2020-21 Future of Energy Challenge: Net-zero Emissions

Sponsored by Shell

The Future of Energy Challenge is back! We invite teams who dream of launching their own sustainable energy enterprise to develop their solutions through this year's challenge.

Up to five teams will be selected as Future of Energy Scholars. Future of Energy Scholars will further develop their solutions through an eight-week accelerator run by Eidos Global's Social Innovation Warehouse, which is designed to grow solutions into scalable businesses. **Participating teams will receive mentoring by industry experts and will be expected to arrive at a proof of concept stage at the end of the Challenge.** Teams will compete for a chance to win up to $10,000 of non-dilutive funding for the winning team to invest in the next stage of developing their clean energy start-up. Please see below for full details regarding the prize.

The Challenge

Society faces a dual challenge: how to transition to a low-carbon energy future to manage the risks of climate change, while also extending the benefits of energy to everyone on the planet. Tackling this challenge starts by being aware of our impact so that investors, companies, cities, and governments can make the right choices. It requires us to come up with new ways for how energy is produced, used, and accessed by people while drastically cutting down on emissions.

The GHG Protocol Corporate Standard is an international guideline designed to help companies and other organizations identify, calculate, and report GHG emissions. It classifies emissions into three scopes:

- Scope 1: direct emissions produced by company-owned facilities and operations
- Scope 2: value chain emissions outside scope 1 operations. They are indirect emissions from the generation of purchased energy, sourced from outside facilities
- Scope 3: value chain emissions outside scope 1 and 2, including emissions from suppliers, employees, and product users. E.g., in the case of Shell, scope 3 emissions include those that come from customer use of refinery and natural gas products (individual and commercial).

Businesses are playing a role in the transition to net-zero emissions. For many companies, especially those that have already taken action around their facilities, operations, and purchased energy (scope 1 and 2), the bulk of their climate impact is now located outside of their direct control in the scope 3 emissions that their products produce. To reiterate, scope 3 emissions are GHG emissions that are a consequence of an organization's business activities but not owned or controlled by them. The Future of Energy Challenge Net-zero Emissions will focus on addressing scope 3 GHG emissions.

Scope 3 emissions tend to be greater volumetrically than scope 1 and 2 combined. These emissions are wide-ranging in what they encompass and vary significantly by company. Scope 3 emissions are often the most complex portion of a company's GHG footprint, and because they are indirect emissions that take place down the supply chain and outside the company's direct control, it is often more difficult for companies to address them in efforts to reduce their overall carbon footprint. Shell aims to reduce the carbon intensity of the energy

products we sell by 100% by 2050 in step with society – an ambition that requires consideration of scope 3 emissions produced by customers.

As you would expect, several difficulties arise when companies try to address scope 3 emissions. One of those challenges is data collection. For example, accurately measuring what percentage of a company's emissions are scope 3 emissions, or a specific product's impact—whether positive or negative—can be challenging. Another difficulty companies face is aligning procurement realities and sustainability goals.

The Challenge Question

Amidst the complexity of supply chains, addressing scope 3 GHG emissions is an area with substantial opportunities for aspiring entrepreneurs looking to have an impact in the energy space. Sustainability experts and global companies are increasingly looking for ways to tackle scope 3 emissions, setting goals, and tracking improvements. We invite you, the next generation of innovators and entrepreneurs, to submit your responses to the following question:

What solutions, whether applied to individual consumer or commercial activities, could support significant scope 3 emissions reductions?

Challenge Parameters

At the end of the 8-week Challenge teams will be expected to arrive at Proof of Concept stage (if technical TRL3 minimum). This means having demonstrated a proof of concept either analytically and/or experientially.

Solutions may address the following areas and examples:

- Carbon technology (e.g. carbon capture and/or storage, direct air capture)
- Infrastructure efficiency (e.g. smart buildings or fugitive emissions from gas usage in a community)
- Material circularity (e.g. materials recycling and re-use, excluding plastics)
- City-level solutions (e.g. electrifying infrastructure, green urban planning, carpooling incentives, smart cities)
- Power: hydrogen, renewable, Storage (e.g. wind, solar, tidal energies)
- Regenerative energy (e.g. waste to energy systems, wind turbines on highways, microturbines on rainwater runoff)
- Energy access (e.g. microgrids in disadvantaged communities, resilient energy supplies)
- Energy education (e.g. learning programs on efficient energy usage)

The following areas are out of scope for this Challenge:

- Mobility (e.g. electric transportation)
- Plastics (e.g. recycling, pyrolysis)

Timeline

Phase 1

- **November 16, 2020:** Challenge promotion and submission recruitment starts
- **February 15, 2021:** Early bird deadline for first-round submissions. Teams who submit by either one of the two early bird deadlines will get personalized feedback from Net Impact. Your team will then have the option to revise and resubmit before the final deadline.
- **March 15, 2021:** Early bird deadline for second-round submissions.
- **April 9, 2021:** Final deadline for submissions.
- **April 10 – April 30, 2021:** Judges from Net Impact, Shell & GTL evaluate all submissions and teams are notified.
- **May 14, 2021:** Confirmation by participants

Phase 2

- **Approx. June 7 – July 30, 2021 (8 weeks):** Selected teams will participate in the Accelerator with Edios Global's Social Innovation Warehouse
- **July 29, 2021:** Final pitch presentations will be held online. Participating teams will pitch their solutions live to a panel of expert judges.

The Challenge Accelerator

By participating in the Future of Energy Accelerator you will:

- Receive mentorship by industry experts and business coaches who will work with you to develop assets such as an impact assessment strategy, theory of change, a minimum viable product (MVP), and an impact report
- Have access to a network of people working towards impactful solutions, mentors and field experts
- Gain feedback and receive support to grow your solution and understand what next steps are needed to launch your venture

Future of Energy Scholars are expected to commit to a period of intense participation, dedicating approximately 6 to 8 hours per week, refining their solutions via individual team and group sessions, learning content and coaching calls with mentors, business and field experts. Participants can expect to receive support to build out both the technical and non-technical elements of their solution.

At the culmination of the accelerator, teams will be invited to pitch their solutions to a panel of judges. Teams will receive coaching in preparation for their pitch and the winning team will have access to expert mentors in clean energy.

Prize

The winning team will receive up to $10,000 of non-dilutive funding for the winning team to invest in the next stage of developing their clean energy start-up. The specific benefit of this prize will be curated to the winning team's fit-for-purpose needs which will be uncovered during their participation in the accelerator. Examples of eligible uses of these funds include but are not limited to R&D, software, consulting services and marketing

among others. This is not a blank check to the start-up, but funding paid for services to support their next step in development.

Forming a Team

- Undergraduate students, graduate students and professionals are welcome to apply
- Submissions must come from teams of 2 to 4 members, ideally with a variety of academic backgrounds or perspectives. If your team has more than 4 people, up to 4 can be chosen to participate in the final pitch competition. Please reach out for special circumstances.
- Teams must be committed to launching their solution over the next 3-5 years within the U.S. market.
- If selected, semi-finalist teams will be expected to commit to participating in the Accelerator – a 6-8 hours per week commitment per team for eight weeks – from ~June 7 through ~July 30, 2021. This time commitment can be spread out among team members.
- Future of Energy Scholars must commit at least 2 team members' participation in the final pitch competition to be held at the conclusion of the accelerator at the end of July.

Submission Details

- Each team is required to apply to the Challenge by submitting their proposal using the application form.
- **Submissions will be accepted up to 11:59 pm Pacific Time on April 9, 2021.**
- *Early Bird Deadlines:* Teams who submit by either one of the two early bird deadlines (February 15 & March 15) will receive personalized feedback from Net Impact. Teams will then have the option to revise and resubmit before the final submission deadline.

Selection Criteria

- Submissions will be reviewed by Net Impact and Shell. Successful proposals will be those that best demonstrate ability to reach a Proof of Concept stage (TRL 3 minimum for novel technology solutions) at the end of the accelerator, while exhibiting:
- **Clarity of goals and objectives**: Clearly identify which part of the problem (which players, part of the value chain, etc.) you're addressing. The solution should reduce emissions from energy products, while providing energy for a low or no-emission future
- **Innovation**: The proposal should be fundamentally innovative and generate value by applying a unique solution or an existing solution in a new way.
- **Feasibility**: The proposal could be reasonably implemented in the next 3-5 years and could create substantial new value, i.e. >$ 1M of value per year. *Special consideration will be given to teams who demonstrate a commitment to launching their solution
- **Breakthrough potential**: The proposal focuses on systemic thought and strategy rather than single-solution gadgets, apps, or products. This is innovation in two ways, either it's a brand new solution or an existing solution used in a completely new way.