

To support our broader decarbonisation efforts, in March 2021 we launched our XCarb® Innovation Fund, the intention of which was to invest in the best and brightest technologies that hold the potential to support the decarbonisation of steelmaking.

Almost three years on, the fund has invested a total of \$188.5 million in 7 different companies developing technologies that range from carbon capture and utilisation to long-term battery storage solutions to hydrogen production and more. Through the fund we also became a founding partner of the Bill Gates-led [Breakthrough Energy Catalyst Programme](#), a platform in which we have committed \$100m over 5 years, that seeks to accelerate the adoption of decarbonisation technologies by investing in early stage projects. The fund have also launched two successful Accelerator Programmes, one global and one focused on India, providing mentorship and development opportunities for businesses that are typically viewed as being too early stage for the XCarb® Innovation Fund.

A lot has been achieved in the Fund's three short years of life, with 2023 typifying the progress that both the Fund and its portfolio have made.

Broadening our base of investments

In 2023, the Fund made three investments totalling \$66 million, doubling down on a previous bet, bringing one of the most exciting technologies on the market into its portfolio and crowning the winner of its inaugural Accelerator Programme.

The year got off to a fast start with a \$36 million investment in [Boston Metal](#) in January. Boston Metal is commercialising

one of the most talked about decarbonisation technologies in steel circles – a molten oxide electrolysis (MOE) technology that transforms iron ore into iron, using clean electricity, thereby removing carbon from the steelmaking process.

The investment was followed up in June when the Fund injected a further \$25 million into nuclear innovation company, [TerraPower](#), founded by Bill Gates in 2008, bringing its total investment to \$50 million and making it the Fund's single largest investment.

To wrap up its investments for the year, in July, we announced the [results of the Fund's inaugural Accelerator programme](#), selecting Ontario-based [CHAR Technologies](#) as the winner and investing \$5 million in the company. CHAR has been collaborating with our Canadian flat steel making operation, ArcelorMittal Dofasco, to test the use of its bio-carbon solutions as a partial replacement for fossil coal in the steelmaking process. In addition to CHAR, strategic partnerships were also formed with Carbon Upcycling and D-CRBN to wrap up a successful first Accelerator Programme.

Portfolio highlights

We also saw various updates and milestones achieved by our portfolio companies.

- Boston Metal had a busy year. In Brazil, it signed a cooperation agreement with the state of Minas Gerais where its subsidiary, Boston Metal do Brasil, is developing the first commercial application of its MOE technology, using MOE to recover high-value metals from mining waste. It is targeting commercial production of its first

high-value metals this year and expects to bring MOE to the steel market by 2026.

- Another of the Fund's investments, [Form Energy](#), progressed construction at its flagship production factory in Weirton, West Virginia. Following the ground-breaking in May last year, progress continued apace and is set to complete in the early part of this year, with commercial production of their 100 hour duration battery storage solutions anticipated to start mid-2024. Form also had a strong end to 2023, securing a \$30 million grant from the California Energy Commission to build its first project in California, a 5MW/500MWh iron-air battery capable of discharging energy to the grid for 100 hours.
- [H2Pro](#) and ArcelorMittal advanced their study of the implementation of a 12 MW electrolyser in Sestao, Spain. H2Pro also partnered with Doral on a large green hydrogen project pipeline worldwide and has secured access to 200 MW of H2Pro electrolysers for its projects in Europe, the United States, and Israel. They have also partnered with Morocco's renewable energy developer, Gaia Energy, to develop a 10-20MW demonstration green hydrogen project in Morocco.
- [LanzaTech](#), which is not only one of the Fund's portfolio companies but with whom we have also partnered to construct [a carbon capture and utilization plant at our steelmaking facility in Ghent, Belgium](#), has had great success with its technology in China, where it now operates four plants,

each producing between 46,000 and 60,000 tonnes of ethanol a year from carbon rich waste gases. Last year, LanzaTech's partner Indian Oil also started its first facility in India using LanzaTech's technology, which produces 33,500 tonnes of ethanol a year from its Panipat Refinery.

- Nuclear power innovator TerraPower advanced its plans to build its Natrium™ Reactor Demonstration Project in Kemmerer, Wyoming, purchasing land and announcing contracts for suppliers which will support the development of the Natrium™ reactor. The demonstration plant will validate the design, construction, and operational features of the Natrium™ technology. The project features a 345MW sodium-cooled fast reactor with a molten salt-based energy storage system. The storage technology can boost the system's output to 500MW of power when needed, which is equivalent to the energy required to power around 400,000 homes. In a further boost, in December, it signed a MoU with the UAE's nuclear energy development organization, Emirates Nuclear Energy Corporation (ENEC) to explore opportunities for the commercialization and global deployment of its Natrium™ technology.
- Breakthrough Energy Catalyst announced a project equity investment of \$75 million in Infinium's first-of-a-kind commercial-scale Power-to-Liquids eFuels facility, expected to be the largest in North America. The facility will convert waste carbon dioxide and renewable power into

sustainable aviation fuel and other low-carbon fuels. Funding commitments of €240 million to accelerate high impact climate solutions in Europe were also announced in 2023. These commitments are made alongside the European Commission and the European Investment Bank into two projects: a 15% equity interest in the Ørsted FlagshipONE project, the largest e-Methanol project in Europe, and a project-level grant of €35 million to support the construction of Energy Dome's Ottana CO2 Battery Project, a first-of-a-kind long duration energy storage project.

Furthermore, to support the Fund's ambitions, last year we joined [Launchpad](#), an initiative from the Earthshot Prize, that will connect funders to current and former Finalists and nominees and support their funding needs and growth journey.

And finally, the work the team is doing has started to receive external recognition... we were delighted to be named the [Impact Fund of the Year](#), recognizing our strong commitment to supporting clean technologies, advancing the growth of the hydrogen economy and promoting sustainable development.