## Europe matches rise of solar industry's Giga-EPCs

More than 35 of the world's top solar power station builders have at least 1-GWac of capacity under their belts – and twenty have now topped 2-GWac. Wiki-Solar's latest league table of utility-scale EPCs shows how the prominent constructors have continued to thrive as the market approaches half a Terawatt of capacity.

Renewed growth in the European market has helped German, Spanish, and – most notably – French contractors keep pace with their US and Asian counterparts. "France is outside the top-ten countries for utility-scale solar, but has three of the biggest EPCs, led by Eiffage and Equans, both inside the top six", says Wiki-Solar founder Philip Wolfe. Equans is now part of Bouygues, following the latter's acquisition of Engie's solar construction business.

America's SOLV Energy (formerly Swinerton) still holds top spot followed by another US constructor, McCarthy Building, at number 4. US-based First Solar owes its #2 position to historical installations, and will progressively be overtaken, now it has shed downstream construction activities.

India's Tata is rising up the table aiming to join compatriots Sterling and Wilson, Acme and Mahindra. Wiki-Solar is gradually overcoming the data limitations, which had led to China's historical underrepresentation in its figures, so more companies are expected to join risers CMEC and SPIC in the future.

Amongst notably climbers lower down the list is German company Goldbeck Solar, which has increased its cumulative installed capacity by 50% since the start of 2022.

Readers are reminded that Wiki-Solar measures capacity in  $MW_{AC}$  delivered to the grid, including only projects over  $4MW_{AC}$ . The installed capacities would be roughly 25% higher if measured by the DC solar array output in  $MW_{P}$ .

Most, but not all, of the leading operation and maintenance contractors – which Wiki-Solar lists separately – are companies in this top constructors table.

## TEXT ENDS

## Notes for editors:

- [1] The lists of top EPC and O&M contractors are included on the following pages.
- [2] Wiki-Solar defines 'utility-scale solar' as 4 MW<sub>AC</sub> and above (≈5MW<sub>P</sub> for PV; ≈ electricity for 1,500 households in Europe) see: <u>http://wiki-solar.org/data/glossary/utility-scale.html</u>.
- [3] *'Solar Photovoltaic Projects in the mainstream power market'* was <u>published</u> in 2012.
- [4] Wiki-Solar is the leading authority on utility-scale solar with a database covering over 20,000 utility-scale solar projects, of which about three-quarters are operational. All figures in this release are based on the AC export rating of operational plants. Projects under development are excluded until they have been commissioned.

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Top EPC contractors for utility-scale (4-MWac+) solar projects at Q1-2023

|      |  | Operating |          | Change since 01 |         | Jan-22 |
|------|--|-----------|----------|-----------------|---------|--------|
| Rank | EPC contractor [a,c]   | Plants (  | GWac [b] | Plants G        | Nac [b] | Rank   |
| 1    | SOLV Energy [US] (formerly Swinerton) (inc.<br>Swinerton Renewable Energy)                         | 220       | 10.5     | 13              | 1.0     | 5      |
| 2    | First Solar [US]   | 58        | 4.5      | 1               | 0.2     | 25     |
| 3    | Eiffage [FR]   | 101       | 4.5      | 33              | 1.2     | 4      |
| 4    | McCarthy Building [US]   | 62        | 4.2      | 10              | 1.7     | 2      |
| 5    | Sterling & Wilson [IN] (part of SP India)  | 71        | 4.1      | 2               | 0.3     | 20     |
| 6    | Equans (division of Bouygues) [FR] (inc. Fabricom)   | 214       | 3.1      | 24              | 0.4     | 15     |
| 7    | Belectric [DE] (now part of Elevion)   | 171       | 3.0      | 14              | 0.2     | 24     |
| 8    | Abengoa [ES] (inc. Abener Energia)   | 33        | 2.9      | 0               | 0.6     | 9      |
| 9    | Enerparc [DE]  | 282       | 2.9      | 12              | 0.1     | 29     |
| 10   | ACME Solar [IN]  | 50        | 2.9      | 3               | 0.7     | 8      |
| 11   | Mahindra [IN]  | 44        | 2.7      | 1               | 0.1     | 35     |
| 12   | juwi AG [DE] (inc. JSI Construction)   | 149       | 2.5      | 11              | 0.3     | 17     |
| 13   | BayWa r.e. [DE] (inc. GroenLeven)  | 114       | 2.5      | 17              | 0.5     | 13     |
| 14   | China Machinery Engineering Corporation [CN]   | 4         | 2.5      | 3               | 2.3     | 1      |
| 15   | Signal Energy [US]   | 14        | 2.4      | 2               | 0.5     | 10     |
| 16   | Mortenson Construction [US]  | 25        | 2.4      | 1               | 0.1     | 33     |
| 17   | Tata Power [IN]  | 20        | 2.2      | 8               | 1.6     | 3      |
| 18   | Vinci Energies [FR] (inc. Semi Group, Omexom and others)   | 39        | 2.1      | 2               | 0.1     | 37     |
| 19   | Mytilineos [GR] (inc. Metka-Egn)   | 87        | 2.1      | 13              | 0.7     | 7      |
| 20   | Larsen & Toubro [IN]   | 52        | 2.0      | 2               | 0.3     | 21     |
| 21   | Rosendin Electric [US]   | 18        | 1.7      | 1               | 0.3     | 22     |
| 22   | State Power Investment Corporation [CN] (inc.<br>Shanghai Electric Power Japan, Shanghai Electric) | 4         | 1.7      | 2               | 1.0     | 6      |
| 23   | Blattner Energy [US]   | 13        | 1.5      | 0               | 0.0     |        |
| 24   | Biosar Energy [GR]   | 48        | 1.5      | 0               | 0.0     |        |
| 25   | Goldbeck Solar [DE]  | 90        | 1.5      | 19              | 0.5     | 11     |
| 26   | Scatec ASA [NO]  | 31        | 1.5      | 0               | 0.0     |        |
| 27   | Acciona Energía [ES]   | 23        | 1.5      | 0               | 0.0     |        |
| 28   | Cypress Creek Renewables [US] (acquired by EQT Infrastructure [SE])                                | 79        | 1.4      | 0               | 0.0     |        |
| 29   | TSK Group [ES] (inc. TSK Electronica y Electricidad)   | 21        | 1.3      | 2               | 0.2     | 28     |
| 30   | Sener [ES]   | 18        | 1.1      | 0               | 0.0     |        |
| 31   | Grupotec [ES]  | 72        | 1.1      | 12              | 0.4     | 16     |
| 32   | Gransolar [ES]   | 17        | 1.1      | 2               | 0.3     | 18     |
| 33   | Bharat Heavy Electricals [IN]  | 20        | 1.1      | 2               | 0.2     | 27     |
| 34   | SunEdison [US] (in insolvency) (inc. Enfinity)   | 46        | 1.0      | 0               | 0.0     |        |
| 35   | Elecnor [ES]   | 39        | 1.0      | 1               | 0.0     | 45     |
| 36   | RES Group (Renewable Energy Systems) [GB]  | 23        | 1.0      | 1               | 0.0     | 44     |
| 37   | Moss & Associates [US]   | 15        | 1.0      | 1               | 0.3     | 22     |
|      | Totals listed above:   | 2,387     | 87.9     | 215             | 15.9    |        |

[a] These top 37 EPC contractors account for 88-GWac, ~18% of the world total.

[b] GWac total for projects over 4MWac; GWp figures typically ~25% higher

[c] Wiki-Solar database holds EPC contractors for ~30% of projects so there will be some omissions from this list and figures for others may be understated by a factor of 3.4 on average

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Top O&M contractors for utility-scale (4-MWac+) solar projects at Q1-2023

|      |   | Operating |          | Change since 01-Ja |          | Jan-22 |
|------|---|-----------|----------|--------------------|----------|--------|
| Rank | O&M contractor [a,c]  | Plants    | GWac [b] | Plants _           | GWac [b] | Rank   |
| 1    | SOLV Energy [US] (formerly Swinerton)   | 172       | 8.7      | 6                  | 0.9      | 1      |
| 2    | First Solar [US]  | 59        | 4.6      | 1                  | 0.2      | 8      |
| 3    | Eiffage [FR]  | 49        | 2.7      | 11                 | 0.2      | 7      |
| 4    | Enerparc [DE]   | 246       | 2.5      | 2                  | 0.0      | 22     |
| 5    | BayWa r.e. [DE]   | 109       | 2.3      | 14                 | 0.3      | 2      |
| 6    | juwi AG [DE]  | 132       | 2.3      | 1                  | 0.2      | 11     |
| 7    | Belectric [DE] (now part of Elevion)  | 106       | 1.9      | 5                  | 0.1      | 12     |
| 8    | Cypress Creek Renewables [US] (acquired by EQT Infrastructure [SE])             | 146       | 1.8      | 1                  | 0.0      | 25     |
| 9    | Scatec ASA [NO]   | 26        | 1.6      | 0                  | 0.0      |        |
| 10   | Metka-Egn [GR] (part owned by Mytilineos with<br>Egnatia Energy)                | 75        | 1.5      | 6                  | 0.3      | 4      |
| 11   | SunEdison [US] (in insolvency)  | 58        | 1.2      | 1                  | 0.1      | 15     |
| 12   | Abengoa [ES]  | 13        | 1.1      | 0                  | 0.0      |        |
| 13   | Grupotec [ES]   | 63        | 1.0      | 11                 | 0.3      | 3      |
| 14   | Canadian Solar [CA]   | 23        | 1.0      | 1                  | 0.2      | 6      |
| 15   | Elecnor [ES]  | 29        | 0.9      | 0                  | 0.0      |        |
| 16   | Equans (division of Bouygues) [FR]  | 34        | 0.9      | 0                  | 0.0      |        |
| 17   | Sterling & Wilson [IN] (part of SP India)                                       | 7         | 0.8      | 1                  | 0.1      | 16     |
| 18   | ENcome [AT]   | 23        | 0.7      | 0                  | 0.0      |        |
| 19   | Larsen & Toubro [IN]  | 23        | 0.7      | 0                  | 0.0      |        |
| 20   | EDF Energies Nouvelles [FR] (part of EDF) (inc. EDF Renewable Energy, groSolar) | 36        | 0.6      | 0                  | 0.0      |        |
| 21   | Exus Management Partners [ES]   | 3         | 0.6      | 0                  | 0.0      |        |
| 22   | TBEA (Tebian Electric Apparatus ) [CN] (inc. TBEA SunOasis)                     | 9         | 0.6      | 1                  | 0.1      | 17     |
| 23   | IB Vogt Solar [DE]  | 41        | 0.5      | 1                  | 0.1      | 13     |
| 24   | Vikram Solar [IN]   | 7         | 0.5      | 0                  | 0.0      |        |
| 25   | Grupo Ortiz [ES]  | 8         | 0.5      | 0                  | 0.0      |        |
|      | Totals listed above:  | 1,497     | 41.4     | 63                 | 3.2      |        |

[a] These top 25 O&M contractors account for 41-GWac, ~9% of the world total.

[b] GWac total for projects over 4MWac; GWp figures typically ~25% higher

[c] Wiki-Solar database holds O&M contractors for ~11% of projects so there will be some omissions from this list and figures for others may be understated by a factor of 8.8 on average

Wiki-Solar's data on O&M contractors is more recent - and thus less complete - than that for other participants.