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**Environmental
Sustainability**

**Sustainable
Manufacturing**



Abound Solar: Dedicated to clean energy

Abound Solar, formerly AVA Solar, is a leading manufacturer of next-generation, thin-film photovoltaic modules.

We believe we can transform the way energy is generated—and improve the health of our planet—while brightening the lives of people around the globe by ensuring an affordable supply of clean, renewable electricity.

Abound Solar™ modules are manufactured to be the most environmentally sustainable solar photovoltaic technology available. Designed with recycling in mind, manufactured using the industry's most energy efficient production process, and backed by a cradle-to-cradle recycling program, Abound Solar is leading the industry in environmental sustainability.

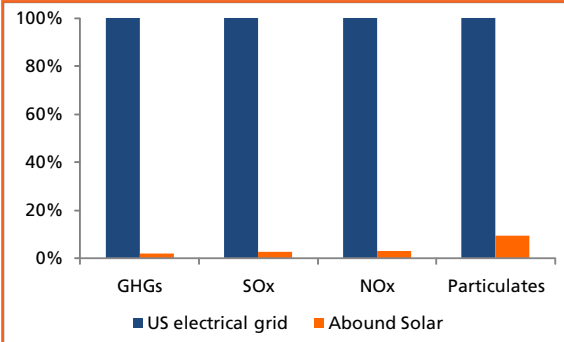
Proprietary production process results in 98% reduction in greenhouse gas emissions

Abound Solar utilizes a proprietary production process that minimizes the environmental impact of manufacturing photovoltaic modules.

- **No greenhouse gasses used in production**
Abound Solar does not utilize nitrogen trifluoride, a powerful greenhouse gas often used in producing silicon-based solar modules.
- **Energy-efficient manufacturing**
The production process utilized by Abound Solar minimizes energy consumption by utilizing innovative process equipment and eliminating energy-intensive steps.
- **Minimal production waste**
Abound Solar's proprietary semiconductor deposition maximizes material utilization and minimizes manufacturing losses.
- **High manufacturing yields**
Robust processes combined with tight manufacturing controls and monitoring result in high yields that reduce the energy and materials used to create Abound Solar™ modules.

Environmental Sustainability

Sustainable Manufacturing

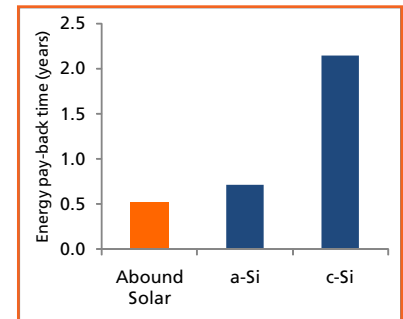


Life cycle analysis of Abound Solar modules show 98% reduction in greenhouse gas emissions

- 98% reduction in greenhouse gas emissions compared to existing US electrical generation infrastructure
- 97% reduction in sulfur and nitrous oxides
- 90% reduction in particulates, including cadmium

Faster energy payback time than other photovoltaic technologies

- Energy payback of just 6 months
- Lower greenhouse gas emissions due to energy efficient production process and high yields
- Less material waste than comparable photovoltaic technologies due to recyclable design and high semiconductor utilization



Results from independent analysis of Abound Solar production process by Boustead Consulting & Associates, Ltd. (2009); a-Si and c-Si based on Uni-Solar and Kyocera products respectively.

Additional scientific research confirms environmental benefits of CdTe solar modules

- Lowest greenhouse gas emissions among current photovoltaic technologies on a life cycle basis
V. Fthenakis, H.C. Kim, "Energy Use and Greenhouse Gas Emissions in the Life Cycle of Thin Film CdTe Photovoltaics"
- Lowest acidification and eco-toxicity potential of all photovoltaic technologies
M. Raugei, S. Bargigli, and S. Ulgiati, "Energy and Life Cycle Assessment of Thin Film CdTe Photovoltaic Modules"
- Greenhouse gas emissions of less than 10% of solar thermal systems
Y. Lechón, C. de la Rúa, R. Sáez, "Life Cycle Environmental Impacts of Electricity Production by Solarthermal Power Plants in Spain"

To learn more about Abound Solar™ modules, production process or Abound Solar's commitment to the environment, please visit our website at: www.abound.com or email info@abound.com.

