

Some people state that “The external costs of PV electricity is much higher than for other renewable sources.”

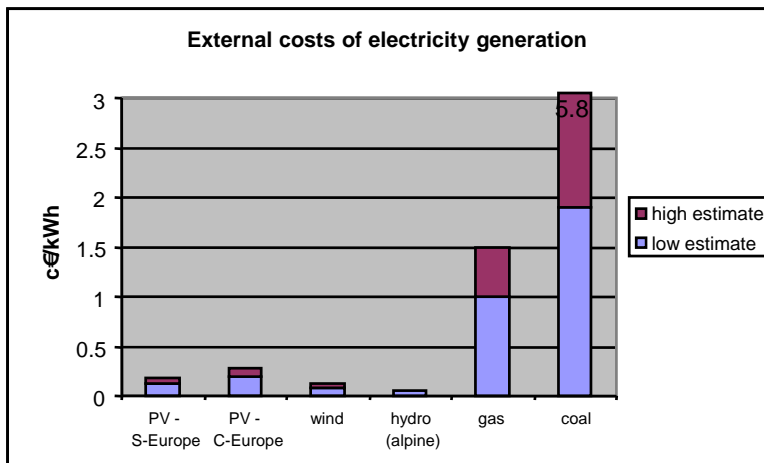
The fact is: PV systems, during their life-cycle, release some emissions to the environment as fossil fuels are still used in their manufacturing. The health and environmental impacts of such emissions, may be expressed in monetary terms as “external costs”. For current PV installations in South-Europe the external costs are about €0.15 per kWh, which are comparable to wind energy, and much lower than the external costs of the fossil fuel technologies that PV displaces.

“We determined that today’s PV systems have much lower external costs than those of the technologies they displace”



Prof. Vasilis Fthenakis, Center for Life Cycle Analysis, Columbia University and Brookhaven National Laboratory, NY, USA

The figure shows the external costs for current PV systems at Southern and Central European locations in addition to other electricity supply options. The high estimate corresponds to multi-crystalline silicon and the low one to thin-film cadmium telluride PV systems. Fossil fuel power plants have external costs which are 10-40 times higher than PV installations.



Source: Fthenakis and Alsema, Progress In Photovoltaics, 2006 (PV data) and Dones and Heck, MRS Symposium Proceedings, 2006

Technology improvements which can be realised within a few years, will result in an even lower impact from PV technologies.



Source: First Solar

**Therefore the correct statement is:
“The external costs of PV solar electricity are today in the same range as for other renewables and will further decrease as the technology advances.”**