



A+ FOR ENERGY

2024/2025 PROJECT SUMMARY WINNERS

1. **A.E. Cross School** *Calgary*

HOMES FOR THE FUTURE | **\$4,309**

Today's world is changing rapidly and technology is advancing this change. A lot of industries are trying to consider how different energy sources are powering these technological advances in a sustainable way. While students are taught about energy and resource conservation theory and practices in public school curricula, research tells us that the average Canadian is concerned about these topics, however, they feel as though they do not have the financial means to make a difference in their behavioural patterns to make a difference.

Leaders in the housing industry are struggling to work with community partners to support housing needs. With rising housing costs, Grades 7 and 8 students and teachers wonder, "How could 3D printed homes become a mainstream technology for affordable housing in Treaty 7 territory and across Canada?"

2. **Bonnyville Centralized High School** *Bonnyville*

COOKING WITH THE SUN | **\$3,500**

The goal of this project is to investigate an alternative energy source for cooking food. We would have the capacity to compare different solar ovens, investigate what weather conditions work best to cook with the sun and compare and contrast traditional cooking with solar cooking. The materials would be used by multiple classes (science, foods, Life Skills and Outdoor Education). It would also be used by the Environmental Club to cook a snack for the whole school.

3. **École Champs Vallée School** Beaumont

SUSTAINABLE SANCTUARY: ADVANCING ENERGY EFFICIENCY IN OUTDOOR EDUCATION | \$5,000

Our school has built an outdoor classroom with a shelter, tables, and Alberta flora and medicinal plants. We want to bring this space to life by building a sustainable watering system and student-designed energy education kits that will teach all students about renewable energy, traditional ecological knowledge, environmental monitoring and stewardship, as well as caring for the mini-ecosystem in their own schoolyard.

We will be utilizing the following items:

- Materials for a sustainable water-capturing system (eavestroughs, rain barrel, stand)
- Environmental monitoring weather station
- Climate Action Kits (coding energy-efficient analogue systems)
- Elder protocol and honorarium
- Outdoor learning kits (outdoor exploration, renewable energy, water quality & insects/botany) including energy-themed books in both French and English

With nearly 900 students in a K-9 dual tract (French Immersion and English) this project could potentially benefit every student in this school and provide the opportunity for diverse levels of energy education.

Our Grade 9s will take on leadership roles in designing the kits, creating posters and information sheets to go along with the kits, building the watering system, setting up the entire space, and working with younger students and teachers to show them how to optimize the resources in the outdoor classroom.

We will invite an Elder to share their traditional ecological knowledge and help us continue to walk the path towards Truth & Reconciliation and learn how to be stewards of the land.

4. **École Greenfield School** Edmonton

HOW TO BE CLIMATE OPTIMISTS: EXPLORING RENEWABLE ENERGY SOURCES AND PUTTING SUSTAINABLE PRACTICES INTO ACTION WITH SPIKE ROBOTICS | \$4,950

Students will embark on a comprehensive exploration of renewable energy's history in Alberta, covering hydro, wind, and solar power. They'll trace the trajectory of energy sources in our province, from inception to modern operational models for renewables. Investigating the scientific underpinnings of emerging renewable technologies, they'll ponder their relevance in Alberta's current energy milieu.

Hands-on engagement will feature prominently as students construct a bike generator, mimicking hydro and wind energy's kinetic-to-electric conversion. Additionally, they'll install and monitor solar panels, capturing sunlight's energy. Our renewable energy endeavors will culminate in tracking and storing energy in a portable generator.

Collaborative learning with community members and industry experts will supplement classroom study, fostering practical skills in designing and constructing renewable energy projects. Leveraging Lego Spike Robotics kits, students will iterate through the design, coding, and debugging phases of their energy capture models, all under a "net zero energy" initiative.

The ultimate aim is to match energy production with consumption, instilling in students a visceral understanding of energy efficiency, renewable sources, and the challenge of effective energy storage. This multifaceted STEM project, integrating various modalities and forging interdisciplinary connections, ensures students grasp renewable energy systems' complexities and their real-world implications.

5. **École Notre Dame School**

Leduc

DISCOVERING ENERGY BY USING NUMERACY, LITERACY, AND PLAY | \$1,050

In the vibrant world of kindergarten, young minds are ripe for exploration and discovery. Our project, “Discovering Energy through Numeracy, Literacy, and Play,” harnesses the boundless curiosity of children to lay the cornerstone for their scientific journey.

Through thoughtfully designed centres, we create a dynamic learning environment where children engage in hands-on exploration alongside their peers. The circle of life becomes a captivating tale, unveiling the intricate web of energy flow in nature. Solar-powered toys spark wonder as children witness the transformative power of sunlight. In our hydroponic garden, little botanists nurture herbs, connecting with the vital energy of growth.

But our journey doesn’t stop there. We delve into the rich tapestry of Indigenous knowledge, honoring the wisdom of our First Nation and Metis peoples in their understanding and use of energy. This cultural lens adds depth and resonance to our exploration, fostering empathy and appreciation for diverse ways of knowing.

As children play and discover, they seamlessly integrate numeracy skills, counting and measuring in both French and English. Kinetic energy becomes a joyful pursuit, as little bodies move and learn through play.

6. **École St. Paul School**

Fort McMurray

HYDRODRIVE: ADVANCING RENEWABLE ENERGY WITH HYDROGEN-POWERED VEHICLES | \$4,620

Imagine a classroom where learning comes alive through hands-on exploration and innovation. That’s precisely what our Hydro Car Project offers to our Grade 5 students. By immersing themselves in the world of renewable energy, students will embark on a thrilling journey of scientific discovery, creativity, and problem-solving.

Our Hydro Car Project introduces students to the fascinating world of hydrogen-powered vehicles, offering a tangible connection to the vital concept of renewable energy sources. Through practical experimentation and construction, students learn not only about the science behind renewable energy but also about the crucial role they can play in shaping a sustainable future.

With accessible materials and engaging activities, students get to design, build, and test their very own hydro cars, applying principles of chemistry, physics, and engineering in a fun and interactive manner. This hands-on approach not only solidifies their understanding of renewable energy but also fosters critical thinking, teamwork, and resilience as they tackle challenges and refine their designs.

By embracing the Hydro Car Project, fifth-grade students embark on an educational journey that transcends textbooks, igniting their imagination and instilling a sense of responsibility towards our planet. Together, let’s drive towards a brighter, more sustainable future—one hydro car at a time.

7. Eugene Coste School

Calgary

ENVISIONING ALBERTA'S ENERGY IN 2050 | \$2,500

The overarching goal of this project is for students to learn about renewable and alternative energy sources, the importance of energy conservation, and why both are key for Alberta's energy future. The final project will be for students to redesign Alberta's energy map to envision a more sustainable production of electricity in 2050.

8. G.H. Dawe School

Red Deer

ENERGY TOOLKIT CLASS SET FOR GH DAWE SCHOOL | \$2,500

We thoroughly enjoyed our time at the Edmonton Energy Tool Kit Workshop. We would love to get 10 of these kits so that we can use them with our entire school as this kit can be used throughout Grades 3-8. We also have Middle School Science Fair and Science Olympics teams. We have already used a number of these hands-on labs with my own Grade 6 class, but only as demos. I hope to get 10 kits, so I can have the students participate in the labs and not just watch the teachers.

9. Griffin Park School

Brooks

ROCKIN' ALBERTA: RESOURCES, RIFFS, AND PSA SHIFTS! | \$5,000

The "Rockin' Alberta: Resources, Riffs, and PSA Shifts!" project engages Grade 4 students in exploring Alberta's natural resources, conservation, and stewardship through creative means. Using greenscreen technology and rock band music videos, students will craft Public Service Announcements (PSAs) to heighten awareness about the impacts of natural resources on ecosystems, wildlife, and local communities.

The project begins with a deep dive into Alberta's historical and current natural resource significance, leading to discussions on the purpose and impact of PSAs in raising awareness about renewable and nonrenewable resources.

Students will delve into specific resources like oil, gas, forestry, solar, or wind, crafting scripts that highlight their importance to Alberta's economy and development. They will then utilize green screen and stop-motion technology to film their PSAs, incorporating visuals related to their assigned resource.

Furthermore, students will explore the energetic nature of rock music, creating rock band music videos that complement their PSAs with catchy tunes, dynamic visuals, and enthusiastic performances. These elements will be integrated into tri-class presentations, followed by discussions on Alberta's resource importance, historical contexts, and acquired skills.

10. Harry Ainlay High School

Edmonton

ENERGY DETECTIVE: UNVEILING EFFICIENCY SECRETS IN HOMES AND SCHOOLS | \$4,470

In this project, high school students will conduct an energy audit of either their own home or their school building to identify areas of energy waste and develop recommendations for improving energy efficiency. By conducting this audit, students will gain practical experience in analyzing energy usage and proposing solutions to reduce consumption and environmental impact.

11. Hilltop High School

Whitecourt

BUILDING A SOLAR OVEN | \$2,376

As part of the science curriculum, advancing in the use of renewable energy is crucial to reduce the impact of global warming. In line with this, our students will be constructing an oven using some simple materials such as cardboards, paint and so on. The project will take about 10 days to complete. The oven, when completed, will be able to trap heat from the sun for simple cooking. Students will be allowed to take their projects home for continuous use.

12. H.W. Pickup School

Drayton Valley

THE H.W. CHARGING HUB | \$4,544

As educators we take this concern seriously; we cannot underestimate the power of a student driven project. Throughout this project students will discover ways to use alternative energy sources to charge batteries. They will experiment with and document the effectiveness of solar, kinetic, wind and even hydrogen energy.

Ultimately, students will create a device prototype that will collect energy through an alternative source. The energy collected will charge battery packs that will be housed in a communal charging station, accessible to all students and appropriately named, The H.W. Charging Hub!

13. Hythe Regional High School

Hythe

BUILDING THE FUTURE - ONE 'LIGHT' STEP AT A TIME | \$5,000

We believe that the journey of 1000 miles begins with a single 'light' step. The goal of our project is to help students directly experience how taking relatively simple, manageable steps to learn about, and implement solar energy initiatives at our school site, can have far-reaching implications regarding conservation and emission reduction. This would involve researching solar projects locally and around the world - learning about how they work and their real-world implications.

At our school we would track the electricity generation from an array of solar panels over the course of the school year and apply this on a broader scale to clearly and practically experience what small changes locally can do to impact our broader conservation efforts in huge ways. Students would meet with solar experts from our area, along with electricians and district maintenance staff. With this em'power'ing project we would take the overwhelm out of environmental initiatives and help students directly experience how taking 'light', doable steps can create tangible benefits for all of us in our global community. A secondary goal is to have our Jr High students share their learning with younger students through classroom presentations and hands-on mini-projects involving solar power. In this way, our entire school community benefits from building the future - one 'light' step at a time.

14. Innisfree Delnorte School

Innisfree

SUNRISE GARDENS: SOLAR HEAT FOR GREEN GROWTH | \$5,000

Sunrise Gardens: Solar Heat for Green Growth aims to revolutionize our greenhouse operation by harnessing sunlight to power a sustainable heating system. Placing solar panels on our nearby garden shed and solar-powered heaters in the greenhouse will allow us to transform solar power into thermal energy. The generated thermal energy will heat our greenhouse and extend our growing season into the fall and spring months.

Our project will allow students to explore renewable energy sources and foster environmental stewardship in our school community. Students will also focus on energy management innovation as we plan to use smart technologies to optimize heating efficiency. Sensors, timers, and automated control systems can be used for immediate response to environmental conditions to optimize growing conditions while minimizing energy wastage.

By harnessing the power of the sun, this initiative paves the way for a greener future in agriculture while addressing the pressing challenges of energy consumption and climate change.

15. Jasper Jr/Sr High School

Jasper

SEEDING STEM SUCCESS: CULTIVATING ENERGY LITERACY WITH FARBOT AT JASPER JR/SR HIGH SCHOOL | \$5,000

“Seeding STEM Success” is an innovative project at Jasper Jr/Sr High School aiming to cultivate energy literacy and sustainable practices among students through the integration of FarmBot technology, solar power, and energy storage.

This project represents a pioneering approach to education, combining STEM learning with hands-on experience in agriculture and renewable energy. Through the implementation of FarmBot, students will engage in designing, building, and managing automated farming systems, while also exploring the significance of renewable energy in modern agricultural practices. By empowering students to harness renewable energy for sustainable farming, “Seeding STEM Success” not only fosters a deeper understanding of energy concepts but also inspires future leaders in environmental stewardship and innovation.

16. Lacombe Composite High School

Lacombe

SOLAR MONITORING | \$5,000

We have a 6 kW solar system on the roof of our school that does not have a monitoring system. The new robust monitoring system would allow students to visually see the positive environmental effects of our solar system such as how much CO₂ we have removed and how many houses or buildings we have provided electrical light for. This will be a powerful tool for teachers in our science and social studies classes.

17. Lloydminster Comprehensive High School

Lloydminster

H2 HERE WE GO | \$5,000

Blend the ingenuity of coding and STEM projects with skills of gardening to create a system to detect moisture levels and automatically water plants in the classroom. This project will challenge the creativity and critical thinking of students to develop ways to adequately water and illuminate a variety of plants that require different amounts of moisture and light to service. Students will be annualizing the water consumption and power usage to find the most effective way to run the systems. Once the systems are running we will experiment with different lights and settings, then extrapolate and investigate the energy needs of large crop production systems and how they can be adapted.

18. North Haven School *Calgary*

SOLAR ENERGY FOR SUSTAINABLE FUTURE | **\$5,000**

The students will learn about diverse energy resources, in particular, the most abundant and renewable one available around the world: solar energy. They will be exposed to different approaches to harvest this energy, including the use of solar panels to convert the light into electricity. The ultimate goal of this investigation is to ponder on the advantages and disadvantages of different resources used in the present and ways to reduce our reliance on fossil fuels and consequently to decrease the greenhouse gas emissions.

The learners will gain theoretical knowledge about natural resources by generating questions; searching for answers by using books, websites, videos; discussing with experts in the energy field; recording / discussing their findings. Second, by using a software program, which tracks the panels' efficiency, the students will collect data. They will make connections between the variables that affect the panels' efficiency, such as weather or seasons of the year and the electricity production. Third, the students will recommend the best ways to use solar panels by considering diverse perspectives. Finally, the learners will share the knowledge with various audiences.

19. Northcott Prairie School *Airdrie*

SPARKS OF INNOVATION: EMPOWERING STUDENTS THROUGH ENERGY EXPLORATION | **\$2,500**

This exciting project transforms Alberta's Grade 6 students into energy explorers! They'll delve into the world of electricity generation, focusing on resources like wind and solar power – important options for our province. Students will design, build, and test models of windmills, solar panels, solar cars, or other electricity generation systems.

But the journey doesn't stop there! They'll also explore the impact of energy use and generation, considering a powerful concept known as the "Seven Generations Principle." This Indigenous philosophy, originating from the Haudenosaunee people, encourages us to consider the long-term consequences of our decisions for future generations.

Through hands-on activities, data collection, and discussions with experts, students will gain a deeper understanding of how these resources convert energy and power our lives. This project fosters a sense of responsibility and empowers students to become informed citizens who can shape a sustainable future for Alberta.

20. Our Lady of the Angels Catholic School *Fort Saskatchewan*

COMPOST CHAMPIONS: TURNING LUNCH LEFTOVERS INTO SOIL SUPERHEROES AT OLA | **\$1,457**

“Compost Champions: Turning lunch leftovers into soil superheroes at OLA” aims to revolutionize waste management in our elementary school. By introducing composting systems, OLA empowers students to actively engage in reducing food waste while learning valuable lessons about environmental stewardship.

Through hands-on involvement in composting, OLA students will gain a deeper understanding of the natural cycle of decomposition and its role in sustaining ecosystems. This project fosters a sense of responsibility and environmental consciousness among OLA students, encouraging them to make eco-friendly choices both at school and in their daily lives. The benefits extend beyond environmental education; composting reduces OLA’s carbon footprint by diverting organic waste from landfills, ultimately contributing to a cleaner and healthier community.

Additionally, the compost generated can be utilized in OLA’s gardens, enriching the soil and promoting hands-on learning experiences in agriculture and biology. Ultimately, “Compost Champions” aims to inspire a generation of eco-conscious citizens while transforming OLA into a hub of sustainability and environmental education. Through this project, we sow the seeds of environmental stewardship, nurturing a greener future for OLA’s children and our planet.

21. Paul Rowe Jr/Sr High School *Manning*

PAUL ROWE REDUCES, REUSES, AND RECYCLES | **\$1,500**

We don’t often think about it, but the energy that went into making the things we use goes a lot farther if we take the time to maintain and repair them. The goal of this project is to encourage students to both reduce their transportation energy use by cycling more and to make maintaining a bike easier to avoid waste caused by delayed repairs. We would like to purchase a bike rack for our senior high and staff entrance, as well as a Dero Fixit station, which is a free to use bike repair station, with tools, a stand, and an air pump.

22. Peace Wapiti Academy

Grande Prairie

PWA BIKE PROGRAM | \$1,500

The purpose of this grant is to support our School's Bike Club in opening a community bike shop where members of the community can come get their bikes fixed and maintained (for free/by donation) while learning how to do it themselves. In addition to learning, fun, and community-building, the links to energy are clear: active transportation reduces use of fossil fuel based transportation (driving), which reduces greenhouse gas emissions and helps conserve our energy resources (oil).

Reclaiming bikes also diverts products from the landfill, reducing greenhouse gas emissions from landfills, and lessens new bikes' production, thus saving resources (metal minerals, plastics, etc.) and energy resources used in manufacturing/transportation (oil/gas for electricity, heating, trucking/shipping, etc). It also shows the community that high schoolers are great neighbors. A significant component of our project will involve educating the community about the links between active transportation and energy consumption, through data collection, signage, student presentations and project showcasing (school announcements, social media, etc.).

23. STEM Innovation Academy

Calgary

2025 MINI MFC OLYMPICS AND 2025 MFC COACHING | \$5,000

The MFC Games initiative aims to inspire Grades 4-9 students to delve into renewable energy. The Microbial Fuel Cell (MFC) technology takes center stage in this educational program, allowing participants to generate electricity with microbes in ordinary garden soil in Alberta.

Motivated by the escalating eco-anxiety among students, there is a pressing need to empower them. Instead of apathy or finger-pointing, we want to instill a sense of agency in them. We advocate for collaborative actions within the current legal system, emphasizing the adoption of proven scientific methodologies and encouraging exploration of alternative solutions.

The initiative begins with an immersive introduction to microbes and MFC fundamentals, including reviewing the Scientific Method. Working in small teams, students build MFCs with soil from their backyard and experiment with different variables to amplify the electricity produced. Within weeks, it will produce adequate electricity to power a blinking LED.

Recognizing the value of engagement through friendly competition, for 8 weeks, power measurements are published on the MFC Games website. During this period, students conduct individual self-directed research, then test their team's best research ideas.

The initiative concludes with a "Cell"-a-bration, where teams share their learnings with a judging panel and parents. Each school will also have the option to keep one working MFC post-challenge to inspire other students. To reduce environmental impact, we recover the surplus equipment for reuse in future events.

The A+ for Energy Grant will support the 2025 Mini MFC Olympics and 2025 MFC Coaching, impacting over 400 student participants.

24. Stirling School

Stirling

THE PEDAL PEOPLE BIKE SHOP | \$1,500

In the small village of Stirling, I see far too many bikes that look like they are one pedal away from the dump. Imagine a place that gives these bikes a second chance? Where the wheels keep turning and sustainability meets accessibility. That's our goal with the Stirling Pedal Power Bike Shop.

We would not only fix bikes, but prevent them from becoming landfill waste. Each bike fixed by a student or community member would reduce waste, their carbon footprint and promote environmentally friendly transportation. Energy used to obtain new resources such as metals and plastics would be conserved. Fewer bikes being manufactured would mitigate greenhouse gases and conserve energy as well. In addition, we would foster a community that empowers individuals with the skills to do the repairs themselves.

In addition to the energy impact and bike repairs, we hope to educate the students and community to the benefits of biking. Both from the health aspect as well as the energy conservation. This could lead to a more sustainable and healthier community overall. Ties to educational outcomes such as Science 8: Mechanical Systems create opportunities to bridge the gap between classroom and real-world examples.

This Stirling project would foster a greener future, build community and foster healthy living by keeping students out of cars and on their bikes. Let's pedal towards a sustainable tomorrow, one bike repair at a time!

25. St. Benedict Elementary School

Edmonton

UTILIZING OUR HUMAN ENERGY FOR ENERGY CONSERVATION | \$5,000

In this project, students will explore the conversion of mechanical energy to electrical energy using a generator bike. The project aims to deepen students' understanding of energy conversion processes and the importance of sustainable energy sources. Students will start by learning about the basic principles of energy conversion and the role of generators in converting mechanical energy into electrical energy. They will then engage in hands-on activities with the generator bike, pedaling to produce electricity and powering various devices, such as light bulbs, blenders, and artwork to demonstrate the energy conversion process in action.

Through experimentation, students will investigate how factors like pedaling speed, resistance, and duration affect the amount of electricity generated. They will also explore concepts of efficiency and learn about the advantages of using human power as a sustainable energy source. As a culminating activity, students will design and conduct their own experiments to optimize the performance of the generator bike. They will analyze their results and present their findings to the class, highlighting the practical applications of their learning in promoting energy efficiency and sustainability.

This project will provide students with a hands-on and engaging learning experience that deepens their understanding of energy conversion processes and encourages them to think critically about sustainable energy solutions.

26. St. Joseph Coaldale

Coaldale

SUNFLOWERS OR SOLAR TRACKERS | \$5,000

The purpose of Sunflower or Solar Trackers is for students to become more environmentally conscious by understanding the benefits and challenges of solar technology and how it works alongside conventional energy sources, as well as inspire creative project-based learning. Students will design, build, test, and modify their 3D printed, Arduino-controlled solar trackers until they are satisfied they have done their best to harness the Sun's awesome power.

27. St. Theresa Catholic Middle School

Sherwood Park

REACH FOR THE STAR! | \$5,000

"Reach for the Star!" aims to educate students about energy consumption in their everyday lives. With a focus on solar energy, our Grade 7 & 8 students will make the connection that sustainable energy choices today, impacts our world tomorrow. Students will monitor our current energy output in the school and put into use portable solar panels and solar generators. They will also research sustainable energy practices, compare them to traditional methods and present their results at our PBL project fair.

28. Tom Baines School

Calgary

HYDROGEN CAR DESIGN CHALLENGE! | \$4,508

We would like to provide our students with an opportunity to learn more about hydrogen as a potential source of energy through the design, construction, and testing of hydrogen cars. We like our projects to focus on the design thinking process and allow students to collaboratively think through problems solved through innovation. Our project would include a research aspect that would support curriculum objectives "identify concerns regarding conservation of energy resources, and evaluate means for improving the sustainability of energy use" and "identify and evaluate sources of electrical energy." Hydrogen as an energy source is not usually something that students are knowledgeable about and we think students would be very engaged in this topic!

29. Two Hills School

Two Hills

STUDENT ACTION PLAN DEVELOPED BY STUDENTS FOR STUDENTS | \$5,000

Students in Math 10-3 have developed a Student Action Plan that addresses student concern regarding climate change. The students developed a four phase plan:

Phase 1: Energy Reduction/Efficiency. Students have researched and proposed to update our school's lighting to LED's to increase our energy efficiency by 10% to 20%.

Phase 2: Energy Conservation. Students propose the construction of a school and grade specific gardens, a school greenhouse, composting, and to plant trees/shrubs/flowers to recycle our greenhouse emissions into food for our students or biofuel for Phase 5. This phase is for all grades with a connection for stewards of the environment.

Phase 3: Renewable Energy. Students propose to install solar panels either on the school south facing roof or bi-facial solar panels installed in a N/S orientation for northern climates.

Phase 4: Stewardship of the Environment Promotion. For this phase, students propose the purchase of A/V equipment to create videos/podcasts/vlogs/blogs on their Student Action Plan, energy conservation, energy reduction, renewable energy, and/or environmental stewardship that other schools or students could use to develop their own Student Action Plan developed at their school.

Phase 5: Energy Innovation. Students propose a school shuttle bus (for field trips, school activities, extra-curricular activities, etc) that can run on biofuel produced from the composting of compostable material at the school.

30. Visions West Outreach School

Rocky Mountain House

CULTIVATING SUCCESS: A STUDY ON PLANT GROWTH IN VARIOUS MEDIUMS | \$3,528

In our energy project, Visions West Outreach School will undertake a comprehensive cross-curricular investigation into optimal growth mediums for plants, with a keen focus on enhancing agricultural efficiency. Our endeavour is driven by the imperative to align agricultural practices with sustainability objectives while maximizing productivity.

Our approach is rigorous and multifaceted. We are meticulously testing various growth mediums, quantitatively measuring and comparing factors such as carbon sequestration through photosynthetic rates, energy costs for production and plant yield. By delving into these critical parameters, we aim to unravel insights that hold the potential to reshape agricultural paradigms.

Our pursuit is not merely academic; it is rooted in the imperative to address pressing global challenges. By optimizing growth mediums and refining agricultural practices, we endeavour to contribute to a more sustainable and resource-efficient future.

Each student will be able to contribute to a complex and collaborative experiment that will not only foster school culture and an understanding of energy transformations, but it will also bring us closer to unlocking the secrets of efficient and sustainable agriculture.