

Agreed strategic targets in Photovoltaic (PV) solar energy

Overarching goals: re-build EU technological leadership in the sector by pursuing high-performance PV technologies and their integration in the EU energy system; bring down the levelised cost of electricity from PV rapidly and in a sustainable manner to allow competition in electricity markets all over Europe. This will be achieved by:

1. Major advances in efficiency of established technologies (Crystalline Silicon and Thin Films- c-Si and TFs) and new concepts:
 - Increase PV module efficiency by at least 20% by 2020 compared to 2015 levels;
 - Increase PV module efficiency by at least 35% by 2030 compared to 2015, including with the introduction of novel PV technologies;
2. Reduction of the cost of key technologies:
 - Reduce turn-key system costs by at least 20% by 2020 as compared to 2015;
 - Reduce turn-key system costs by at least 50% by 2030 compared to 2015 with the introduction of novel, potentially very-high-efficiency PV technologies manufactured at large scale;
3. Further enhancement of lifetime, quality and sustainability:
 - Increase module lifetime to a guaranteed power output time (at 80% of initial power) to 30 years by 2020 and 35 years by 2025;
 - Minimize life-cycle environmental impact along the whole value chain of PV electricity generation, increase recyclability of module components;
4. Enabling mass realisation of "(near) Zero Energy Buildings" by Building-Integrated PV (BIPV) through the establishment of structural collaborative innovation efforts between the PV sector and key sectors from the building industry:
 - Develop BIPV elements, which at least include thermal insulation and water protection, to entirely replace roofs or facades and reduce their additional cost by 50% by 2020, and by 75% by 2030 compared to 2015 levels, including with flexibility in the production process;
5. Major advances in manufacturing and installation:
 - Increase large scale manufacturing concepts and capabilities by demonstrating PV production capabilities of at least 20 m² per minute by 2020;
 - Develop PV module and system design concepts that enable fast and highly automated installation, to reduce the installation costs of both ground-mounted arrays and PV building renovation solutions, by 2020