5 Women You Should Know Are Changing the World of Energy Right Now

The energy sector is still heavily male-dominated. These five women didn't wait for an invitation.

1. The Pole Who Figured Out How to Print Solar Panels

Dr. Olga Malinkiewicz — Co-founder & CTO, Saule Technologies (Poland)

What if you could buy solar cells by the metre at a hardware store, stick them to your window, and generate electricity? That's the vision of Dr. Olga Malinkiewicz — and she's closer to making it real than anyone else on the planet.

Born in Wrocław in 1982, Malinkiewicz is known for inventing a method of producing solar cells based on perovskites using inkjet printing, and is the co-founder and Chief Technology Officer at Saule Technologies. The key insight came during her PhD at the University of Valencia: she changed the architecture of perovskite cells, applying lessons from organic solar cells to create a structure that allowed fabrication at low temperatures and that completely changed the picture, because it enabled solar cells to be built on entirely different substrates for custom applications.

The result? Solar cells so thin and flexible that a one-square-metre sheet can be effortlessly supported between two fingers and printable onto glass, facades, keyboards, even phone chargers. The world's first factory producing perovskite photovoltaic cells opened in Wrocław in June 2021.

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In 2024, Malinkiewicz became the first Polish woman to receive the European Inventor Award from the European Patent Office, winning both the SMEs category and the Popular Prize chosen by the public.

Her message to other inventors: *"Do it."*

📎 **Find out more:** sauletech.com

2. The CEO Building Europe's Green Hydrogen Factory

Florence Lambert — CEO, Genvia (France)

Steel mills, cement factories, chemical plants — these are among the hardest industries to decarbonise, and green hydrogen is one of the few tools that can do it. Florence Lambert is the person engineering that tool into existence.

Lambert was appointed CEO of Genvia in March 2021, bringing more than 20 years of experience in new energy technologies from her previous role as CEO of CEA-LITEN in Grenoble. Genvia's technology is not a tweak to existing methods, it is a fundamentally more efficient approach. The solid oxide electrolyzer converts steam into hydrogen at high temperature, making it around 15% more efficient than competing technologies and up to 30% more efficient when industrial waste heat is available.

The Genvia technology design enables a 30% higher electricity conversion efficiency per kilogram of hydrogen produced, bringing the cost of clean hydrogen down to a level that competes aggressively with other energy sources. The plan is to scale this to a gigafactory capable of supplying the gigawatt-scale electrolyzer demand the market is expected to reach by 2030.

Lambert speaks with the directness of someone who has spent decades in applied research: "Let's not forget what we have to face. Decarbonisation is the ultimate goal. And we need all the technologies available to reach our net zero targets."

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The researcher who developed the underlying technology, Dr. Julie Mougin, calls Lambert "the mother of the technology" — one of those rare cases where the scientist and the CEO are both women pushing the same innovation from lab bench to factory floor.

📎 genvia.com

3. The Professor Who Invented a New Kind of Fuel Cell

Prof. Sossina Haile — Walter P. Murphy Professor of Materials Science, Northwestern University (USA)

Born in Ethiopia, forced to flee the country as a child after a military coup, Sossina Haile grew up in rural Minnesota and went on to become one of the most important energy materials scientists alive. In 2001, she did something no one had done before: she built the first solid acid fuel cell.

Well known for pioneering the solid acid fuel cell, an emissions-free way to generate electricity from hydrogen, Haile is the author of hundreds of papers and holds more than a dozen patents relevant to sustainable energy technologies. The principle is elegant: the fuel cell converts hydrogen into electricity through an electrochemical reaction, emitting only water. No combustion. No carbon.

But Haile didn't stop there. In 2010 she converted solar energy into hydrogen more efficiently than photosynthesis, a world first. This work opened the door to larger-scale efforts to use sunlight to directly make renewable fuels. And when the cost of solar and wind plummeted, creating a new problem, too much electricity at certain times, not enough at others, her team developed a way to convert electricity into hydrogen, store it, and convert it back to electricity when more is needed, offering a way to rebalance the energy grid.

Most recently, she has been working on using ammonia as a hydrogen carrier, developing an electrochemical process for producing clean hydrogen from ammonia, avoiding the cost of building new infrastructure to supply hydrogen to fuel cell vehicles.

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She is now the Walter P. Murphy Professor of Materials Science and Engineering at Northwestern University and a Professor of Applied Physics. One of the rare scientists who has made multiple world-first discoveries in the same field, across three decades.

📎 addis.ms.northwestern.edu

4. The Woman Making Wind Turbines Truly Circular

Lisa Malmquist Ekstrand — VP & Head of Sustainability, Vestas (Denmark/Sweden)

Vestas makes roughly one in seven of all wind turbines installed worldwide. Its Head of Sustainability is a Swedish woman who has spent her career pushing the company further and faster than the industry thought possible — and setting benchmarks the entire wind sector is now chasing.

Lisa Ekstrand says: "Integrating sustainability into everything we do is a part of our vision to become the global leader in sustainable energy solutions." That's a statement backed by extraordinary ambitions. Vestas has committed to carbon neutrality in its own operations by 2030, without using carbon offsets. And by 2040, the company aims to produce **zero-waste wind turbines**, meaning no incineration or landfill across its entire value chain.

According to Vestas, turbines produced and shipped in 2024 are expected to avoid 455 million tonnes of CO_2e over their operational lifetime. Under Ekstrand's leadership on sustainability, Vestas introduced low-emission steel for turbine towers in 2024 as a new product offering — since steel accounts for 80–90% of a wind turbine's material mass and around 50% of a wind project's total lifecycle emissions.

The remaining frontier is wind turbine blades — composite materials that are notoriously difficult to recycle. Vestas is funding research partnerships to crack this problem, because a turbine that can be completely reused or recycled isn't just good branding. Vestas was ranked 17th in Sustainability Magazine's Top 250 Most Sustainable Companies 2025.

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Wind energy only counts as truly clean if the hardware it runs on is too. Ekstrand is the person making that case from inside one of the world's most powerful wind companies.

📎 vestas.com

5. The Researcher Who Won Europe's Most Prestigious Hydrogen Prize

Dr. Julie Mougin — Deputy Director for Hydrogen Technologies, CEA, Grenoble (France)

If Florence Lambert is the CEO commercialising Europe's most advanced green hydrogen technology, Julie Mougin is the scientist who spent 20 years building it in the laboratory — and who just received the continent's top recognition for doing so.

In 2025, Julie Mougin received the "Woman in Hydrogen Innovation" award from the Clean Hydrogen Partnership — the EU-backed body coordinating hydrogen research across Europe. She leads hydrogen technology development at the CEA (France's Alternative Energies Commission) in Grenoble, where she has spent her entire career.

Her specialty is solid oxide electrolysis — the same technology that Genvia is now industrialising. As she describes it: the development of this approach started from scratch, at the level of individual materials and small cells, and has grown over two decades into large industrial stacks that can run for thousands of hours. CEA has now transferred the technology to Genvia, and when Mougin saw the first production stack come off the factory line with the French President watching, she called it "a special, touching moment."

Mougin's personal mission extends beyond the lab. She has been vocal about the importance of women contributing at all levels to hydrogen research, not as a policy statement, but as a practical argument: diverse perspectives, from different genders

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and backgrounds, are needed to develop innovative and effective solutions in a field as complex as hydrogen.

Twenty years of invisible work in a Grenoble laboratory. Now, the technology she built may help decarbonise European industry.

📎 cea.fr

The pattern worth noticing

These five women work in solar cells, green hydrogen, wind hardware, and fuel cells, four distinct corners of the clean energy system. None of them are in oil. None of them are in gas. And none of them waited for the energy industry to make space for them. They built the space themselves.

The energy transition is a technical problem. And increasingly, women are the ones solving it.

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