**PRESS RELEASE**

**Marie Perrin wins the World Builders prize at the Young Inventors Prize 2025 for her rare earth recycling technology**

* **28-year-old French-American chemist recognised for REEcover, a novel method that recycles europium from used fluorescent lamps**
* **Rare earth elements are critical to modern electronics, but remain difficult and polluting to extract. Her invention makes it easier to reuse resources instead of relying on new mining**
* **The European Patent Office is awarding her a total of EUR 20 000 to aid the development of her innovation, which reduces toxic waste**

**Munich/Reykjavik, 18 June 2025** – During a ceremony held today in Iceland, the European Patent Office (EPO) awarded the French-American chemist **Marie Perrin** (28) the **World Builders prize** for her invention. REEcover offers a **more sustainable way to recycle rare earth elements** (REEs). It recovers europium from discarded fluorescent lamps through a simplified separation process. *“My PhD goal was to explore rare earth elements chemistry,”* said Perrin. *“These elements are not well known to the general public but can be found everywhere and are used in many high-tech applications.”*

The **World Builders prize recognises innovators working toward a sustainable future**, ensuring access to essential resources like water, energy and sustainable infrastructure. They drive circular economy solutions that promote prosperity while reducing environmental impact. As this year’s recipient of the World Builders prize, Marie Perrin **received in total EUR 20 000 (EUR 5 000 awarded to each Tomorrow Shaper and an additional EUR 15 000 in recognition of this special prize).**

*“I am deeply honoured to receive this recognition from the European Patent Office. A heartfelt thank you to everyone who believed in and supported this project. It has been a true privilege to stand alongside such inspiring young innovators from across the globe, and I hope it encourages more young women to see themselves as inventors and changemakers. Let’s keep pushing the boundaries of knowledge and help shape a more sustainable future,”* said Perrin.

The French-American inventor was selected by an independent jury as one of the **ten winners of the Young Inventors Prize 2025,** chosen from over 450 candidates worldwide. This prize celebrates innovators aged 30 and under, known as Tomorrow Shapers. From this group, three were awarded with special prizes:

* **Community Healers**, awarded to the Ugandan team of Sandra Namboozo and Samuel Muyita for developing a solution for food security, education, healthcare and fair working conditions
* **Nature Guardians,** awarded to the US twin sisters, Neeka and Leila Mashouf, for protecting ecosystems and biodiversity, and addressing climate change, ocean health and wildlife conservation;
* **World Builders,** awarded to the French-American chemist.

**Addressing a critical materials challenge**

**Rare earth elements** are essential to modern technology, powering everything from smartphones and LED screens to electric vehicles. However, they **are notoriously difficult and environmentally damaging to extract**. According to the [Harvard International Review](https://hir.harvard.edu/not-so-green-technology-the-complicated-legacy-of-rare-earth-mining/), mining just one tonne of rare earth can produce up to 2 000 tonnes of toxic waste. Despite their importance, less than 1% are currently recycled.

Perrin’s solution, **REEcover**, is a cleaner way to recover europium from discarded fluorescent lamps. It **avoids harmful solvents and complex steps**, using a more direct chemical reaction. The process also captures hazardous mercury and allows the recovered europium to be reused, reducing reliance on mining.

**Building a more sustainable world**

Perrin developed a strong interest in rare earth chemistry during her PhD at ETH Zürich, where she explored new ways to recover these critical elements more efficiently. **Her work led to REEcover, a cleaner alternative to conventional methods, which can involve 100 to 1 000 purification steps and toxic solvents.** *“My PhD really took a turn when we discovered a unique property that we had never observed before, allowing us to distinguish all 17 rare earth elements. This is how my patent journey began in 2023,”* said Perrin.

Now focused on **scaling the technology**, REEcover is also exploring ways to recover rare earth magnets found in electric vehicles and wind turbines. Perrin sees her work as part of a broader effort to apply science to overlooked global issues: *“Very little is known about rare earth elements. They are still not spoken about even though there are huge geopolitical and environmental challenges behind them.”*

**The Young Inventors Prize celebrates worldwide innovators 30 and under using technology to address global challenges posed by the United Nations Sustainable Development Goals (SDGs).** Perrin’s innovation supports SDG 12 (Responsible Consumption and Production) by making it easier to reuse resources instead of relying on new mining.

**The winners of the 2025 edition were announced today during** [**a ceremony livestreamed**](https://www.epo.org/en/news-events/young-inventors-prize/2025-event?mtm_camp=pressrelease&mtm_key=yip2025&mtm_med=press) **from Iceland.**

Find more information about the invention’s impact, the technology and the inventor’s story [**here**](https://www.epo.org/en/news-events/young-inventors-prize/marie-perrin?mtm_camp=pressrelease&mtm_key=yip2025&mtm_med=press).

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**About the Young Inventors Prize**

Aimed at individuals 30 and under, the Young Inventors Prize showcases the transformative power of youth-driven solutions and recognises the remarkable young people paving the way to a more sustainable future. Established in 2022, trophies were first handed out during the European Inventor Award ceremony. As of 2025, the Prize has moved up a gear with its own dedicated event, held separately from the Award. Among the 10 Tomorrow Shapers selected for each edition, three receive special prizes: World Builders, Community Healers, and Nature Guardians. In addition, a People’s Choice winner is selected through an online public vote. Each Tomorrow Shaper receives EUR 5 000, while the three special prize winners are awarded an additional EUR 15 000. The People’s Choice winner also receives an extra EUR 5 000. [Read more](https://new.epo.org/en/news-events/european-inventor-award?mtm_camp=pressrelease&mtm_key=yip2025&mtm_med=press) on the Young Inventors Prize eligibility and selection criteria.

**About the EPO**

With 6,300 staff members, the[European Patent Office (EPO)](https://www.epo.org/?mtm_camp=pressrelease&mtm_key=yip2025&mtm_med=press) is one of the largest public service institutions in Europe. Headquartered in Munich with offices in Berlin, Brussels, The Hague and Vienna, the EPO was founded with the aim of strengthening co-operation on patents in Europe. Through the EPO's centralised patent granting procedure, inventors are able to obtain high-quality patent protection in up to 46 countries, covering a market of some 700 million people. The EPO is also the world's leading authority in patent information and patent searching.