



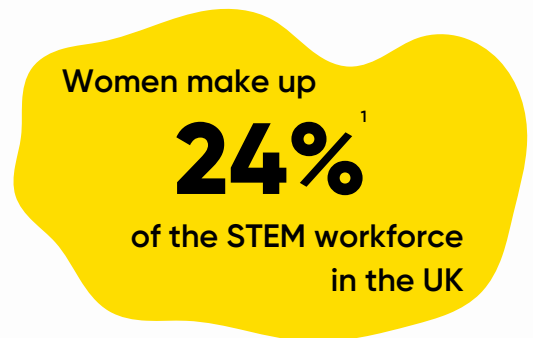
# Pioneering Women in STEM

## & their contributions to the energy industry of today

Renewable Exchange is celebrating Women’s History Month by shining a light on 6 pioneering women in STEM who paved the way for the energy, particularly renewable, technologies of today.

STEM is a notoriously male-dominated field. In fact, only 24% of the current STEM workforce in the UK is female.

So let’s take a look back at the women who were some of the first to challenge this gender bias, achieve incredible results & leave legacies to inspire the women of today and tomorrow.



### Ada Lovelace

1815–1852

Known as the first computer programmer, Ada met Charles Babbage in 1833 where he demonstrated his concept of a digital programmable computer. Ada’s collaboration with Babbage was fundamental, as she was the first to articulate the notion that numbers could represent more than just a quality, marking the transition from calculation to computation.



The second Tuesday in October has become Ada Lovelace Day, on which contributions of women in STEM are honoured.

1.From a [report published in June 22, 2022 by STEM Women](#), data collected up to 2019



## Elise (Lise) Meitner

1878–1968

Meitner is known as the 'Mother of Nuclear Power'. She led a team in the discovery of nuclear fission, the process where the nucleus of a heavy atom splits, thus releasing large amounts of energy.

Meitner's accomplishments were often undervalued. In 1923, Meitner discovered the radiationless transition known as the Auger effect, named after French scientist Pierre Victor Auger, who rediscovered it two years later. In 1944, Otto Hahn was awarded the Nobel Prize in Chemistry, undermining Meitner's contributions to the discovery of nuclear fission.



The heaviest known element in the universe, Meitnerium (Mt) was named in her honour.



## Katharine Burr Blodgett

1898–1979

Katharine Burr Blodgett was an engineer & scientist at the GE Research Lab in New York. In 1933, Katharine developed a method to measure the thickness of thin monomolecular films. Five years later she found a way to make non-reflecting glass, using a specially composed coating that could get 99% of light to pass through glass. She patented this system in 1939.

The discovery of this process is fundamental for solar panel technology. Her work enhanced the efficiency of the glass and made the panels water repellent. The coating used LED & OLED lighting to improve the electric conductivity, paving the way for further innovations in the field.



## Mária Telkes

1900–1995

Known as the 'Sun Queen', Telkes' most fundamental work started in 1939 when she worked on thermoelectric devices powered by sunlight. During World War II, she invented a solar distiller to provide more accessible drinking water.

In 1949, alongside American architect Eleanor Taymond, she designed and constructed the first modern home heated with solar energy. Telkes also created a method to store that renewable energy.



In 1952, Telkes was the first recipient of the Society of Women Engineers Achievement Award. She received more awards in following years.



## Mildred (Millie) Dresselhaus

1930-2017

Known as the 'Queen of Carbon', Dresselhaus introduced the use of nanotechnology in modern-day engineering. From the 1950s, she explored the ability for materials to conduct electricity and heat- also found methods of manipulating it. Her work proved fundamental for lithium-ion batteries, electronic devices, and renewable energy generators.

In addition, she was in the first Women's Forum at MIT, exploring the roles of women in science and engineering. In 1985, she became the first female Institute Professor, the highest title awarded at MIT. In 2000, served as the director of the U.S. Department of Energy Office of Science.



In 1990, she was the 1st woman to receive the National Medal of Science in Engineering. In 2012, the first individual recipient of the Kavli Prize in nanoscience. In 2014, received the U.S. Presidential Medal of Freedom & in 2015, the first woman to receive the IEE Medal of Honour



## Annie Easley

1933-2011

Easley was a computer scientist, mathematician and rocket-scientist. When working at NASA, Easley became an exceptional computer programmer where she developed and implemented a code to analyse and solve energy problems both in space and on Earth. Her work paved the way for battery storage & hybrid vehicles. She also made fundamental contributions to NASA's space programs.



Easley's success is especially remarkable given the discrimination she faced as an African-American woman during the Civil Rights Movement in America.

## How to get Involved

Whether you're a woman in STEM, or looking to become a mentor:



[Women in STEM](#)

[Women's Engineering Society \(WES\)](#)

[Women's Energy Network Alliance \(WENA\) - LinkedIn](#)

[STEMettes](#)