



Nebraska Wind and Solar

Aaron Schapper

Valmont Utility
Group President



History of Valmont



Started in 1946 in Valley, NE as center pivot field irrigation

History of Valmont



Valmont Utility was created in 1970's

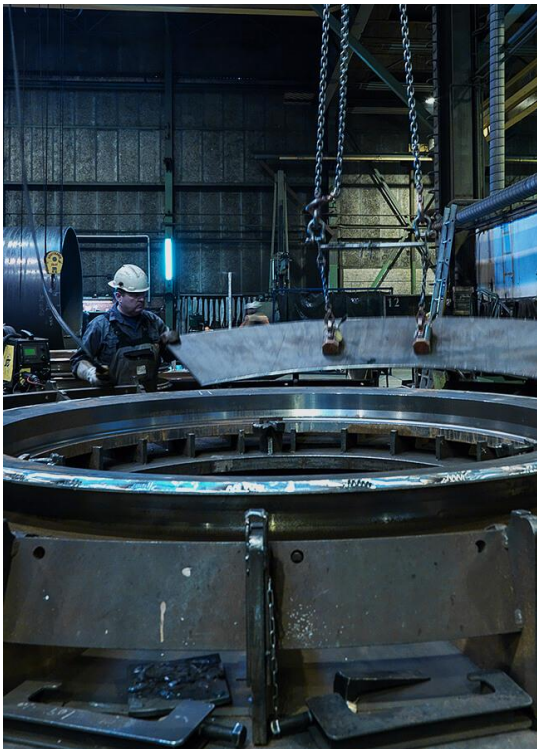


Why Wind and Solar

Why did Valmont Utility expand from Utility Transmission and Distribution into renewables generation?

WIND

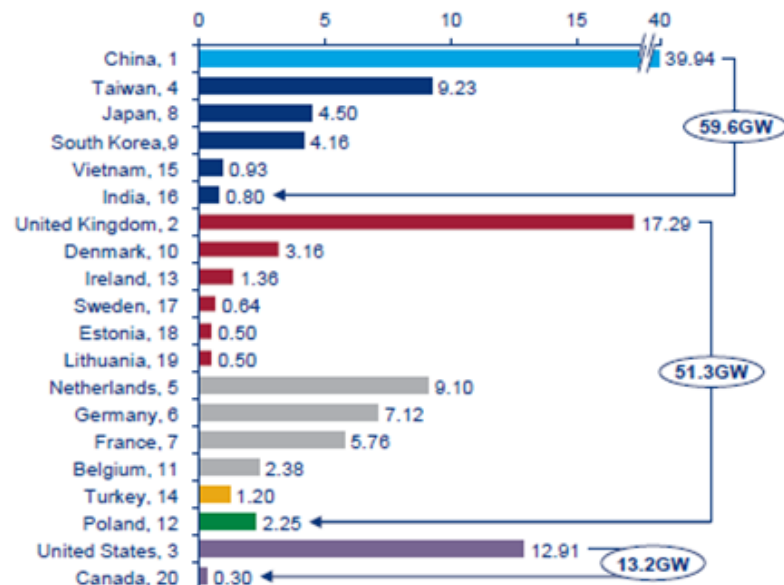
Valmont Utility Wind



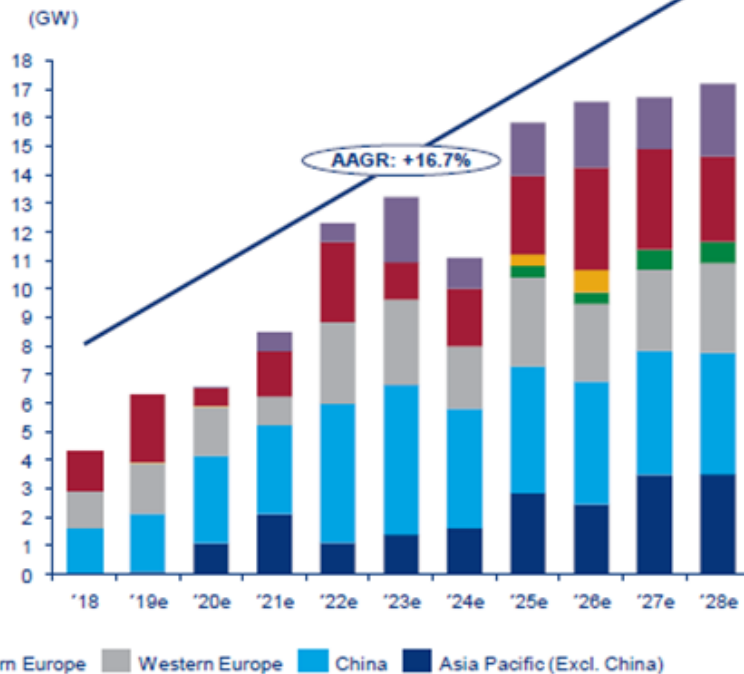
121GW of new offshore capacity or 18% of global total over the 10-year outlook

China more than tripled the amount of capacity it added YoY, contributing 38% of the record 4.3GW of offshore capacity grid-connected globally in 2018

Offshore top 20 markets: New capacity '19e-'28e



Offshore market forecasts: 2018-2028e



SOLAR

Solar in Utilities

Market Insight

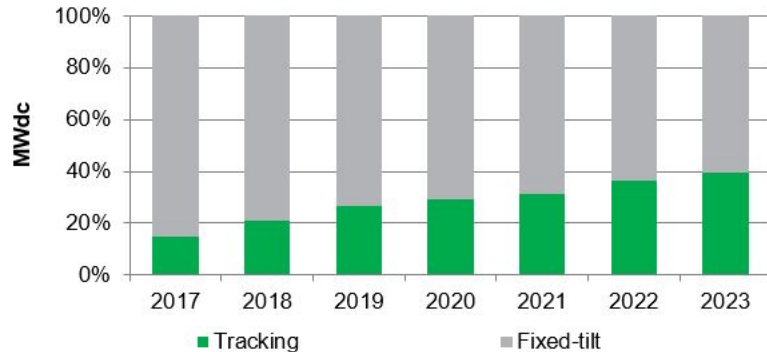
Solar tracker installations to surge across EMEA region as global deployments top 150 GWdc over next five years

August 28, 2019 |  Subscribers Only

Cormac Gilligan, Camron Barati

- \$2.6B global market in '19
- 17% MW CAGR
- North America will continue to lead in deployments with substantial global distribution of projects

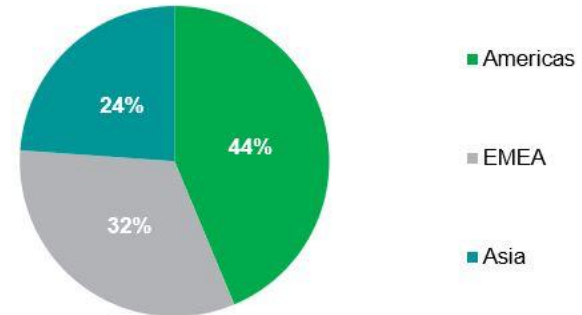
Global ground-mounted PV market by mounting type



Notes: Annual installations of ground-mounted PV systems larger than 1 MWdc.
Source: IHS Markit

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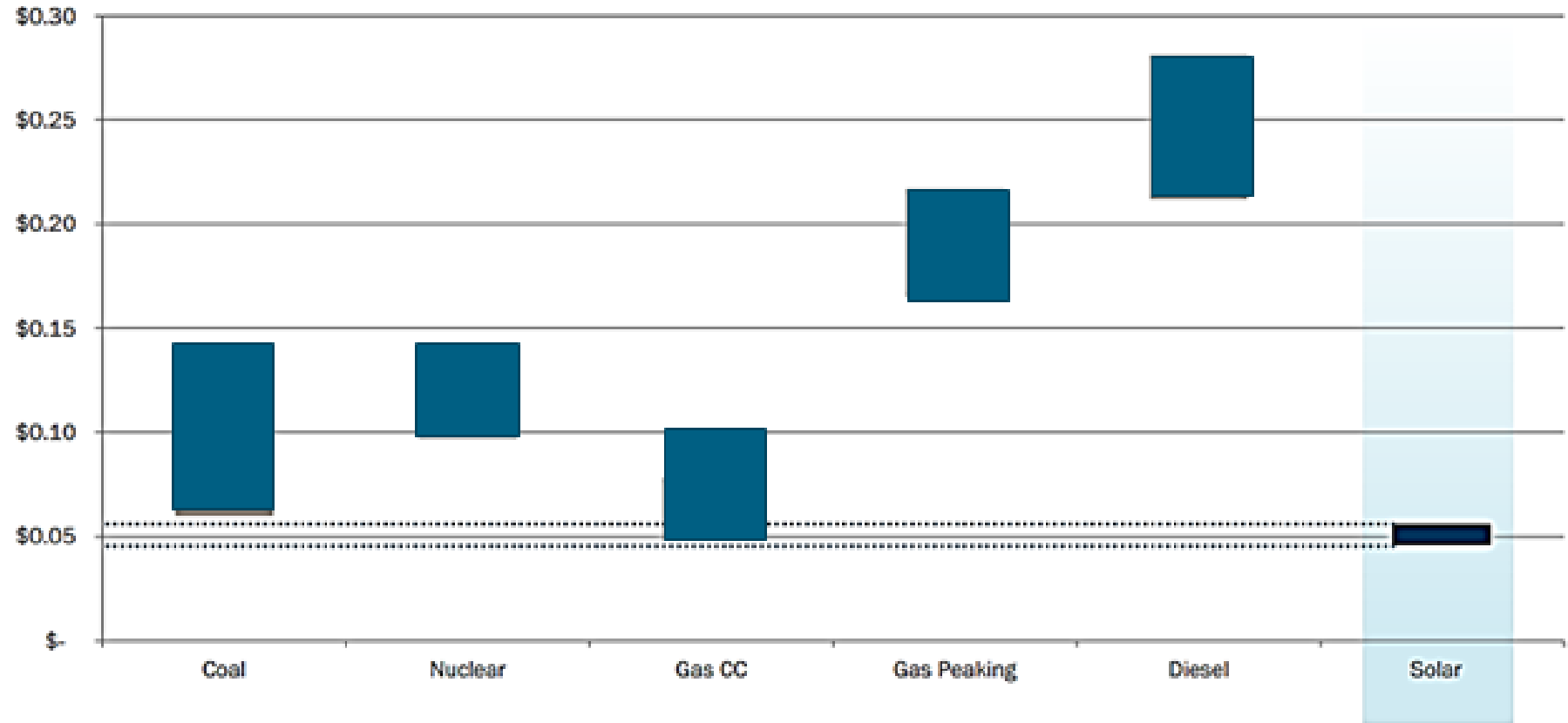
Global PV tracker market by region 2019 to 2023 (MWdc)



Notes: Installations of ground-mounted PV tracker systems larger than 1 MWdc.
Source: IHS Markit

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Generation Source “Unsubsidized” Cost Comparison



Source: Lazard Levelized Cost of Energy Analysis – Version 10. First Solar LCOE excludes ITC benefit and assumes a 30MW system in a high insolation region, such as the Southwest U.S.

FUTURE OF WIND AND SOLAR



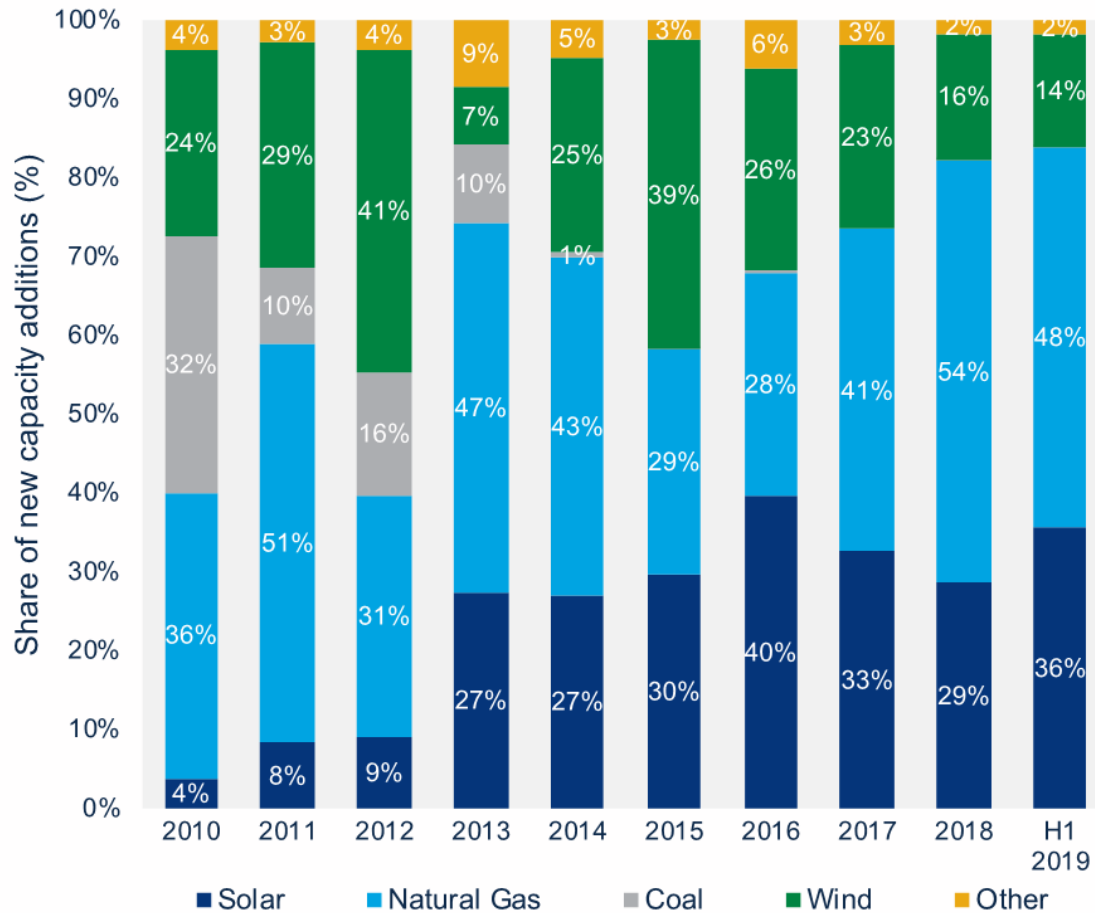
Future of Wind and Solar

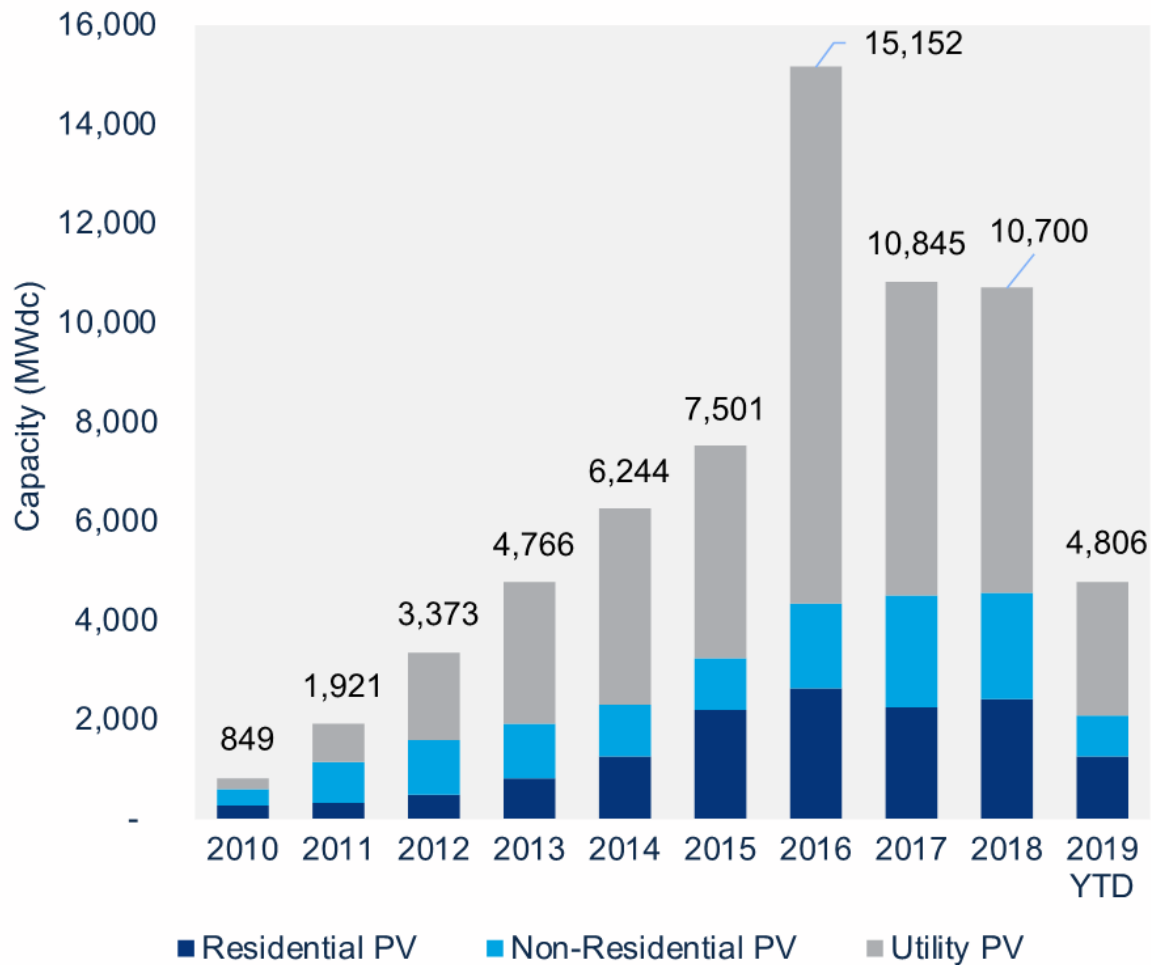
**Wind: Offshore demand will grow
Domestically – Primarily in Northeast**



Future of Wind and Solar

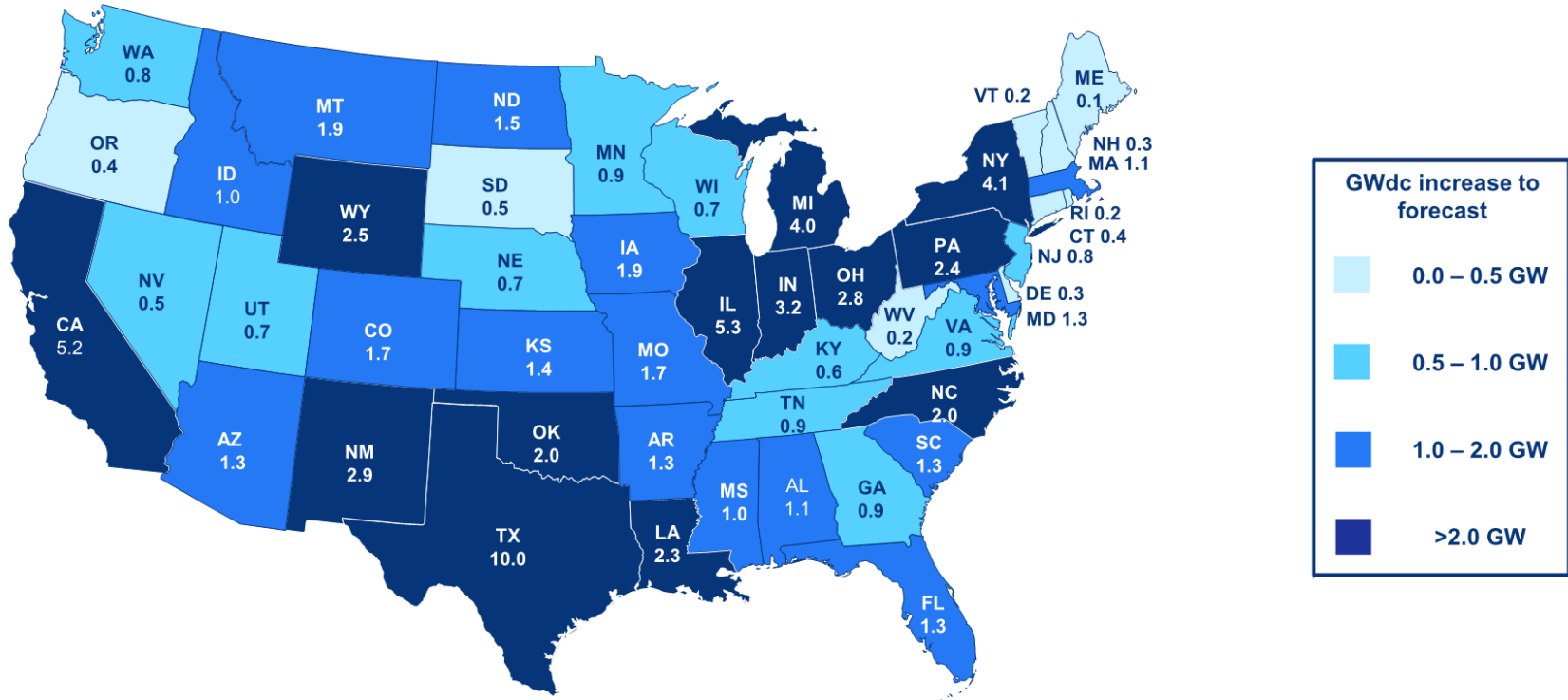
Solar: Growth of Bifacial. Trackers will be primary technology for solar





ITC extension forecast increase vs. base-case forecast, 2020-2030 (GW)

40 states see a 20% or greater solar capacity increase under an ITC extension scenario, 2020-2030





Solar

Substation

Towers

Battery Storage

Offshore Wind

