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Solar PV – a savior of the environmental crisis?



K T Tan Cambridge University, England Colar photovoltaic has been hailed as one of the most promising sources of Orenewable energy, due to its cost competitiveness, predictability, reliability and the endless supply of sun energy. The LCOE (levelized cost of electricity) of Solar PV in certain parts of the world has outperformed the fossil fuel power generation; this makes the widespread adoption of Solar PV as the future power source one step closer to reality. The carbon footprint of manufacturing PV modules has been well documented, and the general consensus is that the embodied energy will be readily paid off in the early years. However, what will be the environmental cost involved in the manufacturing process? In the early 2000s, researchers discovered a legacy of toxic pollution left behind by an unregulated industry, particularly in Chinese villages and farmlands. This presentation explores the harmful impact of the appalling practice of these irresponsible manufacturers and discusses the pollution controls implemented by the global community since then to combat the pollution issues. Finally, the presentation also examines the current practice of dealing with end-of-life recycling for PV modules - are they adequate to prevent improper disposal of potentially harmful materials? As Solar PV is deemed to become the future source of energy in the not too distant future, the issues relating to pollution throughout its life cycle should be scrutinized more urgently than ever.

Biography

K T Tan is the Technical Director at Viridian Solar – a UK company based in Cambridge with their renowned innovative Clearline Fusion products. He has been devoting his professional life for over a decade to developing products and technologies for the renewable sector. He started to work with solar thermal well before the PV became a mainstream renewable solution. As a Chartered Engineer, he specializes in Solar PV new technologies with a particular interest in roof-integrated systems, advanced cell technologies and innovative mounting solutions. He is a Member of the Industrial Advisory Panel of the Centre for Doctoral Training in New and Sustainable PV, and a Member of the GEL/82 Standards Policy and Strategy Committee for PV Systems. He is also the Chair of the MCS Solar PV Technical Working Group, which develops the MCS standards, and oversees the general practice of PV installations in the UK. He has graduated with an Engineering PhD from Cambridge University, England.

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