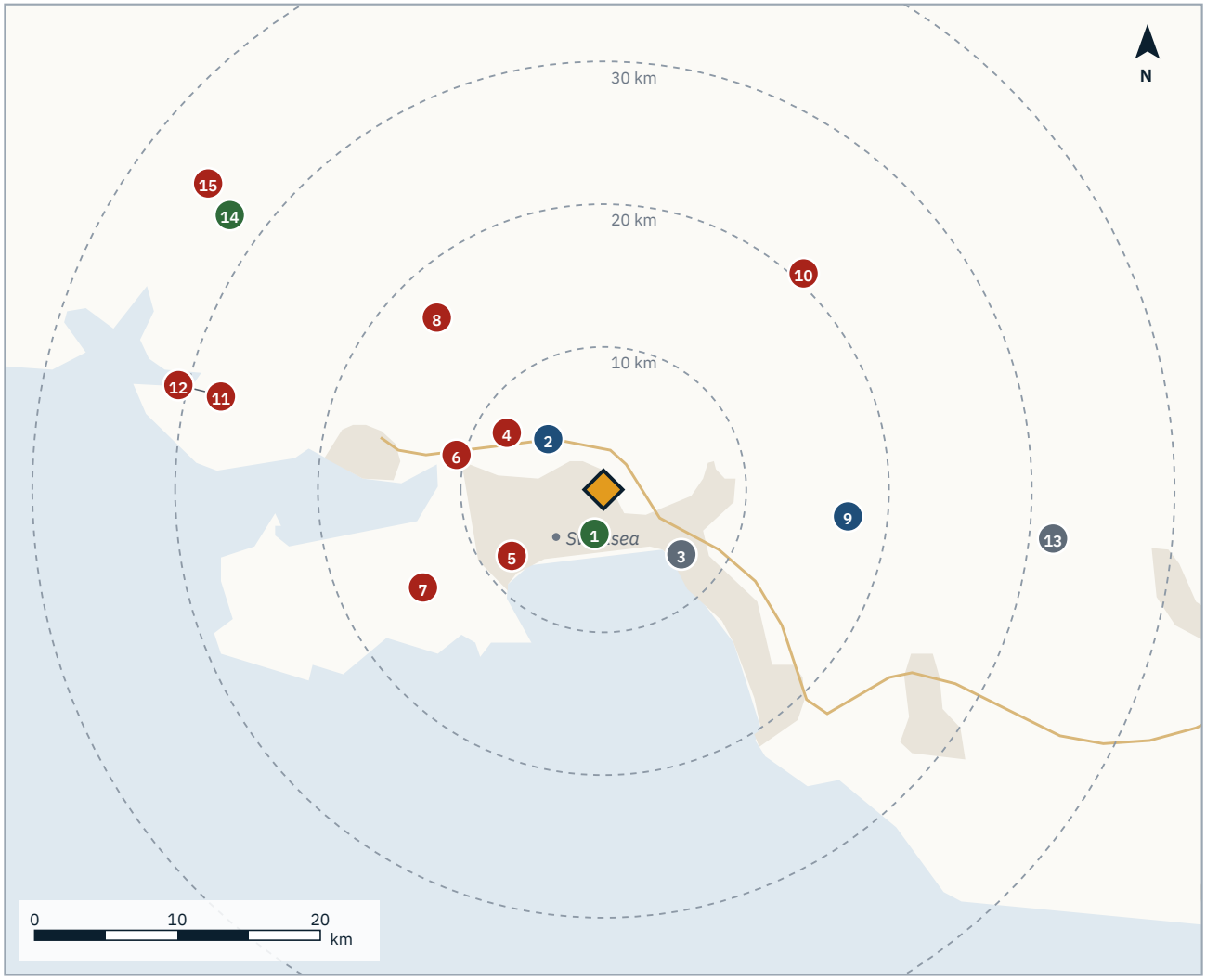
What the data shows

1. The register holds 96 incidents at grid-scale solar PV sites in the UK, 4 of them major. None lies within 50 km of the site. The nearest, EIR-1453, is about 80 km away.
2. Within 40 km, 15 solar PV sites have had an application refused, withdrawn or taken to appeal. Final outcomes: 6 refused, 3 refused on appeal, 2 withdrawn, 2 granted on appeal, 2 granted. The nearest refused scheme is Gwenlais Uchaf Farm, about 7.8 km away.
3. Worldwide the register holds 391 incidents at grid-scale solar PV sites in 36 countries; 255 involved fire or overheating. These are counts of published reports, not rates.

Counts are of incidents in the register, which is built from published reporting. They are not rates and not a complete census. Review: Made automatically for a decided application, free to read. Not desk-reviewed.

The site on a map

The site point, with every scheme within 40 km where an application was refused, withdrawn or taken to appeal (section 3), and every incident in the register within the frame. Numbers follow distance from the site. Schemes under 1 MW are not shown.



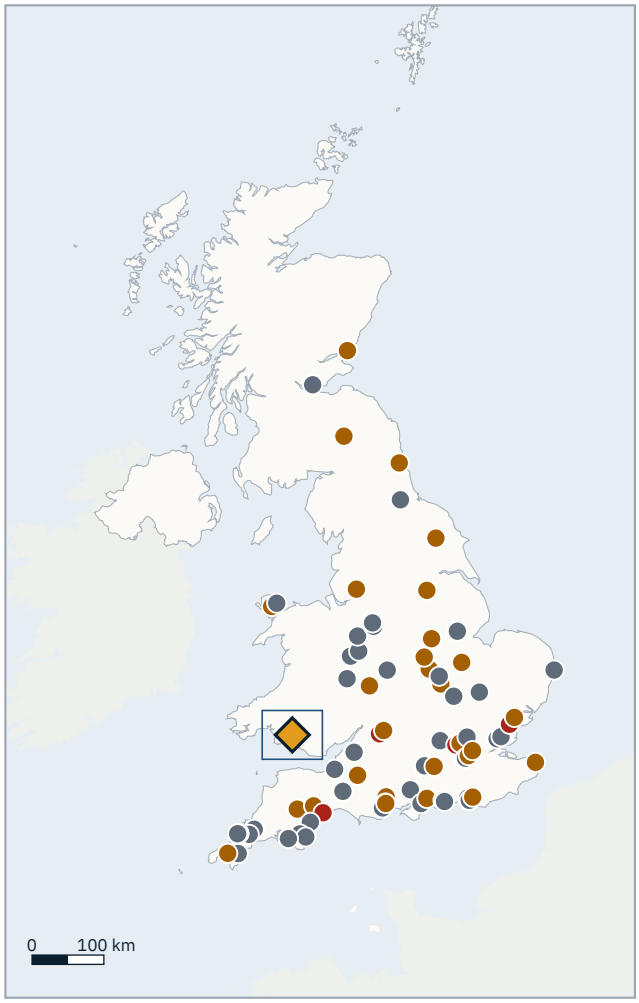
Site · Refused · Granted on appeal · Granted · Withdrawn · Pending or undecided · Incident
Built-up area · Major road

1 Carn Nicholas Farm..., granted after resubmission, 3.2 km
2 Land at Lltty Morphil Farm, granted on appeal, 5.3 km
3 Baglan Bay Solar Farm, withdrawn, 7.1 km
4 Gwenlais Uchaf Farm, refused on appeal, 7.8 km
5 Hazel Court, Sketty Park, refused, 7.9 km
6 Pencefnarda Uchaf Farm, refused on appeal, 11 km
7 Webbsfield, refused on appeal, 14 km
8 New Lodge Farm, refused, 17 km
9 Foel Fawr, granted on appeal, 17 km
10 Tyn y Pant, refused, 21 km
11 Morfa Pingett Solar Farm, refused, 27 km
12 Morfa Pingett, refused, 28 km
13 Rhondda Valley Solar Farm, withdrawn, 32 km
14 Land South Of Bryn Cyrnau Isaf, granted after resubmission, 32 km
15 Towy Retail Park, Old Llangunnor Road, refused, 35 km

Base map made with Natural Earth (naturalearthdata.com, public domain). Scheme points: Renewable Energy Planning Database, Department for Energy Security and Net Zero (Open Government Licence v3.0). Incident points: Energy Incident Register, mapped to a town or a site, never an address. Straight-line distances.

The site and the UK record

Each grid-scale battery incident in the UK that has a map point, against the site. Section 2 gives each one in full, with a note against the NFCC guidance.



Base map made with Natural Earth (public domain). The blue box is the area of the previous map.

UK grid-scale incidents

- **EIR-1453 · 80 km · 2026**
  Fire crews tackle solar panel unit blaze in Burnham-On-Sea (provisional)
- **EIR-1416 · 94 km · 2025**
  Fire at Bristol hospital started in solar panels (provisional)
- **EIR-1274 · 94 km · 2022**
  Fire damages rooftop solar panels at We The Curious in Bristol (provisional)
- **EIR-2065 · 95 km · 2021**
  Loft fire believed caused by a solar panel at Paintworks flats in Bristol (provisional)
- **EIR-1533 · 104 km · 2022**
  Solar panel fault causes fire at village hall roof in Cheriton Bishop (provisional)
- **EIR-1486 · 104 km · 2026**
  Fire under solar panels at Broadclyst brought under control (provisional)
- **EIR-1526 · 110 km · 2025**
  Solar panels catch fire on a retail or public building roof in South Petherton (provisional)
- **EIR-1551 · 113 km · 2019**
  Fire involving solar panels on a garage roof in Shropshire (provisional)
- **EIR-1524 · 113 km · 2025**
  Fire at a solar PV equipped house in Stoney Stratton (provisional)
- **EIR-1468 · 118 km · 2026**
  Solar panels involved in fire that destroyed a Sidmouth bungalow (provisional)
- **EIR-1523 · 125 km · 2026**
  Fire damages solar panel batteries in a Teignmouth garage (provisional)
- **EIR-2109 · 130 km · 2015**
  Solar installer falls through fragile farm roof at Kemble, suffering brain injuries (provisional)
- **EIR-2523 · 133 km · 2020**
  Suspected solar panel fault sparks roof fire at Ombersley home (provisional)
- **EIR-0058 · 136 km · 2025**
  Fire in two battery containers at Cirencester Hybrid Solar Farm, Gloucestershire

82 more in section 2.

Major · Significant · Minor

1 Key findings for this site

- The register holds **96** solar PV incidents in the UK.
- The nearest is EIR-1453, Fire crews tackle solar panel unit blaze in Burnham-On-Sea, about 80 km from the site.
- No recorded incident lies within 50 km of the site.
- 15 solar PV sites within 40 km have had an application refused, withdrawn or taken to appeal, 6 of them in Swansea. Final outcomes: 6 refused, 3 refused on appeal, 2 withdrawn, 2 granted on appeal, 2 granted. The nearest is Carn Nicholas Farm (Extension) (granted after resubmission), 3.2 km away.
- 7 grid-scale incidents worldwide happened at sites between 0.35 and 1.4 MW.

Counts are of incidents in the register, which is built from published reporting. They are not rates and not a complete census.

2 Incidents in the UK (96)

Nearest to the site first. Distance is a straight line from the site point to the place the entry is mapped to (a town or a site).

REFERENCE	YEAR	INCIDENT	FROM THE SITE	SEVERITY	MW
EIR-1453	2026	Fire crews tackle solar panel unit blaze in Burnham-On-Sea [provisional]	80 km	Minor	
EIR-1416	2025	Fire at Bristol hospital started in solar panels [provisional]	94 km	Significant	
EIR-1274	2022	Fire damages rooftop solar panels at We The Curious in Bristol [provisional]	94 km	Significant	
EIR-2065	2021	Loft fire believed caused by a solar panel at Paintworks flats in Bristol [provisional]	95 km	Minor	
EIR-1533	2022	Solar panel fault causes fire at village hall roof in Cheriton Bishop [provisional]	104 km	Significant	
EIR-1486	2026	Fire under solar panels at Broadclyst brought under control [provisional]	104 km	Significant	
EIR-1526	2025	Solar panels catch fire on a retail or public building roof in South Petherton [provisional]	110 km	Minor	
EIR-1551	2019	Fire involving solar panels on a garage roof in Shropshire [provisional]	113 km	Minor	
EIR-1524	2025	Fire at a solar PV equipped house in Stoney Stratton [provisional]	113 km	Significant	
EIR-1468	2026	Solar panels involved in fire that destroyed a Sidmouth bungalow [provisional]	118 km	Major	
EIR-1523	2026	Fire damages solar panel batteries in a Teignmouth garage [provisional]	125 km	Minor	

REFERENCE	YEAR	INCIDENT	FROM THE SITE	SEVERITY	MW
EIR-2109	2015	Solar installer falls through fragile farm roof at Kemble, suffering brain injuries [provisional]	130 km	Major	
EIR-2523	2020	Suspected solar panel fault sparks roof fire at Ombersley home [provisional]	133 km	Significant	
EIR-0058	2025	Fire in two battery containers at Cirencester Hybrid Solar Farm, Gloucestershire	136 km	Significant	23
EIR-1536	2020	Inverter fire at a solar farm at East Langford, Kilkhampton [provisional]	139 km	Minor	
EIR-1547	2025	Small fire within a solar panel at a house in Shropshire [provisional]	140 km	Minor	
EIR-1550	2021	Small fire involving solar panels at a property in Clun [provisional]	140 km	Minor	
EIR-1541	2015	Transformer unit fire at a solar farm on Copshorn Road, Bodmin [provisional]	144 km	Minor	
EIR-1544	2014	Fire at solar panel installation near Bodmin Jail	144 km	Minor	
EIR-1535	2022	Fire involves roof and solar panels at a house under construction in Dittisham [provisional]	144 km	Minor	
EIR-1517	2025	Solar inverter fire spreads to field in Yealmpton [provisional]	145 km	Minor	
EIR-0172	2026	Fire at Wheat Leasows solar farm in Telford involves an electricity pylon [provisional]	153 km	Minor	
EIR-1528	2023	Fire at solar farm conversion unit in Roche extinguished	154 km	Minor	
EIR-1521	2026	Solar panels on flat roof alight at terraced building in Newquay [provisional]	160 km	Minor	
EIR-1539	2015	Solar panel blown off bungalow roof onto vehicle in Newquay [provisional]	160 km	Minor	
EIR-1538	2020	Solar panels blown off roof in storm at Newquay [provisional]	161 km	Minor	
EIR-0474	2025	Solar panel fire tackled on rooftop near Newquay beach	161 km	Minor	
EIR-1964	2022	Fire damages solar panels at Verwood farm during heatwave [provisional]	166 km	Significant	
EIR-1272	2022	Fire in solar panel distribution board at Birmingham college [provisional]	167 km	Minor	
EIR-1553	2017	Roof fire involving 14 solar panels attended in Shropshire [provisional]	168 km	Minor	
EIR-1532	2023	Roof-space fire involving a solar inverter at a house in Ferndown [provisional]	169 km	Significant	

REFERENCE	YEAR	INCIDENT	FROM THE SITE	SEVERITY	MW
EIR-1396	2024	Solar panel fire leads to Travelodge evacuation in Poole [provisional]	170 km	Minor	
EIR-1516	2025	Solar panels suspected in house roof fire in Ferndown [provisional]	170 km	Significant	
EIR-0752	2024	Storm Darragh damages newly commissioned Anglesey solar farm panels [provisional]	182 km	Significant	49.99
EIR-1540	2018	Fire in solar panel on house roof in Flushing [provisional]	185 km	Minor	
EIR-1400	2023	Solar panel and battery fire at a bungalow on Anglesey [provisional]	186 km	Minor	
EIR-1543	2017	Fire damages roof space and solar panels on bungalow in Crowan	193 km	Significant	
EIR-1534	2022	Storm Eunice loosens solar panels on Eastleigh flats [provisional]	193 km	Minor	
EIR-1546	2025	Solar panel isolation switch overheats in roof fire at a house in Bucknall [provisional]	193 km	Minor	
EIR-1485	2026	Faulty solar panel wiring sparks house fire in Stoke-on-Trent	196 km	Minor	
EIR-1273	2022	Solar panels believed to have started roof fire at house in Old Basing [provisional]	203 km	Minor	
EIR-1529	2023	Fire contained to solar panels on Gosport flats roof [provisional]	216 km	Minor	
EIR-1531	2022	Fire involving solar panels damages roof of flats in Fleet [provisional]	217 km	Significant	
EIR-1519	2025	Solar panels involved in outbuilding roof fire in Bourne End [provisional]	221 km	Minor	
EIR-2076	2020	Fire across four homes in Leigh Park most likely linked to solar panel equipment, fire service says [provisional]	221 km	Significant	
EIR-1554	2026	Fire involving solar panels at a Market Harborough house spreads to an adjoining property [provisional]	222 km	Significant	
EIR-2151	2018	Sunlight reflected from a shed solar panel believed to have started a house fire in Thurnby Lodge [provisional]	223 km	Significant	
EIR-1244	2018	Fire reported to have started in solar panels at Westleigh primary school [provisional]	225 km	Significant	
EIR-1448	2026	Roof fire at new-build house with solar panels in Wellingborough [provisional]	231 km	Significant	
EIR-1545	2024	Fire involving solar panels on a building under construction in Kettering [provisional]	232 km	Minor	

REFERENCE	YEAR	INCIDENT	FROM THE SITE	SEVERITY	MW
EIR-0774	2023	Solar panel fire destroys roof of Ealing Council house in Greenford	244 km	Major	
EIR-2085	2020	Fire involving solar panels at a house in Barnham, West Sussex [provisional]	244 km	Minor	
EIR-1265	2024	Solar panels catch fire and destroy three buildings in Harby	245 km	Significant	
EIR-1493	2026	Solar panels catch fire on Bedford warehouse roof [provisional]	245 km	Minor	
EIR-1422	2025	Firefighters tackle solar panel fire in Yapton [provisional]	247 km	Minor	
EIR-1170	2025	Rooftop solar panels catch fire at IKEA store in Wembley	250 km	Significant	
EIR-2447	2024	Inverter fire on rooftop solar equipment at Sainsbury's store in Sutton	260 km	Minor	
EIR-1514	2024	Garage fire destroys solar panels in Southgate, with a battery storage fault suspected [provisional]	260 km	Minor	
EIR-1512	2024	Solar panels involved in fire at school in Carshalton [provisional]	261 km	Minor	
EIR-1305	2017	Fire at Thornton Heath flats reported to have been caused by an overheated solar panel [provisional]	265 km	Significant	
EIR-1155	2024	Rooftop solar fire contained on a Peterborough warehouse roof [provisional]	270 km	Significant	
EIR-1173	2024	Rooftop solar panel fire on residential block in Lewisham, London	270 km	Significant	
EIR-1522	2026	Fire damages roof with one solar panel in The Charltons [provisional]	278 km	Minor	
EIR-1527	2023	Fire affects solar panels on nursing home roof in Woodingdean	281 km	Minor	
EIR-1552	2023	Fire starts in solar panels on commercial roof in Doncaster [provisional]	282 km	Significant	
EIR-0764	2024	Transformer smoking at solar farm in Burton Pedwardine [provisional]	283 km	Minor	
EIR-1262	2024	Fire reported on solar-panel roof at Fitzwilliam College auditorium [provisional]	283 km	Minor	
EIR-1303	2017	Solar panel inverter fault destroys two Lewes homes [provisional]	285 km	Significant	
EIR-1530	2023	Electrical fault causes solar panel fire in Wickford house	305 km	Minor	
EIR-1537	2021	Garage fire from overheated solar batteries in South Woodham Ferrers [provisional]	311 km	Minor	

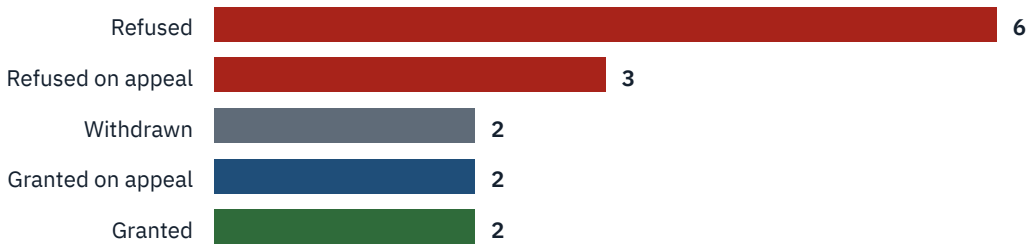
REFERENCE	YEAR	INCIDENT	FROM THE SITE	SEVERITY	MW
EIR-2223	2023	Homeowners allege solar panel fault caused Tolleshunt Knights house fire [provisional]	324 km	Major	
EIR-2589	2022	Rooftop solar panels reported to have overheated and sparked fire at Colchester church [provisional]	331 km	Significant	
EIR-1175	2026	Rooftop solar panel fire guts NHS mental health ward in Malton	345 km	Significant	
EIR-1502	2025	Storm Eowyn damages solar panels at Newton Aycliffe Leisure Centre [provisional]	364 km	Minor	
EIR-2069	2021	Solar panel fire spreads through roof of new flats at Ebbsfleet [provisional]	366 km	Significant	
EIR-2522	2021	Lowestoft school evacuated after electrical fire involving solar panels	397 km	Minor	
EIR-1499	2025	Solar panels linked to fires at council buildings in Northumberland	411 km	Significant	
EIR-2016	2022	Solar panel fire evacuates Hawick High School [provisional]	425 km	Significant	
EIR-1238	2019	Leak from solar heating system at Carnegie Leisure Centre Dunfermline [provisional]	491 km	Minor	
EIR-1476	2026	House fire reported to have started on solar panels in Carnoustie [provisional]	544 km	Significant	
EIR-1548	2026	Solar inverter fire on agricultural building in Shropshire [provisional]	not mapped	Minor	
EIR-1520	2026	Fire in home battery storage system connected to solar panels	not mapped	Minor	
EIR-1445	2026	Solar panel fires prompt shutdown at Suffolk schools	not mapped	Significant	
EIR-1133	2026	Poor installation blamed for two inverter fires at UK care home solar array [provisional]	not mapped	Minor	0.101
EIR-1518	2025	Roof fire damages flats with solar panels in Jordans	not mapped	Significant	
EIR-1463	2025	Serious fire at St Martins School near Oswestry believed linked to solar panels [provisional]	not mapped	Significant	
EIR-1525	2025	Smoke reported from solar panels on an industrial unit in Horningtops [provisional]	not mapped	Significant	
EIR-1515	2023	House and outbuilding fire in Cricklewood, with PV Stop used on rooftop solar panels [provisional]	not mapped	Minor	
EIR-1174	2023	Rooftop solar panel fault sparks fire at Kent flats block	not mapped	Significant	
EIR-2483	2023	Rooftop solar array suspected in house roof fire at Horsell Common, Surrey [provisional]	not mapped	Significant	

REFERENCE	YEAR	INCIDENT	FROM THE SITE	SEVERITY	MW
EIR-2206	2023	Firefighters isolate solar farm substation after smoke in Devon [provisional]	not mapped	Minor	
EIR-1555	2021	Fire in a domestic outbuilding in Oswaldkirk believed linked to a solar battery [provisional]	not mapped	Minor	
EIR-0948	2020	Fire damages floating solar array on London reservoir [provisional]	not mapped	Significant	6.4
EIR-2526	2019	Fire on roof of Bulford St Leonard's Primary School linked to newly installed solar panels [provisional]	not mapped	Minor	
EIR-2383	2018	House fire near St Austell suspected of starting from solar panels [provisional]	not mapped	Significant	
EIR-1542	2015	Fire at transformer building on solar farm in Treviscoe	not mapped	Significant	

3 Planning decisions on solar PV schemes nearby

Sites within 40 km of the site where an application was refused, withdrawn or taken to appeal, from the government's Renewable Energy Planning Database, those in Swansea first. Each row is one site: a refused scheme that was sent in again is one row, with every application listed. The final outcome is that of the latest application. Schemes under 1 MW are listed apart, below the table. Councils with a scheme in this radius: Swansea, Neath Port Talbot, Carmarthenshire, Powys, Bridgend, Rhondda Cynon Taf, Vale of Glamorgan, Merthyr Tydfil. The database does not record the reasons for a decision; the council's planning record does, under the application number.

Final outcomes of the 15 sites within 40 km



One count per site: the outcome of its latest application. "Granted" includes grants after an earlier refusal or withdrawal. Abandoned schemes are not counted. Source: Renewable Energy Planning Database (Open Government Licence v3.0). The table below gives every site.

SITE	COUNCIL	APPLICATIONS	FINAL OUTCOME	MW	FROM THE SITE
Carn Nicholas Farm (Extension)	Swansea	2015/1646: submitted 7 Aug 2015, withdrawn 11 Aug 2015 2015/1546: submitted 10 Aug 2015, granted 14 Dec 2015 2020/0173/FUL: submitted 31 Jan 2020, granted 17 Mar 2021	Granted after resubmission 3 applications	5 to 10	3.2 km
Land at Lltty Morphil Farm	Swansea	2015/1529: submitted 22 Jul 2015, refused 19 Nov 2015, appeal lodged 4 Jan 2016, appeal granted 10 May 2016, granted 10 May 2016	Granted on appeal	5	5.3 km
Gwenlais Uchaf Farm	Swansea	2014/1620: submitted 29 Oct 2014, refused 15 May 2015, appeal lodged 10 Aug 2015, appeal refused 30 Nov 2015	Refused on appeal	4	7.8 km
Hazel Court, Sketty Park - Solar Panels	Swansea	2023/0366/PLD: submitted 5 Apr 2023, refused 17 May 2023	Refused		7.9 km
Pencefnarda Uchaf Farm	Swansea	2014/0761: submitted 3 Jun 2014, refused 9 Feb 2015, appeal lodged 22 May 2015, appeal refused 29 Sep 2015	Refused on appeal	3.6	11 km
Webbsfield	Swansea	2014/0876: submitted 18 Jun 2014, refused 2 Sep 2014, appeal lodged 19 Nov 2014, appeal refused 21 Apr 2015	Refused on appeal	1	14 km
Baglan Bay Solar Farm - Phase 2	Neath Port Talbot	P2011/0054: submitted 1 Feb 2011, granted 30 Jan 2013 P2015/0304: submitted 6 May 2015, withdrawn 11 Mar 2020	Withdrawn 2 applications	5 to 10	7.1 km
New Lodge Farm - Solar	Carmarthenshire	S/29559: submitted 5 Feb 2014, refused 5 Feb 2016	Refused	3	17 km
Foel Fawr	Bridgend	P/14/543/FUL: submitted 15 Aug 2014, refused 12 Jun 2015, appeal lodged 24 Nov 2015, appeal granted 22 Apr 2016, granted 22 Apr 2016	Granted on appeal	5.1	17 km
Tyn y Pant	Powys	P/2015/1013: submitted 3 Dec 2015, refused 18 Oct 2016	Refused	1.6	21 km
Morfa Pingett Solar Farm	Carmarthenshire	PL/02407: submitted 19 Aug 2021, refused 4 Oct 2021	Refused	1.6	27 km
Morfa Pingett	Carmarthenshire	S/40618: submitted 21 May 2020, refused 11 Mar 2021	Refused	1.6	28 km
Rhondda Valley Solar Farm	Rhondda Cynon Taf	11/0098/10: submitted 3 Mar 2011, withdrawn 11 Dec 2014	Withdrawn	4.8	32 km

SITE	COUNCIL	APPLICATIONS	FINAL OUTCOME	MW	FROM THE SITE
Land South Of Bryn Cyrnau Isaf	Carmarthenshire	W/30204: submitted 23 May 2014, refused 19 Dec 2014 W/31690: submitted 9 Mar 2015, granted 9 Jun 2015	Granted after resubmission 2 applications	5.9 to 6	32 km
Towy Retail Park, Old Llangunnor Road - Solar Panels	Carmarthenshire	PL/10785: submitted 17 Apr 2026, refused 11 Jun 2026	Refused		35 km

Not counted: Cwm Nant Gwyn (Bridgend, abandoned without a decision, 21 km); Bryncoch Solar Farm (Carmarthenshire, abandoned without a decision, 33 km).

All solar PV applications within 40 km by database status: Operational 33, Awaiting Construction 32, Application Submitted 11, Planning Permission Expired 8, Under Construction 6, Application Refused 5, Abandoned 3, Application Withdrawn 3, Revised 3, Appeal Refused 2, No Application Required 1. A "council record" mark means the council's own planning record shows a decision the government database did not yet have; the site page explains it. A "newer official status" mark means an official source (a council record or committee minutes, the Scottish Government or the Planning Inspectorate) shows a newer status than the government database; the outcome uses it, and the row names the source and the day it was checked.

4 Every recorded incident within 50 km

Measured on a map from the planning record for Tesco Extra, Nantyffin Road - Solar Panels. Every size of site is included here, so a home battery fire nearby is shown, marked as such. Entries are found by their map point only, never by matching words in the text. 16 UK entries have no map point yet and cannot be measured.

None within 50 km.

5 Grid-scale incidents at sites of a similar size

Sites between 0.35 and 1.4 MW, worldwide, newest first. Capacity is the site's, where the reporting gives it.

REFERENCE	YEAR	INCIDENT	COUNTRY	SEVERITY	MW
EIR-0104	2025	Ageing battery storage fire destroys building at Angang-eup solar site [provisional]	South Korea	Significant	1.32
EIR-0118	2024	Battery storage fire and explosion injures four firefighters at Japanese solar site	Japan	Significant	1.2
EIR-0136	2022	Fire and explosion at solar-linked BESS in South Korea	South Korea	Significant	0.5
EIR-0905	2021	Floating solar unit severely damaged at Banja floating solar plant, Albania	Albania	Significant	0.5
EIR-1252	2021	Napa Valley College solar field reported taken offline after leakage concern [provisional]	United States	Significant	1.2
EIR-0982	2019	Lightning strike damages distribution panel at Mabaruma Solar Farm, Guyana	Guyana	Minor	0.4
EIR-0679	2012	Battery storage failure reported at solar integration site in Flagstaff, Arizona [provisional]	United States	Significant	0.5

6 Lessons for a grid-scale site

The lessons written into the register's entries: every UK grid-scale incident first, then major grid-scale incidents elsewhere. No home battery lessons. Each is the register's reading of the published reporting, not a finding by an investigator.

1. A fire that starts in rooftop solar equipment can involve the whole roof and destroy a dwelling before crews arrive. EIR-1468
2. Limited water supply can force crews to prioritise protecting neighbouring buildings. EIR-1468
3. Smoke from a roof fire can affect the surrounding area even after occupants have left. EIR-1468
4. Solar panels removed and reinstalled after roof repairs must be checked by a qualified installer before reconnection. EIR-0774
5. Smoke in a loft with rooftop solar should prompt checks on the installation rather than dismissal as external. EIR-0774
6. A fire in rooftop solar can require isolation of panels on nearby roofs using specialist coatings. EIR-0774
7. Solar installations should be checked for electrical faults, connector quality and panel damage at commissioning and after any roof work, and the records kept. EIR-2223
8. Where a fire may involve a solar system, the system should be isolated and its components preserved for independent examination, since destruction of evidence can prevent the cause being established. EIR-2223
9. Installers and contractors working on the same roof should agree and document responsibility for electrical work, so that faults can be traced if a dispute follows. EIR-2223
10. Treat every roof with skylights or fragile sheeting as a fall hazard and fit collective protection, such as netting or covers, before solar installation starts. EIR-2109
11. Do not rely on harnesses unless there are enough for every worker, the lanyards reach every work position and workers are trained to use them. EIR-2109
12. Novice workers need formal training and close supervision before working at height, not only shadowing. EIR-2109
13. Keep the risk assessment on site and make sure the method of work used matches it. EIR-2109
14. Take the customer's safety concerns seriously and record why any suggested control is not adopted. EIR-2109
15. A fire under solar panels can spread quickly over a large area and may need many appliances. EIR-1486
16. Early requests for more resources, and the use of hose reels, beaters, a drone and a water bowser, were part of bringing this fire under control. EIR-1486
17. Rooftop solar panels on occupied buildings need regular inspection to spot electrical or thermal faults before ignition. EIR-1175
18. Fire damage to solar panels can destroy evidence, so operators should retain inverter telemetry for later analysis. EIR-1175
19. Fire safety systems must cover renewable energy equipment on healthcare sites to allow safe evacuation. EIR-1175
20. Confirm isolation of the building electricity supply and any solar PV system early, and record what has actually been isolated. EIR-1554

21. Reassess roof and gable stability when fire involves a roof with solar panels, and move crews outside if collapse is a risk. EIR-1554
22. Check adjoining properties quickly when fire has spread from a roof. EIR-1554
23. Treat a reported fire that starts on solar panels as involving live electrical equipment until isolation is confirmed. EIR-1476
24. Make isolation points easy for crews to find at a home with rooftop solar. EIR-1476
25. Do not treat a headline as a cause finding; wait for a fuller account before drawing wider conclusions. EIR-1476
26. Residential solar systems need thermal protection and monitoring that remain effective in hot weather. EIR-1448
27. Nearby residents should be told promptly what a fire investigation has and has not established, so they can judge whether to isolate similar equipment. EIR-1448
28. Roof ventilation and electrical connections on new-build homes should be checked at commissioning and after extreme heat. EIR-1448
29. Roof-mounted solar panels can contribute to school fires, so operators should isolate similar systems from 2011 to 2016 until checked. EIR-1445
30. Multiple roof fires at solar sites require county-wide isolation even without a confirmed common fault. EIR-1445
31. Before working on a roof fitted with solar PV, crews should isolate the electrical supply and other utilities, as was done here. EIR-1518
32. A roof fire in an apartment building can damage neighbouring flats by fire and by water used in firefighting, so occupied units next to the seat of the fire need early attention. EIR-1518
33. Building managers should keep solar isolation points known and accessible so fire crews can make the roof electrically safe without delay. EIR-1518
34. Rooftop solar fires on large retail buildings require turntable ladders for access, so operators should ensure local fire services have suitable height equipment. EIR-1170
35. Fires in elevated solar arrays can spread to the roof structure, so owners should fit early detection and isolation systems. EIR-1170
36. Visible smoke from rooftop solar fires prompts large-scale evacuations, so stores must plan rapid public safety measures. EIR-1170
37. Building operators should be able to tell fire crews where rooftop solar equipment is and how it can be isolated, even when the cause is not yet known. EIR-1463
38. A fire in a school hall can escalate quickly. Early extra resources and roof access matter where solar arrays are fitted. EIR-1463
39. A suspected link to solar panels should be kept separate from a confirmed cause until the fire service investigation reports. EIR-1463
40. Review and act on inspection findings from solar panel incidents without delay. EIR-1499
41. Maintain a programme of proactive inspections for installations predating current standards. EIR-1499
42. Isolate similar systems across a portfolio when a common fault is suspected. EIR-1499
43. At a house fire where photovoltaic panels may still generate, isolate the grid supply early and have a means of stopping panel generation available. EIR-1524

44. A well developed timber-clad roof fire can need many breathing apparatus wearers, thermal imaging and ladder access, so relief and welfare should be planned from the start. EIR-1524
45. Call the network operator when on-site isolation may not stop generation from the panels. EIR-1524
46. A suspected solar origin should be recorded as a suspicion until a cause is confirmed. EIR-1516
47. A roof and first-floor fire at a home with solar panels may need breathing apparatus, hose lines, an aerial appliance and a later reinspection. EIR-1516
48. Smoke from such a fire may lead the fire service to advise nearby residents to close windows and doors and to close the road for a time. EIR-1516
49. Treat smoke from rooftop solar panels as a fire involving the array until crews confirm otherwise. EIR-1525
50. Plan for extra appliances and an aerial platform where panels sit on an industrial roof and spread into the building cannot yet be ruled out. EIR-1525
51. Record the outcome after the incident, including whether the fire was extinguished and whether it spread, so an attendance note is not read as a finished account. EIR-1525
52. Lithium-ion battery container fires can spread between enclosures, so operators should verify separation distances and compartment barriers during design reviews. EIR-0058
53. Smoke from burning battery materials requires advance shelter advice for nearby residents at rural sites. EIR-0058
54. Unmanned hybrid sites need remote monitoring that identifies involved enclosures before crews arrive. EIR-0058
55. Rooftop solar on occupied buildings should be installed by qualified contractors from a reputable company and kept on a regular maintenance schedule. EIR-1416
56. Sites with vulnerable occupants need a plan to move people clear of a roof fire quickly, then confirm the fire is confined before reopening. EIR-1416
57. A contained roof fire can still disrupt services, so operators should expect cancelled appointments and a follow-up investigation even when no injuries are reported. EIR-1416
58. A solar farm commissioned in 2024 sustained visible damage from Storm Darragh, so operators should verify panel mounting strength against red warning winds before full output. EIR-0752
59. Repair work and panel replacement after storm damage will continue into early 2025, so insurers should plan for extended loss of generation on new solar sites. EIR-0752
60. Rooftop solar on multi-storey buildings needs aerial ladders for access, so operators should plan for this response time. EIR-1173
61. Live solar panels need de-energising agents such as PVStop before crews can approach safely. EIR-1173
62. Publish root cause findings so owners of similar residential solar arrays can improve fire safety. EIR-1173
63. An electrical fault in roof mounted solar panels can start a fire that spreads to nearby buildings, so operators should check wiring and connections on all similar arrays. EIR-1265
64. A solar panel fire on a workshop roof destroyed three outbuildings before it was put out, so insurers should require clear separation or fire breaks around panel arrays. EIR-1265
65. Daylight keeps rooftop modules energised after supply isolation, so crews must plan for live dc circuits on arrival. EIR-1155
66. A fire on a large commercial roof needs aerial access where ground hoses cannot reach. EIR-1155
67. Connectors and wiring are a known origin of photovoltaic fires, so inspection of those parts should be planned. EIR-1155

68. A fault in a rooftop solar panel installation can ignite a fire that spreads rapidly through roof spaces, so operators should inspect arrays on multi-occupancy blocks at regular intervals. EIR-1174
69. Solar panel faults on residential roofs require fire services to plan for rapid roof-space spread and forced entry for evacuation, so pre-incident plans must record array locations. EIR-1174
70. A fire that starts in rooftop solar panels can spread into the roof insulation, so isolation of the array and access to the roof build-up need to be planned in advance. EIR-1552
71. A short incident note may not record the cause, injuries or how the fire was stopped, so the operator should keep its own record. EIR-1552
72. The array and the roof should be inspected before the system is put back into use. EIR-1552
73. A roof-space fire involving a solar inverter can already be well developed when crews arrive, so detection and access to inverter locations matter. EIR-1532
74. Extra appliances and breathing apparatus may be needed to put out a roof-space fire involving rooftop solar equipment. EIR-1532
75. After a roof fire involving solar equipment, the roof structure should be inspected before the building is treated as safe to use. EIR-1532
76. Owners and installers of roof-mounted solar arrays should have DC wiring, connectors, isolators and junction points inspected periodically, since electrical faults in these circuits can start fires on the roof. EIR-2483
77. Installers should check that cable routing, fixings and roof penetrations allow for heat and water ingress over the system's life. EIR-2483
78. Fire and rescue services should record whether a fire involves a solar array, so that patterns can be identified and reported to the installation industry and regulators. EIR-2483
79. Regular inspection and maintenance of roof mounted solar arrays can identify faults before they ignite. EIR-1533
80. Fire services should plan for rapid water supply and access when solar panels are present on roofs. EIR-1533
81. Early detection systems for electrical faults in photovoltaic installations reduce the risk of fire spread. EIR-1533
82. Rooftop solar arrays on older or heritage buildings should be checked for overheating risk during hot weather, including ventilation around modules and the condition of connections. EIR-2589
83. Building owners should give the fire and rescue service accurate information about rooftop PV, including where isolation points are, so crews can work safely. EIR-2589
84. Where a building has suffered a previous fire, the solar installation should be reviewed as part of the fire risk assessment before it is reinstated or expanded. EIR-2589
85. Rural energy sites need emergency access routes that stay usable when nearby roads are blocked by parked vehicles. EIR-1964
86. Hot, dry weather raises the chance that a grass fire will spread across a solar farm before crews arrive. EIR-1964
87. Motorists near energy sites should park so they do not block fire access points. EIR-1964
88. Where a fire service attributes a roof fire to a likely electrical fault on solar panels, operators should treat rooftop DC connections as a priority for inspection. EIR-1531
89. A roof fire involving panels can damage several flats even if brought under control within about two hours,

so early detection and a clear isolation plan matter. EIR-1531

90. Aerial access and jets were used here; owners of blocks with rooftop arrays should be ready to tell crews where panels and isolators are. EIR-1531
91. Occupied buildings with rooftop solar need a practised evacuation plan for a roof fire that produces smoke. EIR-2016
92. Callers should tell the fire service that solar panels are involved so crews can plan isolation and roof access. EIR-2016
93. Early official accounts can differ on whether a fire is out. Do not treat an incident as closed on one early statement. EIR-2016
94. Treat early reports that solar panels appeared to have started a roof fire as unconfirmed until an investigation is complete. EIR-1274
95. Where a rooftop array is involved, plan for both fire damage and water damage to the building below. EIR-1274
96. Record how many panels were destroyed and what remains unknown, so later reviews do not treat a suspected cause as established. EIR-1274
97. Treat rooftop PV on buildings under construction as live equipment from the moment panels are exposed to daylight, and control who works near it. EIR-2069
98. Commission and test rooftop systems, including connectors and cable routes, before the roof space is closed up, and record the results. EIR-2069
99. Assess how a fire starting at the array could spread into the roof space and specify fire separation and roof covering accordingly. EIR-2069
100. Make sure site fire plans for construction projects cover PV arrays, including isolation and firefighter access. EIR-2069
101. Treat inverters and their loft wiring and connections as a credible ignition source on rooftop solar installations, and keep stored combustibles clear of that equipment. EIR-2076
102. A fire service “most likely” finding made without a specialist investigation should be followed by a component-level examination before any firm conclusion is drawn. EIR-2076
103. A fire starting at rooftop solar equipment can affect neighbouring homes, so installers should consider how a loft fire might spread to adjoining properties. EIR-2076
104. Rooftop solar installations should be inspected for electrical faults, damaged cabling and connectors, particularly where a fire is suspected to have started in the array. EIR-2523
105. Roof voids beneath solar arrays should be fitted with suitable detection so that a fire is spotted early. EIR-2523
106. Householders and neighbours should know how to call emergency services quickly and how to isolate the system where it is safe to do so. EIR-2523
107. Fire services should be told where PV systems are installed so that crews can plan for isolation and roof

access. EIR-2523

108. An electrical fault at the junction of two floating platforms can damage modules and cause sinking, so operators must inspect all platform joints and connections after any fault. EIR-0948

109. A small fire from an electrical fault on a floating array requires immediate isolation and checks with the water utility before repairs start. EIR-0948

110. Water quality tests after a fire on a reservoir array protect supply integrity, so the operator must coordinate with the utility at once. EIR-0948

111. A solar panel fixed to a timber outbuilding may reflect sunlight onto nearby wood, so reflection onto combustible surfaces should be considered as well as electrical faults. EIR-2151

112. Panels on sheds and other timber structures should be sited so that any reflected beam does not fall on dry timber or other combustible material. EIR-2151

113. After a fire that has entered a roof space from an outbuilding, a later check for hidden hot spots is needed before the incident is treated as closed. EIR-2151

114. Fire plans for buildings with rooftop solar should assume that panels may add structural load and collapse risk, and that roof access may be delayed until the array is made safe. EIR-2383

115. Installers and owners should check that the roof structure can carry the panels and that the DC and AC wiring has been inspected after installation, particularly on newly fitted systems. EIR-2383

116. Investigators should record the installation details of any PV system involved in a roof fire, so that the cause can be established and shared with the industry. EIR-2383

117. Electric faults in rooftop solar panels can destroy wiring evidence when heat burns it away, so record early observations of the fire origin. EIR-1244

118. Isolation and access plans for school rooftop arrays help crews limit a fire to one building section. EIR-1244

119. Schools with rooftop solar need plans for continued teaching if a hall or roof fire closes the site. EIR-1244

120. Ensure rapid isolation procedures for solar PV arrays during roof fires. EIR-1543

121. Provide thermal imaging support early when solar panels are involved. EIR-1543

122. Plan for additional breathing apparatus resources on properties with rooftop generation. EIR-1543

123. An electrical fault in a roof-mounted solar inverter started a fire in the roof void, so operators should ensure inverters receive the same installation and maintenance standards as other household electrical equipment. EIR-1303

124. Firefighters had to remove roof tiles to reach the fire in the roof void, so property owners should notify fire services of solar PV systems at domestic sites. EIR-1303

125. Overheating in rooftop solar equipment can start a fire in a block of flats. EIR-1305

126. Operators of solar on occupied buildings should be able to isolate the equipment and tell the fire service where it is. EIR-1305

127. A headline attribution is not a confirmed failure mode and should be checked if an investigation is later published. EIR-1305

128. Transformer buildings on solar farms need clear isolation points because live supply blocks entry and firefighting. EIR-1542

129. Site staff must give isolation details to crews at once so defensive tactics can end quickly. EIR-1542

130. Defensive stance with covering jets is required until power is confirmed off in energised plant rooms. EIR-1542

131. Solar sites with pylons need a response plan that covers vegetation and electrical fire together. EIR-0172

132. Grass and hedgerows beside electrical equipment should be managed to reduce ground fire risk to plant. EIR-0172

133. Faulty solar panel wiring can start a loft fire, so installers must check all connections during commissioning and maintenance. EIR-1485

134. A small solar wiring fire is quickly controlled by hose reel jets, so response plans should focus on early detection. EIR-1485

135. Solar inverters on agricultural buildings should be identifiable and isolatable for attending crews. EIR-1548

136. Fire logs for inverter fires should record damage and whether the array remained energised. EIR-1548

137. Operators should treat a short official report as incomplete until damage and cause are known. EIR-1548

138. Solar panel batteries stored in an attached garage can be damaged by fire, with smoke affecting the building, even after the property electrics have been isolated. EIR-1523

139. A response to this type of fire may need breathing apparatus, thermal imaging and gas monitoring as well as hose jets. EIR-1523

140. Where only a short official note is available, the ignition mechanism should not be assumed beyond the stated accidental cause. EIR-1523

141. Isolate gas, electricity and the solar array under engineer guidance before crews work on a rooftop solar fire. EIR-1493

142. Thermal imaging, an aerial platform and an extended hose can help crews reach and check a large roof fire. EIR-1493

143. Record an accidental finding and share it so operators can review inspection of warehouse rooftop arrays. EIR-1493

144. Fire crews may need a ready way to isolate photovoltaic equipment during suppression. EIR-1453

145. Elevated access, such as a turntable ladder, may be needed where the equipment cannot be reached from the ground. EIR-1453

146. A short local report does not establish how a fire started, so the method of response should not be treated as evidence of cause. EIR-1453

147. Isolate solar PV systems at the earliest opportunity during firefighting. EIR-1521

148. Ensure response crews have procedures for safely de-energising rooftop solar arrays. EIR-1521

149. Treat a roof fire where a solar panel is involved as potentially live electrical equipment until it is isolated. EIR-1522

150. Record whether the panel, cabling or isolator was damaged, not only that a panel was present in the fire. EIR-1522

151. Keep the public clear while crews work at height with ladders and an aerial platform. EIR-1522

152. Battery storage systems connected to solar panels require clear isolation points so first responders can cut supply without delay. EIR-1520

153. After removal of a battery involved in fire, monitor its temperature with thermal imaging to confirm it has stabilised. EIR-1520

154. A later reinspection after the initial response can detect any reignition risk in battery storage systems. EIR-1520

155. Loose MC4 connectors on a solar PV array can cause arcing and fire, so operators should check all DC connections during routine inspections. EIR-1133

156. Missing DC isolators on inverters force live cable cutting during replacement, so isolation equipment must be fitted before work starts. EIR-1133

157. An uncommissioned replacement inverter leaves the array unmonitored, so full commissioning and

monitoring must follow any swap. EIR-1133

158. A roof fire involving solar panels may still be burning when crews arrive, so access at height and a check for remaining heat should be planned. EIR-1519

159. Thermal imaging and a later reinspection can help find hotspots after the main fire is tackled. EIR-1519

160. Involvement of panels is not, on its own, evidence that they caused the fire. EIR-1519

161. Fire in one solar inverter can spread to the ground and to cabling of another inverter, so nearby cabling and ground cover should be treated as part of the incident. EIR-1517

162. This electrical installation fire was put out with a carbon dioxide extinguisher, electrical gloves and thermal imaging. EIR-1517

163. No cause was reported, so a similar event should be investigated before any design or maintenance change is assumed. EIR-1517

164. Rooftop solar panel fires need electricians on site to remove damaged panels safely. EIR-0474

165. Aerial ladder platforms give safe access to elevated solar arrays during fires. EIR-0474

166. A reported fire in a solar panel can already be out when crews arrive, so a thermal imaging camera is a practical check for remaining heat. EIR-1547

167. A small fire in a solar panel on a house should still be reported as a property fire rather than assumed to be finished. EIR-1547

168. The first record may not identify the failed part, so follow-up should establish whether the panel, isolator or cabling was involved. EIR-1547

169. Isolation switches on residential solar PV systems can overheat and start a roof fire, so inspection and maintenance should look for heat damage before failure. EIR-1546

170. Homeowners should keep solar PV installations maintained in line with the installer's and manufacturer's guidance. EIR-1546

171. When attending a roof fire, crews should be told if solar PV is present so they can isolate and work around it. EIR-1546

172. Treat a headline-only solar fire report as unconfirmed until the fire service or a fuller account states what burned. EIR-1422

173. Record place and date from the report, and leave cause, injuries and asset details blank until they are stated. EIR-1422

174. Recheck live reports, because early pages often add no outcome. EIR-1422

175. Rooftop solar fires on occupied buildings can need an aerial platform and extra crews, so access and water plans should be agreed before an incident. EIR-1526

176. After the fire is out, hotspot monitoring and scheduled revisits reduce the risk of reignition. EIR-1526

177. Incident logs should record which part of the array was involved so operators can check similar roofs. EIR-1526

178. Review mounting and securing methods for rooftop solar arrays in areas prone to high winds. EIR-1502

179. Inspect arrays promptly after severe weather and keep the public clear until the damage is understood. EIR-1502

180. Plan temporary access and road controls where damaged panels may pose a risk to people nearby. EIR-1502

181. Roof-mounted solar cabling should be inspected so electrical faults can be found before they ignite. EIR-1262

182. A prompt fire service call-out and post-incident safety check support quick return to use. EIR-1262

183. Suspected causes should be recorded as suspected until the investigation is complete. EIR-1262

184. Inverters on rooftop solar arrays can ignite, so operators of commercial roofs should ensure inverters are installed, ventilated and maintained to the manufacturer's specification. EIR-2447

185. Roof-level electrical equipment should have thermal monitoring or alarms so that a developing fault is detected before it becomes a visible fire. EIR-2447

186. Store and site operators should plan closure and communication procedures for incidents involving rooftop electrical equipment so that customers and staff are informed quickly. EIR-2447

187. Plan access and safe working positions for firefighters on the roofs of buildings under construction where solar panels are fitted and smoke may limit visibility. EIR-1545

188. Treat fires involving solar panels as a hazard to emergency responders and brief crews before they work on the roof. EIR-1545

189. Use a follow-up thermal scan to check for remaining hotspots before handing the scene back to the site owner. EIR-1545

190. A suspected battery storage fault at a small site can destroy the unit, roof-mounted solar panels and a neighbouring structure before the cause is known. EIR-1514

191. Treat an official belief about cause as provisional until an investigation is reported. EIR-1514

192. Garage ranges with solar panels and storage need clear access for a multi-appliance fire service response. EIR-1514

193. Incidents involving solar panels may need specialist equipment such as PV Stop to block sunlight and de-energise panels before crews approach. EIR-1512

194. Water jets can conduct electricity from solar panels, so isolation procedures must be followed. EIR-1512

195. Fire services should train for the specific risks of photovoltaic systems on roofs to limit spread and reduce shock hazards. EIR-1512

196. A fire in a rooftop solar array can require evacuation of an occupied building even when crews contain it on the roof. EIR-1396

197. An extinguishing method suited to the installation, here foam, and a later reinspection can help confirm that the fire has not restarted. EIR-1396

198. Operators of hotels and similar buildings should keep a clear plan for moving guests away from a roof fire involving solar panels. EIR-1396

199. Call the network operator early when electrical plant at a solar site is smoking. EIR-0764

200. Give nearby residents clear advice when smoke may affect homes. EIR-0764

201. Record whether the event was contained, and which equipment was involved, so an open attendance report is not left as the only account. EIR-0764

202. Rooftop solar can remain live in daylight even when a fire has another believed cause, so crews need a way to reduce generation before working on the roof. EIR-1515

203. Water applied near energised panels can conduct current along jets and hoses, so isolation or light-blocking should come before close-in work. EIR-1515

204. Records should keep the believed ignition source separate from the presence of solar equipment, so a precautionary deployment is not later read as proof that the array failed. EIR-1515

205. Home solar and battery work should include a clear way to isolate the batteries if a fault is suspected. EIR-1400

206. On a site where the same equipment is fitted in several homes, isolation of the other units should be ready while the cause is checked. EIR-1400

207. Reports of smoke exposure should be treated as a possible harm even when no injury is recorded at the

scene. EIR-1400

208. Ensure rapid isolation procedures for rooftop solar arrays during fire response. EIR-1527

209. Maintain clear access for aerial appliances on buildings with roof-mounted solar. EIR-1527

210. Coordinate with multiple agencies including police and local council during evacuations. EIR-1527

211. Utility engineers should isolate electrical systems promptly when fire is reported. EIR-1528

212. Early attendance by local fire services combined with on-site isolation reduces risk of escalation. EIR-1528

213. Ensure electrical connections for rooftop solar installations are inspected and maintained to reduce the risk of faults. EIR-1530

214. Working smoke alarms allow early detection and evacuation in properties with solar panels. EIR-1530

215. Keeping internal doors closed can help contain fire and smoke to the room or area of origin. EIR-1530

216. Rooftop solar on occupied blocks should have a clear isolation point that the electricity supplier or site manager can operate for attending crews. EIR-1529

217. Evacuation planning for multi-storey homes with roof arrays should assume the fire may stay on the roof while residents still need to leave. EIR-1529

218. After a contained panel fire, operators should confirm the array remains isolated until it has been inspected, rather than treating an extinguished fire as a return to service. EIR-1529

219. Fire services need current site plans and isolation points for solar farm substations, including the isolators that separate the panel array from the substation. EIR-2206

220. Operators should make trained technical staff or contact details available to emergency responders, so that expert guidance can be given quickly during an incident. EIR-2206

221. Responders should isolate the array and confirm isolation at every point before close approach, since solar panels can remain live in daylight and the risk of electrocution persists. EIR-2206

222. Distribution equipment linked to rooftop solar should be reachable for isolation and firefighting without relying on extensive removal of cladding. EIR-1272

223. Occupied buildings should have a clear plan to evacuate and ventilate when smoke from electrical plant logs part of the building. EIR-1272

224. Investigations into solar distribution-board fires should be shared so other operators can check similar equipment. EIR-1272

225. Rooftop solar panels can start fires that spread to the structure below, so owners should inspect wiring and inverters before installation and at intervals. EIR-1273

226. Smoke from a roof with solar panels allows early evacuation, so detectors should cover roof voids and alert before flames reach living areas. EIR-1273

227. Fires involving rooftop solar need aerial access and electrical isolation plans, so response teams should train for height and live DC circuits. EIR-1273

228. After severe weather, roof-mounted solar arrays should be checked for loose panels before they can fall or strike people below. EIR-1534

229. Fire services may have to make renewable equipment safe during a storm when a contractor cannot attend quickly. EIR-1534

230. A short official note may confirm that panels came loose and were secured, without stating cause, damage extent or whether anyone was hurt. EIR-1534

231. A roof fire at a dwelling under construction can involve PV panels already fitted, so crews should treat the array as electrical equipment until it is isolated. EIR-1535

232. Water used on a roof fire can damage more of a building than the fire itself, which matters where panels sit on the roof. EIR-1535

233. Incident records should state whether solar PV was involved, and should not treat involvement as proof that the panels started the fire. EIR-1535

234. Ensure battery connections are isolated when not actively monitored. EIR-1537

235. Consider installing a smoke alarm or heat detector in a garage that houses energy storage equipment. EIR-1537

236. On signs of fire, such as popping or banging, get everyone out and call the emergency services. EIR-1537

237. Solar arrays on occupied school buildings should have clearly labelled isolation points so that fire crews can de-energise the DC circuits quickly. EIR-2522

238. Operators should inspect DC cabling, connectors and inverters on a planned schedule, since electrical faults are a common ignition route for PV fires. EIR-2522

239. Evacuation and fire plans for buildings with on-site generation should explicitly cover electrical fires in the solar system, and staff should be briefed on them. EIR-2522

240. Log solar equipment as involved even when a fire is described as small, so later reviews can see patterns. EIR-1550

241. A record of appliance numbers alone does not explain cause or damage, so operators should not treat it as a full investigation. EIR-1550

242. Where panels are on a property, crews need a clear way to isolate the array before overhaul. EIR-1550

243. A same-day belief that a solar panel started a loft fire should stay provisional until a fire investigation reports the cause. EIR-2065

244. Owners of blocks with rooftop solar should know where cabling enters roof voids and how to isolate the system for the fire service. EIR-2065

245. Periodic checks of solar connections near lofts can reduce the chance of a fault in a roof void. EIR-2065

246. A solar battery that has recently been switched on should be checked for abnormal heat, smell or fault indications. EIR-1555

247. Storage batteries in outbuildings should be kept clear of vehicles and other combustible items. EIR-1555

248. Owners should have domestic solar batteries installed and maintained to recognised safety guidance. EIR-1555

249. Coordinate at once with the distribution network operator and on-site maintenance staff so the electrical connection to an inverter can be isolated. EIR-1536

250. Confirm isolation before treating the scene as safe. EIR-1536

251. Do not infer a failure mode, damage or injuries from a short attendance notice that gives no further details. EIR-1536

252. Homeowners should have rooftop solar systems inspected at regular intervals, including connectors, cabling and isolators. EIR-2085

253. Fire services need to know that solar panels are present so crews can plan for parts that stay live in daylight. EIR-2085

254. Reporting the cause of domestic solar fires, once found, helps installers and owners spot common faults. EIR-2085

255. Roof-mounted solar arrays need fixings suited to local wind loads, and those fixings should be checked after high winds. EIR-1538

256. Loose or fallen panels should be reported and the area kept clear until they are made safe. EIR-1538

257. Crews should treat dislodged panels as a dangerous structure until the area is cordoned and the equipment is secured. EIR-1538

258. An odour from rooftop solar heating plant should prompt full evacuation until the fire service confirms the building is safe. EIR-1238

259. A chemical smell at a leisure centre with solar heating must be treated as a possible fluid leak until ruled out. EIR-1238

260. Newly installed solar PV systems should be inspected for electrical faults and wiring defects during commissioning and before handover, particularly where the array sits on an occupied building. EIR-2526

261. Operators of schools and other public buildings should have evacuation procedures that can be carried out quickly, so that a small fire can be contained without harm to occupants. EIR-2526

262. Rooftop PV installations should be coordinated with the fire service so that crews know the array is present and can isolate the DC system safely during an incident. EIR-2526

263. Roof-mounted solar panels on outbuildings can be involved in a property fire, so isolation and access should be planned before crews arrive. EIR-1551

264. Fire logs often record only the panels involved and the appliances sent, so operators should not treat attendance figures as a measure of damage. EIR-1551

265. Where a utility company is listed, confirm isolation with that company rather than assuming the array is safe. EIR-1551

266. Isolate the photovoltaic supply before crews work in a roof space above a panel fire. EIR-1540

267. Internal roof-space access may be needed when the array cannot be isolated from outside. EIR-1540

268. An elevated platform may be needed to inspect a roof after a panel fire; a request is not the same as confirmed use. EIR-1540

269. A roof fire involving solar panels should prompt early isolation of the array before close inspection. EIR-1553

270. Aerial access may be needed where a rooftop array cannot be assessed safely from the ground. EIR-1553

271. A short incident log may omit cause, damage and injuries, so isolation alone should not be treated as a full account of the outcome. EIR-1553

272. A roof-mounted photovoltaic panel can detach and strike property below, so fixings should be suitable for the site. EIR-1539

273. After strong winds, owners should check that panels and mounts remain secure. EIR-1539

274. Crews attending a displaced panel need a way to isolate it and make it safe. EIR-1539

275. A solar farm transformer housed in a container can be well alight before crews arrive, so isolation by the network operator and the solar contractor should be arranged at once. EIR-1541

276. Where the unit is in a safe and isolated place, a controlled burn-down may be chosen, but crews should stay until the risk to people and neighbouring equipment has fallen. EIR-1541

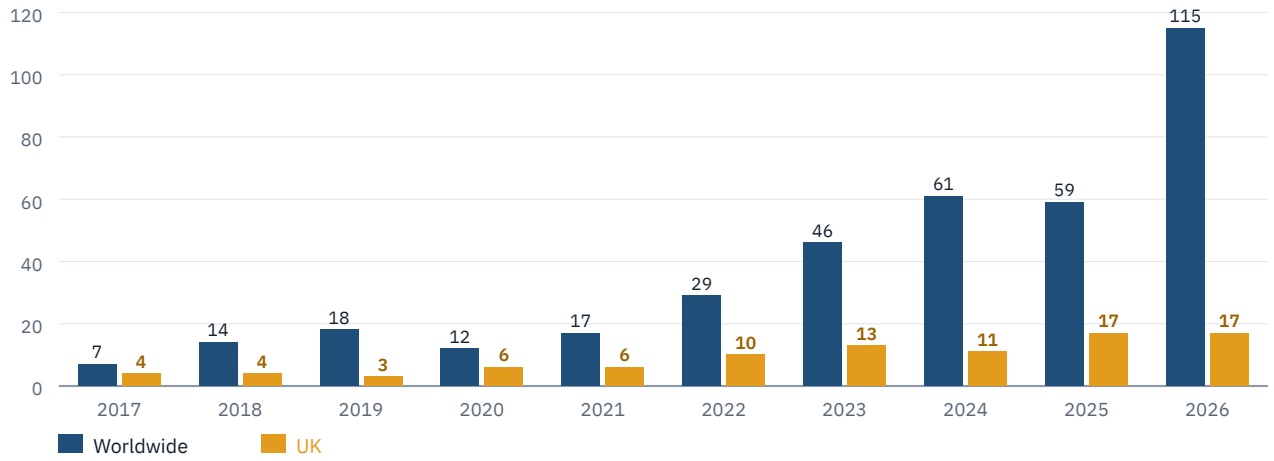
277. Handover to the contractor on site should be clear once power is isolated and the fire service is leaving. EIR-1541

278. Liaise with on-site specialists to isolate electrical systems before attempting to extinguish fires at solar installations. EIR-1544

7 Worldwide context

391 incidents at grid-scale solar PV sites in 36 countries; 255 involved fire or overheating and 19 are classed as major.

Grid-scale incidents by year: worldwide and UK



Counts of grid-scale incidents in the register by the year they happened; 13 earlier entries are not shown. More recent years hold more entries partly because more is reported and found online. A rising count is not, by itself, a rising rate. The same figures are in the table below.

YEAR	WORLDWIDE	UK
2026	115	17
2025	59	17
2024	61	11
2023	46	13
2022	29	10
2021	17	6
2020	12	6
2019	18	3
2018	14	4
2017	7	4
Earlier	13	

STAGE OF LIFE	INCIDENTS	SHARE
Commissioning	24	6%
Normal operation	269	69%
Maintenance	2	1%
End-of-life	1	0%
Not stated	95	24%

More recent years hold more entries partly because more is reported and found online. A rising count is not, by itself, a rising rate.

8 Kept apart: other battery entries in the UK (0)

Home, farm and business batteries, concerns raised where nothing failed, and events at battery sites that were not battery failures. NFCC's grid-scale guidance does not cover home batteries ("Domestic BESS are outside the scope of this guidance."), so they are listed here and not in the tables above.

None.

9 Using this pack

Paragraphs you can paste into a planning statement or a consultee response. They are neutral, use only figures from this pack, and each carries its citation. Please keep the citation with the text.

Incidents in the UK

The Energy Incident Register, a public record built from published reporting, lists 96 incidents at grid-scale solar PV sites in the UK as of 29 October 2026, 4 of them classed as major. The nearest to the site is EIR-1453 (Fire crews tackle solar panel unit blaze in Burnham-On-Sea), about 80 km away in a straight line.

Source: Energy Incident Register, planning evidence pack EIR-PACK-D-TESCO-EXTRA-NANTYFFIN-ROAD-SOLAR-PANELS-, section 2, data as of 29 October 2026. Entry EIR-1453: https://energyincidentregister.com/incident/eir-1453/

Planning decisions nearby

The Renewable Energy Planning Database records 15 solar PV sites within 40 km of the site where an application was refused, withdrawn or taken to appeal. Their final outcomes are: 6 refused, 3 refused on appeal, 2 withdrawn, 2 granted on appeal, 2 granted. The nearest refused scheme is Gwenlais Uchaf Farm (Swansea, application 2014/1620), about 7.8 km from the site.

Source: Department for Energy Security and Net Zero, Renewable Energy Planning Database (Open Government Licence v3.0), as grouped by site in Energy Incident Register planning evidence pack EIR-PACK-D-TESCO-EXTRA-NANTYFFIN-ROAD-SOLAR-PANELS-, section 3, data as of 29 October 2026.

Worldwide context

Worldwide, the Energy Incident Register lists 391 incidents at grid-scale solar PV sites in 36 countries as of 29 October 2026. Of these, 255 involved fire or overheating and 19 are classed as major. The register counts published reports of incidents; the figures are not failure rates.

Source: Energy Incident Register, planning evidence pack EIR-PACK-D-TESCO-EXTRA-NANTYFFIN-ROAD-SOLAR-PANELS-, section 7, data as of 29 October 2026.

Sites of a similar size

The register lists 7 grid-scale incidents worldwide at sites between 0.35 and 1.4 MW, where the reporting gives the capacity.

Source: Energy Incident Register, planning evidence pack EIR-PACK-D-TESCO-EXTRA-NANTYFFIN-ROAD-SOLAR-PANELS-, section 5, data as of 29 October 2026.

10 How this pack was made and checked

1. The register is built from published reporting: news, fire service statements, regulators and court records. Each entry lists its sources on its own page. Entries marked provisional rest on thinner sourcing and are rechecked.
2. Grid-scale or not: an entry is grid-scale unless its reporting describes a home, farm or business battery, or an event that was not a battery failure. The rule is the same for every pack.
3. Distances are measured from the site point (the planning record for Tesco Extra, Nantyffin Road - Solar Panels) to each entry's map point, which is a town or a site, never an address.
4. Planning decisions come from the government's Renewable Energy Planning Database (Open Government Licence v3.0), with corrections where a council's own record shows a later decision.
5. **Desk review.** The EIR editorial desk checks each bought pack within 2 working days (Monday to Friday) of the order:
   a. The site point and planning authority match the planning record, or the details the buyer gave.
   b. Each UK incident is a separate event, not one fire written twice, and sits in the right table: grid-scale sites in the main table, home, farm and business batteries apart.
   c. Each UK grid-scale incident has a note, and every quoted passage matches the NFCC text at the link given.
   d. The three nearest planning decisions match the council's own planning record.
   e. The distances to the nearest incidents look right on a map.
   f. Nothing in the pack comes from a confidential submission or names a private person.
6. If anything needs changing, the desk makes a new version and emails the link. Every version is fixed and dated, and earlier versions stay available at the same link. The method is at energyincidentregister.com/pack-method.
7. Information only. It is not engineering, fire safety or legal advice. See the disclaimer.

How to cite: Energy Incident Register, planning evidence pack EIR-PACK-D-TESCO-EXTRA-NANTYFFIN-ROAD-SOLAR-PANELS-, data as of 29 October 2026, energyincidentregister.com.

A correction to any entry is free for anyone: corrections. Questions about this pack: editor@energyincidentregister.com.