



Sustainable Chemistry Start-Ups Shine at Impact Festival

Breakthrough Start-Ups Honored at the ISC3 Innovation Challenge 2025 – Power2Polymers from Germany wins top prize

From cutting-edge chemical recycling and more sustainable polymers to renewable fuels, clean energy technologies, and low-carbon construction materials, the most promising innovators in Sustainable Chemistry pitched their ideas at the final of the **ISC3 Innovation Challenge 2025**. The 6th edition of the [International Sustainable Chemistry Collaborative Centre \(ISC3\)](#) start-up challenge took place as part of the ISC3 Investor Forum on 26-27 November 2025, during the Impact Festival in Frankfurt. This year's theme – **Sustainable Chemistry and Climate Change** – showcased practical, scalable solutions contributing to reducing emissions and advancing sustainability across industries and regions.

After a close jury decision, **Power2Polymers** from **Germany** secured the **ISC3 Innovation Challenge Award 2025**, endowed with **€15,000**, for more sustainable and high-performance polymer products for specialty applications, enabling product carbon footprint reduction by 40 %. "Receiving the ISC3 Innovation Challenge Award 2025 is a huge win for us. The competition gave us valuable visibility and connected us with so many people interested in our solutions. The feedback from the pitch sessions was incredibly insightful, and ISC3 has provided a fantastic platform for sustainable start-ups to showcase their innovations to the world", stated Dr. Guido Schroer (founder and CEO of Power2Polymers) full of excitement. This innovation also impressed the jury of the Impact Festival itself. Competing against 74 start-ups, Power2Polymers went on to win the Impact Award in the Innovation category.

One of the **two Special Impact Awards of the ISC3 Innovation Challenge**, each worth **€5,000**, was awarded to **AC Biode** from **Luxembourg/Japan** for their "Plastalyst" solution, which enables the low-temperature, solvent-free chemical recycling of hard-to-recycle plastics. The second Special Impact Award went to the woman-led company **ClimEtSan-OnTheGround GmbH** from **Germany** for their circular climate solution, which integrates clean cooking, eco-sanitation and biochar fertiliser production in Global South countries while enabling carbon offsetting or insetting. Through live digital voting, festival attendees also selected **Theseus Development** from **Ghana** as the recipient of the **ISC3 Audience Award 2025**, chosen from the ten ISC3 start-ups who pitched on stage.

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Investor Talk: Financing Climate Solutions

On 27 November, the ISC3 Investor Forum continued with an Investor Talk, opened by Dr. Thomas Wanner, Managing Director of ISC3, who called on industry, policymakers, and investors to join forces in accelerating Sustainable Chemistry innovations that drive climate action.

The session, “Financing Innovative Start-Ups in the Chemical Sector,” featured Simon Dierks, Country Lead Germany at Carbon13, in conversation with Astrid Ewaz, Project Manager at the ISC3 Innovation Hub. Dierks shared insights from one of Europe’s leading impact-driven venture builders and encouraged innovators and the Investor Forum audience on why tackling climate change remains crucial: “It will come back to us like a boomerang. Then, policy makers will force big corporations not only to find and test, but to implement greener, more sustainable processes – through regulations and carbon pricing – and they will queue for your solutions.”

As part of the annual event ISC3 also hosted a masterclass on the topic of “Identifying Sustainability in Chemical Innovation” at the Impact Festival. The class was led by Dr Alexis Bazzanella, Director of the ISC3 Innovation Hub, and Dr Dorota Bartkowiak, Innovation Manager at the ISC3 Innovation Hub. Participants worked through case-based exercises to apply the ISC3 Key Characteristics in evaluating the real environmental and social impact of chemical-sector start-up solutions.

Attendees were also invited to meet the start-ups personally at the ISC3 booth throughout the festival.

Winners of the ISC3 Innovation Challenge 2025

The finalists presenting their solutions to investors and broader Impact Festival audience were selected from almost **100 start-ups from over 30 countries**. **The international jury consisted of 36 experts** representing the cutting edge of climate-focused Sustainable Chemistry entrepreneurship and other relevant fields.

The main prize of €15,000 went to Power2Polymers. The start-up from Germany impressed the jury with more sustainable and high-performance polymer products for specialty applications, including lubricants, industrial adhesives, and coatings for a wide range of industries from wood furniture to electronics and automotive. Their key innovation lies in integrating POM, a versatile, stable but typically inert component, into novel polymers in a liquid state. These upgraded polymers offer enhanced performance, improved material compatibility, and a realistic, PFAS-free alternative to conventional solutions. In addition to the main prize, **two Special Impact Awards**, each endowed with **€5,000**, were presented to **AC Biode (Luxembourg/Japan)** and **ClimEtSan-OnTheGround GmbH (Germany)**. AC Biode was recognized for their solution called Plastalyst, a chemical catalyst that enables the recycling of even the most difficult plastics at low temperatures, allowing them to be transformed into monomers for new plastic production. Plastalyst provides a cost-effective and scalable alternative by combining the affordability of mechanical recycling with the ability to process a wide range of plastics rather than sending them to incinerators or landfills. ClimEtSan-OnTheGround won over the jury with circular climate projects that integrate clean

cooking, eco-sanitation, and biochar fertilizer production in the Global South. Their approach also enables carbon offsetting (emission compensation through external projects) or insetting (emission reduction within a company's own supply chain) for global companies. **Audience Award winner, Theseus Development**, was selected by festival participants via live digital voting. The start-up from **Ghana** won the hearts of the audience with geopolymer based concrete, delivering low carbon and high-performance building materials for affordable and resilient housing.

Looking Ahead

ISC3 will continue to advance Sustainable Chemistry entrepreneurship globally. The topic of the **next ISC3 Innovation Challenge 2026 will be Sustainable Chemistry and Electronics**. The application period will start in December 2025. More information will be available soon on the ISC3 website:

<https://isc3.org/page/innovation-challenge>

Finalists of the ISC3 Innovation Challenge 2025:

AC Biode (Japan/Luxembourg) – AC Biode's Plastalyst enables low-temperature, solvent-free chemical recycling of hard-to-recycle plastics into useful outputs like monomers, hydrogen, and methanol.

CLIMASEL (Azerbaijan) – CLIMASEL develops bio-based phase-change material panels that absorb heat during the day and release it at night, helping regulate indoor temperatures and reduce cooling energy use.

ClimEtSan-OnTheGround GmbH (Germany) – ClimEtSan-OnTheGround implements circular climate projects that integrate clean cooking, eco-sanitation, and biochar fertilizer production, while enabling carbon offsetting (emission compensation through external projects) or insetting (emission reduction within a company's own supply chain) for global companies.

ETB Global B.V. (Netherlands) – ETB developed a process to produce bio-butadiene, a key building block for plastics, rubber and other chemicals compositions, with high conversion and selectivity from bio-ethanol.

Palki Motors Limited (Bangladesh) – Palki Motors designs and manufactures long-range electric cars featuring innovative fast battery swap technology to offer affordable, sustainable urban mobility in Bangladesh.

Power2Polymers (Germany) – Power2Polymers develops cost-effective, more sustainable high-performance polymers by integrating a novel building block (POM), cutting carbon footprints by up to 40%.

Spark e-Fuels GmbH (Germany) – Spark e-Fuels produces renewable, carbon-neutral synthetic fuels using renewable electricity and CO₂ to accelerate the defossilization of aviation.

Theseus Development (Ghana) – Theseus Development produces geopolymer-based concrete, delivering low-carbon and high-performance building materials for affordable and resilient housing.



VerdiSol (United Arab Emirates) – VerdiSol transforms agri-food waste into nanofibers to boost soil health, water retention, and sustainable farming in arid regions.

Virgin Green Renewable Energy Limited (Zambia) – Virgin Green converts biomass waste into charcoal briquettes, improved cook-stoves, and wood vinegar, empowering local women entrepreneurs while reducing CO₂ emissions and deforestation.

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About ISC3

The International Sustainable Chemistry Collaborative Centre promotes Sustainable Chemistry for a sustainable world. ISC3 supports the chemical industry and chemical-related sectors in their transformation process through sustainable, innovative approaches from Sustainable Chemistry. The goal is a circular economy that integrates multiple aspects of sustainability throughout the entire product life cycle and encourages a shift in stakeholder behaviour. To advance the dialogue between different sectors and actors worldwide, including Europe and other regions as well as emerging and developing countries, ISC3 follows a multi-stakeholder approach with the networking of policymakers, public and private sectors, education, science and society. It contributes to international chemicals policy, develops professional and academic training programs, advises companies, and promotes start-ups and research. Founded in 2017 by the Federal Ministry for the Environment, Climate Protection, Nature Conservation und Nuclear Safety (BMUKN) and the Federal Environment Agency (UBA), the centre is implemented by the German Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ; English: Society for International Cooperation) and supported by the Society for Chemical Engineering and Biotechnology (DECHEMA e.V.) as ISC3 Innovation Hub. www.isc3.org