

Press Release

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International Study: Solar PV Module Disposal Poses No Health Risk

A new report, by an International Energy Agency task force, finds no significant hazards for land-fill waste disposal of solar PV modules.

End-of-life management is critical for addressing large future PV waste volumes and conserving raw materials for use in new PV modules. While recycling is expected to be the dominant and preferred strategy for sustainable end of life management, there are still concerns regarding improper disposal of PV modules.

To evaluate these concerns, Australia is participating in a research program with the International Energy Agency looking at potential human health risks associated with separated landfill disposal of PV technologies.

Dr Jose Bilbao, Australian Expert Representative to the IEA on this Task, says “The international team looked at worst-case scenarios to explore maximum possible risk to human health and found no significant hazards with managed disposal of solar modules. Although this report focuses on the potential health risk from disposal of PV modules in landfills, we know that recycling end-of-life PV modules further reduces environmental impacts and resource depletion.”

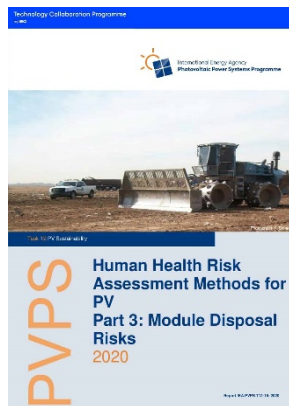
The report compared predicted exposure in soil, air, groundwater and surface water of the hazardous chemical elements that are found in small quantities. In Australia, the dominant technology is crystalline silicon (c-Si), which contains small quantities of lead (Pb).

The report estimated the potential health risks through the direct estimate of cancer risk and non-cancer hazards with risk-based screening levels published by the U.S. Environmental Protection Agency.

Overall, the report found cancer risk and non-cancer hazards to be below screening thresholds for all assessed chemical elements, even in the worst case scenarios.

The screening-level methods employed in the report are designed to be used to establish a more complete set of results for any other chemicals of potential concern on commercial PV modules.

Full Report:



Human Health Risk Assessment Methods for PV Part 3: Module Disposal Risks

Joint Project Managers:

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Previous Reports in Task 12:

- Part 1: potential health risks resulting from modules exposed to fire
- Part 2: potential health risks resulting from broken modules left in the field

About the IEA PV Power Systems Programme:

Australian Engineer Dr José Bilbao of UNSW has recently been promoted to the prestigious position of Operating Agent for the International Energy Agency Photovoltaic Power Systems Programme Task 12. This project aims to foster international collaboration and knowledge creation in photovoltaic (PV) environmental sustainability and safety. The Australian PV Institute, with support from ARENA, leads Australia's engagement in the IEA PV Power Systems program and works with its members to increase the uptake of PV through quality research, data and analysis.

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About the APVI

The Australian PV Institute is a not-for-profit, member based organisation which focuses on data analysis, independent and balanced information, and collaborative research. Our objective is to *support the increased development and use of PV via research, analysis and information*. The APVI promotes solar through its live solar mapping platform [<http://pv-map.apvi.org.au>], the national solar research conference and Australia's participation in two International Energy Agency (IEA) programs – PVPS (Photovoltaic Power Systems) for solar photovoltaics and SHC (Solar Heating and Cooling), concerned with new solar thermal products and services.

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