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Middle East Solar Industry Association (MESIA)

**RENEWABLES: A KEY DRIVER
FOR CLEAN ENERGY TRANSITION**

SOLAR PV ROOFTOP WORKSHOP & TRAINING

MUSCAT – OMAN

13 & 14 December 2017

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Middle East Solar Industry Association (MESIA)

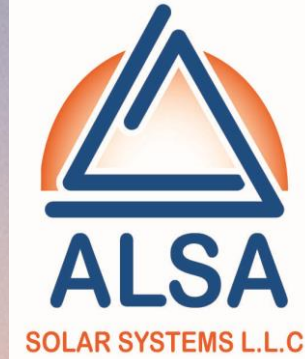
- MESIA – Est. 2008 - is the largest solar trade association in the Middle East and North Africa region with > 120 members and a subscriber base of > 10.000.
- Headquartered in Dubai, UAE and carries out solar-related activities and programs across the MENA region, including issuing leading industry reports.
- MESIA has organized over 90 industry events focused on strengthening the solar footprint in our region through the past 8 years, including trade missions in Egypt, Pakistan and Jordan.
- MESIA’s goal is to promote, educate an enhance the growth of Solar in the Middle East area.
- MESIA has won several prestigious awards and had been recognized by leading government authorities across the MENA region.
- ALSA Solar systems is Co-Founder of MESIA



visit www.mesia.com

ALSA SOLAR SYSTEMS

- ALSA Solar is a reputed UAE based Solar EPCM with > 7 years UAE experience & passion for solar
- ALSA Solar Systems is Dubai Electricity & Water Authority (DEWA) approved contractor enrolled under SHAMS DUBAI initiative
- Specialized in Designing, Installing, Operating & Maintaining Solar PV systems for ON GRID, HYBRID and THERMAL systems
- ALSA SOLAR has executed > 100 projects varying between commercial, industrial and residential projects, including various pioneering & iconic projects.



*“Experts in :
Solar On Grid Systems
Solar Hybrid Systems
Solar Thermal
Systems
Solar Pumping
Off grid solution
Diesel replacement*

HARVEST THE SUN!!!

نحصد الشمس ،

Solar Industry - global

For the 6th year in a row, solar power took the largest share of new investments in global renewable energies with **56 %** of total investment representing USD 161 billion (EUR 146 billion).

These investments were almost evenly shared between large scale solar power & distributed solar energy systems (rooftops).

Annual new solar PV system installations increased from 29.5 GW in 2012 to **90 GW in 2017**, driven by more large scale utility systems and a worldwide reduction of PV system prices on the other side...

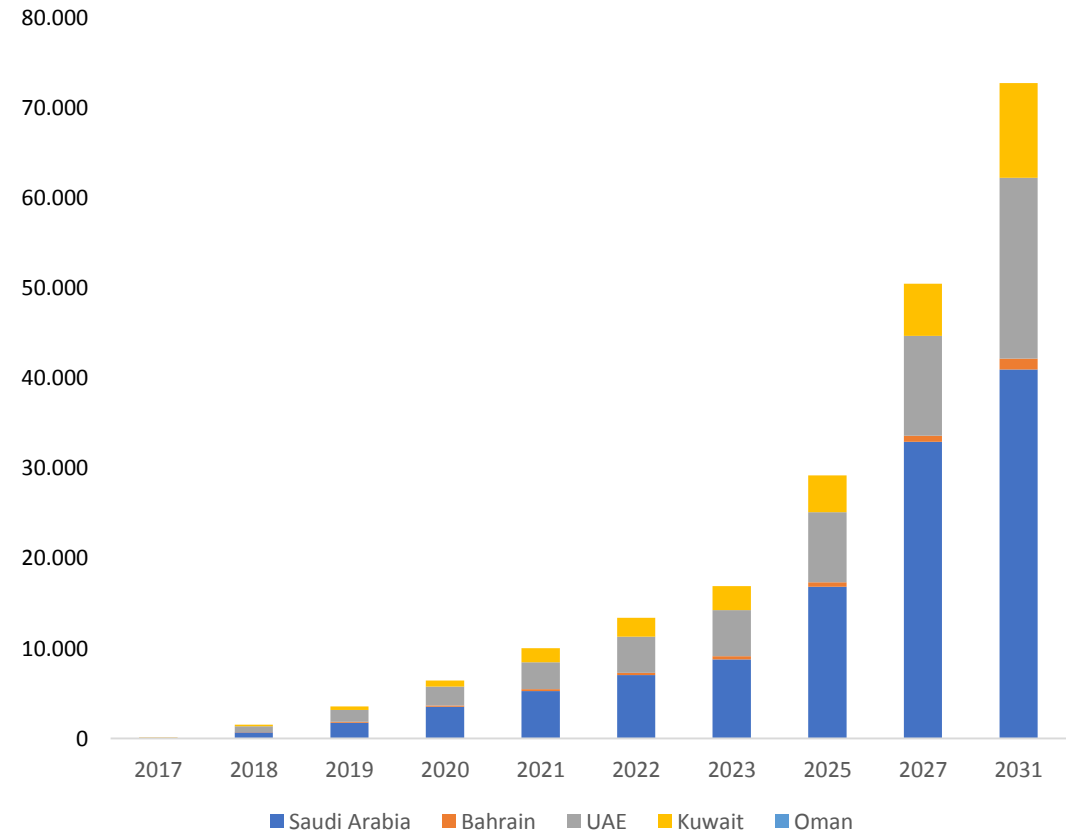


Growth of Solar Demand in the GCC

The GCC will see a nearly exponential growth in solar demand over the next 12 years

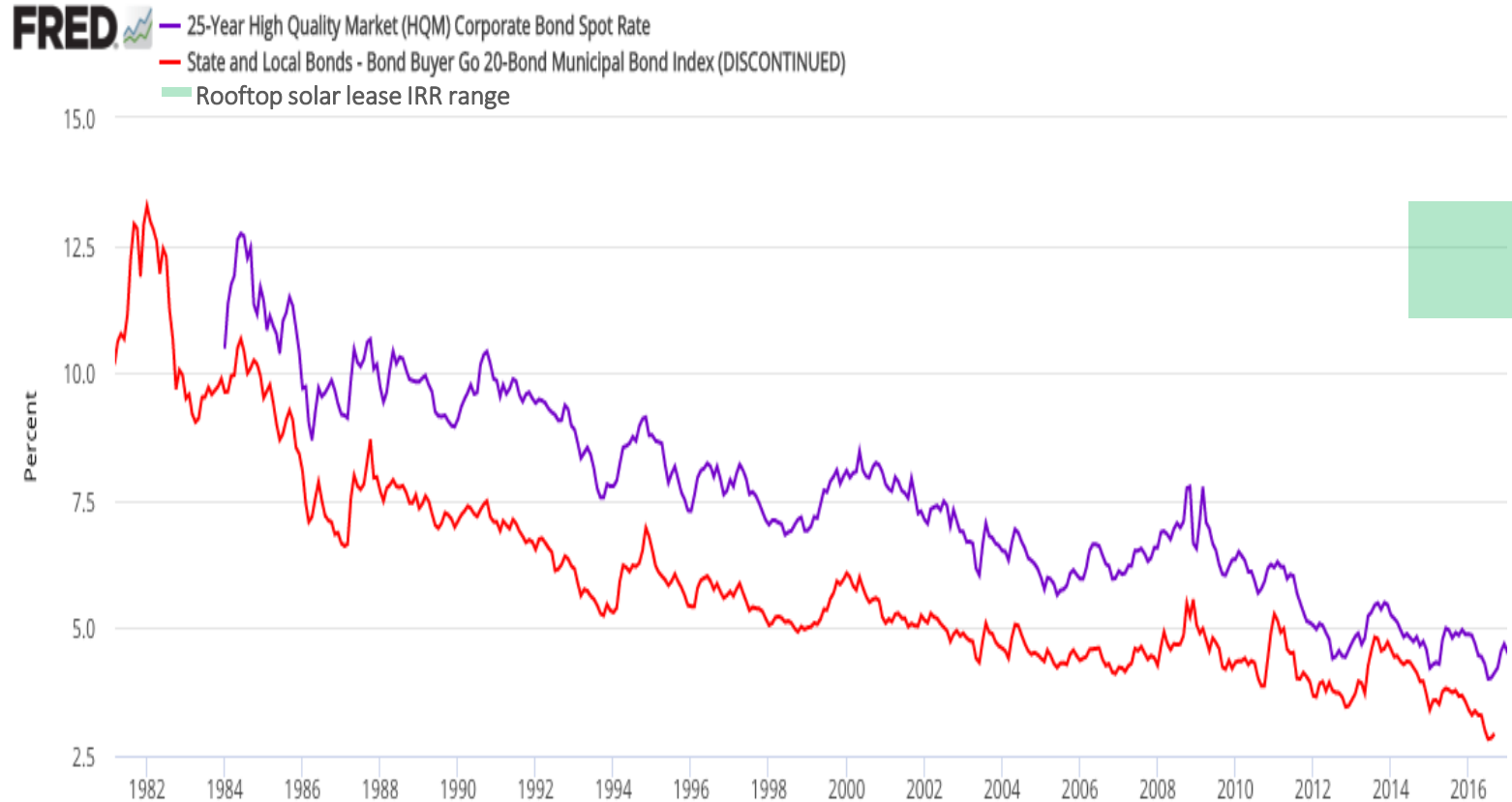
- Gulf countries will require 100 GW of additional power over the next 10 years to meet their demand (CAGR 7%)
- Some GCC countries use their crude oil supplies to generate electricity. Saudi Arabia alone uses USD 16 billion of oil per year to create electricity, and wants to replace this with renewables...
- The GCC countries are **top emitters of carbon dioxide** per capita in the world
- Most countries in the GCC have therefore **committed targets** of 25-30% renewables by 2030
- This represents a **\$100 billion** investment opportunity by 2030

Annual solar uptake by country



The investor: No low-risk, long-term yield is available at a similar rate

- Solar lease investment type best matches traditional bonds
- C&I solar leases best match High Quality Market corporate bonds in performance
- Further, solar lease contracts are securitized – the solar plant remains the custody of investors (BOOT model). Protection against bankruptcy
- Investor knows exactly how much to expect every month and year for duration of contract
- Solar System payback are often < 5yrs on EPC basis...



Soiling issues related to Solar Industry

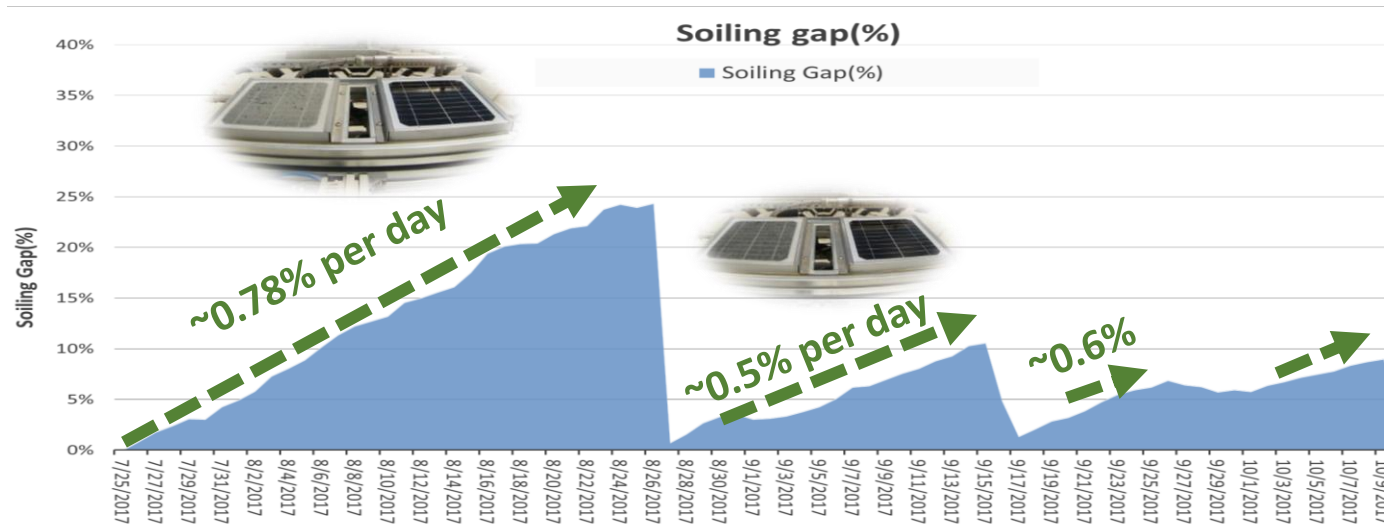
Dust and Soiling Issues

- Dust build-up is the greatest technical challenge facing a solar industry especially in hot dusty climates.
- A 0.4-0.8% per DAY baseline yield loss caused by dust.
- 60% energy yield losses during and after sand storms are widely reported.
- If left more than a day, dust particles from organics, dew and sulfur adhere to the panels.



Soiling Effect Analysis

Soiling loss reached to almost 22% within 28 days after install, overall the range of soiling rate is **0.5~0.78% per day**



26th/July Soiling loss ~0%



8th/Aug Soiling loss ~10%



21th/Aug Soiling loss 22%



28th/Aug Soiling loss ~0%



6th/Sep Soiling loss ~5%



15th/Sep Soiling loss 11%

MESIA – Interested to learn more about MESIA?

- Please visit our website on: www.mesia.com
- Or Contact:



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Thank you!