

STUDENT ENERGY IS A REGISTERED CANADIAN CHARITY.  
CHARITY REGISTRATION NUMBER: 823621909 RR 0001

STUDENTENERGY

# SECT PROJECT PARTNERS

## PROJECT PARTNERSHIP ANNOUNCEMENTS

### — ABOUT STUDENT ENERGY — CAREER TRAINING

The Student Energy Career Training (SECT) program is a four month cohort-based micro credential program aimed at young people (18-30) who are interested in pursuing a career that advances the energy transition.

[studentenergy.org](https://studentenergy.org)

## CARBON UPCYCLING

Carbon Upcycling is a carbontech company delivering technology that transforms carbon emissions and industrial byproducts into materials the world needs. They aim to reduce the carbon impact of industrial processes, divert waste from landfills, and enable a circular economy.

### The Project

The Carbon Upcycling project is a policy analysis on existing procurement policies for buying clean, low carbon and zero carbon goods in Canada, United States and Europe.

The SECT Carbon Upcycling team set out to understand the procurement practices, sustainable procurement guidelines and policy initiatives related to low carbon construction in the targeted regions. The project supports Carbon Upcycling by defining how the company can help foster low-carbon cement markets, whether that is through economic, social, or political methods.



## OCO

Oco, a Carbon Upcycling company, provides decarbonization strategies and low-carbon material solutions to consumer goods companies and helps them take steps towards reaching their ambitious, world-saving climate goals. Oco believes every product consumers interact with should play a role in creating a safer, healthier future for the planet. Consumers' buying power can be used to better society by enforcing a need for products made with the environment in mind.

### The Project

The Oco project is an assessment of the voluntary carbon credit market, and a stakeholder analysis. Oco utilizes cutting edge carbon capture and utilization (CCU) technologies to create low carbon consumer goods that can be verified for carbon credits in the voluntary market. The SECT Oco team is investigating how Oco can get carbon credits from the technology by uncovering existing protocols, market size, risks, opportunities, growth rates, legislative frameworks and certifying bodies required to generate the credits.

Simultaneously the team is conducting a stakeholder analysis of the variety of associations, competitors and end users, which will allow Oco to identify stakeholders that they can collaborate with and learn from in order to develop a mutually beneficial ecosystem that supports the growth of carbon capture and utilization projects.



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## CLEAN TECHNOLOGY HUB

Clean Technology Hub (CTH) is Nigeria's premier and pioneer energy innovative center and is an early start-up incubator for inventions and innovations in clean energy. They are a consultancy for sustainability and energy efficient solutions, and a driver of clean energy and climate smart investments into Africa. Founded in 2016 and located in Abuja, their goal is to drive energy access in Africa through novel clean energy technologies, research in sustainable energy development and development of energy access models that can be adopted in various African countries, and they do so while growing the next generation of African clean energy leaders.

### The Project

The Clean Technology Hub project is exploring productive use of energy (PUE) methods to mitigate post-harvest losses via preservation and processing. Post harvest losses are a threat to food security and could be prevented through better preservation and processing of crops. One way Clean Technology Hub is focused on mitigating these losses is through their Clean Energy Incubation and Accelerations Programs under the Climate Smart Agriculture category. The CTH SECT team is supporting the organization in exploring the use of renewable energy technologies and in conducting a stakeholder mapping to provide solutions to this problem.



Clean Technology Hub  
energy innovation centre



## OKRA SOLAR

Okra Solar is an Australian technology startup that works with local utilities to transform off grid communities with 24/7 energy from mesh-grids. Connecting households together using smart distribution techniques makes energy more reliable and up to 60% cheaper than grid extension or AC mini-grids.

Their plug and play controller, aka, the Okra “Pod” uses smart algorithms and remote monitoring to ensure power is efficiently distributed throughout a network of solar-connected households. The cloud software provides grid owners with real-time data so they know when and how networks should be scaled. They collaborate with investors, regulators, and fellow tech companies to further their goal of bringing reliable access to productive power for everyone.

### The Project

The Okra Solar project is a market assessment to uncover possible funding opportunities for mesh-grids with the goal of getting affordable, accessible and reliable clean energy to rural communities. Energy access is a significant challenge that many people around the world experience, and without this essential service the consequences to public health, human and economic development, and environmental sustainability are detrimental.

As a solution, Okra Solar provides an off grid, mesh-grid system to ensure accessible clean and affordable energy for everyone, specifically those in rural communities. One of the opportunities for wide-scale adoption of this technology lie in regulatory frameworks, which provide opportunities for their customers to save on upfront costs through grants, financing and subsidies. The SECT Okra Solar team is researching possible funding solutions to help Okra Solar clients secure scale-up funding for their pilot project sites (these are initial projects using Okra Solar’s mesh-grid technology that powers less than 150 homes). The team is developing a knowledge base of funding opportunities that can further de-risk larger scale projects in target markets.

## NYUKLIA EUREKA

Nyuklia Eureka, was founded by a group of young Africans with a mission to promote awareness and education about nuclear issues among African youth worldwide. In addition to fostering a deeper understanding of nuclear technology, Nyuklia Eureka also seeks to empower young people to engage critically with the intersections of climate change, sustainability, and energy security.

A key aspect of Nyuklia Eureka's work is promoting conversations on nuclear disarmament, creating a world free from the threat of nuclear disaster. The organization emphasizes the leadership role of young Africans in the nuclear sector by creating opportunities for intergenerational dialogue, and serving as a bridge between Africa and the international community on this critical issue. By promoting accessibility and education, Nyuklia Eureka aims to encourage more African youth to engage with nuclear issues and contribute to a safer, more sustainable future for all.

### The Project

The Nyuklia Eureka project is a literature review on the viability of nuclear energy as a clean energy source and a more stable use of nuclear materials over weapons. Nuclear energy is a polarizing topic which many opt to steer clear of, and those who take a stance do not always do so from an informed viewpoint.

The SECT Nyuklia Eureka team is exploring the suitability and sustainability of nuclear energy by examining the economic and environmental impacts it has had on nations where it is used and contributed to their energy security. Simultaneously the team is critically examining the suitability of nuclear energy, its materials, implementation strategies, and impacts on climate change through an African lens.

The outputs of the research will provide an information tank for individuals, organizations, the global community and Nyuklia Eureka to take an official stance on the issue of nuclear energy in Africa.



# SECT PROJECT PARTNERS



## NEW ENERGY NEXUS VIETNAM

New Energy Nexus is the world's leading ecosystem of funds and accelerators supporting clean energy entrepreneurs. NEX runs programs in 11 countries, with a vision to accelerate a 100% clean energy economy for 100% of the population in the shortest time possible.

New Energy Nexus is working in Vietnam to connect corporations and startups through open innovation, foster investment from local investors to clean energy ventures, and promote innovation as a way to transition to a clean energy economy and address climate change.

### The Project

The New Energy Nexus Vietnam (NEXVN) project is a market assessment and stakeholder analysis of the clean energy opportunity in Vietnam. The project is supporting the implementation of a program called "Climate Tech Investment Platform" which connects climate start ups and financiers (Venture Capitalists (VCs) and non VCs) in a matchmaking initiative in Vietnam. The program is part of NEX's pillars of activity (Launch - Accelerate - Scale up - Fund - Engage), with an aim to build and develop an ecosystem for clean energy startups to thrive in.

The SECT NEXVN team is creating a comprehensive report showcasing the market viability for climate tech in Vietnam. Concurrently the team is doing a stakeholder assessment to map out the key players in Vietnam's climate sector. The project is an invaluable asset to NEXVN Climate Tech Investment Platform because it has vetted stakeholders, market trends, and funding opportunities that can foster growth in the climate tech ecosystem in Vietnam.

## PRESSURE CORP

Pressure Corp utilizes waste pressure from industrial facilities by transforming this resource into turnkey clean energy. Pressure Corp enables its customers to focus on their core business while scoring valuable points in achieving a key Environmental, Social, and Corporate Governance (ESG) objective - reducing emissions. The turnkey equipment installations can provide cheaper than market electricity while meeting customer carbon reduction objectives without impacting customer operations.

### The Project

Energy supply-demand matching is a known problem in the renewable energy field and Pressure Corp is overcoming this challenge through the use of energy storage systems (ESS). Taking this a step further, Pressure Corp is carrying out a data analysis of available energy storage systems, optimizing the energy distribution of their energy recovery projects to match peak demand.

The SECT team is supporting Pressure Corp in achieving this goal by aggregating a database of the best available battery storage technologies that will expand Pressure Corp's reach in the energy market.



**Pressure Corp**

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## POWER FOR ALL

Since 2015, Power for All has concentrated on expanding the market for distributed renewable energy (DRE) to eliminate energy poverty.

Operating in the Global South, they employ awareness, advocacy, and market activation strategies to address the unequal distribution of energy resources and biases in the worldwide power system. Concurrently, they conduct targeted campaigns emphasizing the benefits of DRE-based energy access, collaborate with other sectors to generate demand for DRE, and promote a more inclusive global energy system.

### The Project

The Power for All project is an extensive literature review aimed at collating existing research on the carbon footprint of agri-food value chains. There's a widespread agreement that our global energy and food systems require radical transformation to achieve both net-zero greenhouse gas emissions and food security.

To illuminate the benefits of this transformation, Power for All is running a "Powering Agriculture" campaign, which champions the use of distributed renewable energy (DRE) technologies as a core component in boosting agriculture and food productivity in Africa and Asia's developing economies. In support of this campaign, the SECT Power for All team is gathering and expanding on existing literature. This research explores the carbon footprint and examines the benefits of DRE technologies in reducing greenhouse gas emissions within the agri-food value chain.

**POWER** FOR **ALL**



## SUSTAINABLE ENERGY FOR ALL (SEFORALL)

Sustainable Energy for All (SEforALL) is an international organization that works in partnership with the United Nations and leaders in government, the private sector, financial institutions, civil society and philanthropies to drive faster action towards the achievement of Sustainable Development Goal 7 (SDG7)- access to affordable, reliable and sustainable modern energy for all by 2030- in line with the Paris Agreement on Climate. They work to ensure a clean energy transition that leaves no one behind and brings new opportunities for everyone to fulfill their potential.

### The Project

The SEforALL- 24/7 Carbon Free Energy Compact project is a market and stakeholder analysis to explore novel technologies, best practices and stakeholders that strategically align with the 24/7 Carbon-Free Energy (CFE) compact.

SEforALL has launched this initiative at the High-Level Dialogue on Energy, held by UN Energy in September 2021. Sustainable Energy for All (SEforALL) worked with a coalition of energy buyers, energy suppliers, governments, system operators, solutions providers, investors and other organizations to develop a commitment to 24/7 CFE, officially announced as an Energy Compact commitment to the United Nations. Rather than simply offsetting emissions, the 24/7 Carbon-Free Energy (CFE) Compact is an ambitious global effort to accelerate the decarbonization of the world's electricity systems to mitigate climate change, to enable organizations to meet their full electricity demand with carbon-free resources and ensure access to clean and affordable electricity for all, in line with SDG7.

The SECT SEforALL team is researching case studies that explore innovative tools, best practices and business models on 24/7 CFE emerging from the public and private sector across the whole energy ecosystem located in Asia-Pacific, Latin America and South Africa. The goal of the project is to explore potential partnerships to further the goals of 24/7 CFE Compact.



## ZS2 TECHNOLOGIES

ZS2 Technologies is building today for a better planet tomorrow. They are accelerating the development and adoption of construction technologies that are stronger, safer and healthier for people and the planet. Currently, they are developing advanced building technologies including proprietary fire rated, non toxic, low carbon building materials and prefabricated panels that provide cost certainty, accelerated construction timelines and lower building costs. Best of all their materials are stronger, last longer, and healthier for people and the planet.

### The Project

The ZS2 Technologies (ZS2) project is a feasibility study on decentralized energy generation methods, carbon credits, and a Canadian energy policy analysis. The project is supporting a first-of-its-kind carbon capture and sequestration facility in the Alberta, Canada. The facility will house ZS2 Technologies' cutting-edge carbon capture technology that takes CO<sub>2</sub> directly out of the air or from exhaust gas streams through a proprietary process. The CO<sub>2</sub> is sequestered as mineral carbonates inside building materials so they do not contribute to climate change.

The SECT ZS2 team is researching decentralized energy source options for the facility for a viable energy generation process, considering cost, global warming potential, downtime and maintenance requirements, development and implementation timeline, and overall risk profile. The project is simultaneously investigating the opportunity for ZS2 to offer carbon credits by researching existing protocols and certification agencies that can create and validate the credits. Finally, the project is completing an energy policy analysis to summarize key Canadian policies and their effects on future production of ZS2 products as Canada looks to reduce greenhouse gas emissions.

## Student Energy Career Training (SECT) Partner Engagement Summary



Project Partnership



Specialized Curriculum Workshops



Career Path Session

The Student Energy Career Training (SECT) program is a four month cohort-based micro credential program aimed at young people (18-30) who are interested in pursuing a career that advances the energy transition.

If you are interested in hosting a project for an upcoming SECT cohort please do so [via our online portal](#).

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