

PART I : DETAILS OF YOUR

- 1.Name of your school : SOONGYANGWITTAYAPRACHASAN SCHOOL
- 2.Full address : M.7 T.Koomuang, Muangsraung, Roi-et
- 3.Post code : 45000
- 4.Country : Thailand
- 5.School Telephone' number : +66956059303
- 6.School Website : <https://www.facebook.com/SungYangWithyaPrachasrrkh>
- 8.Approximate number of teachers participated this program : 16
- 9.Approximate students of teachers participated this program : 123

PART II : INFORMATION ABOUT THE SCHOOL'S PROGRAM

- 1.Title of the school's program

Solar Scholars : Harnessing the Sun for Greening our Future.

- 2.Summary of the program

Promoting environmental education in schools is crucial for raising awareness about environmental issues, fostering a sense of responsibility towards the planet, and inspiring future generations to become environmentally conscious citizens. The "Solar Scholars: Harnessing the Sun for Greening Our Future" program is an enlightening and immersive educational project that introduces students to the wonders of solar energy while highlighting its essential role in fostering sustainability and environmental responsibility. Our solar education plan ensures that every student receives a well-rounded understanding of solar energy, its benefits, and applications. Solar Scholars work together, combining their knowledge from science, technology, engineering, and mathematics (STEM Education) to solve real-world challenges. Students will discover the transformative power of solar energy and its potential to influence a brighter and greener future via a combination of hands-on activities, interactive learning, and collaborative projects.

3. Objectives and goals of the school's program

1. Engage students in Hands-On Exploration to enhance critical thinking skills and problem-solving abilities.
2. Cultivate a sense of environmental awareness and instill a lifelong commitment on environment to sustainability.
3. Inspire creativity and innovation through solar energy-focused projects.
4. Strengthen the utilization of renewal energy to local communities and partnership.

- 4.Period of the time when the program has been started

The program will run from the school year 2022-2025.

5. Activities

1. Field Excursions: Organize field trips to solar installations, such as solar farms, residential solar systems, or research facilities. These visits offer students insights into the practical implementation of solar technology.

2. Guest Speakers: Invite experts in solar energy, renewable technologies, and sustainability to deliver inspiring talks and share their experiences, offering students real-world perspectives on the role of solar energy in shaping a sustainable future.

3. Solar Workshops: Facilitate interactive workshops where students construct and experiment with solar-powered devices, such as solar ovens, chargers, lawn mower and miniature solar cars, to observe solar energy conversion in action.

4. Sustainable practice: Model and promote eco-friendly practices within the school, such as waste reduction, recycling, energy conservation, and responsible water usage. Involve students in monitoring and improving these practices.

6. Teaching and learning approaches that the school has integrated into the program

1. STEM Education: Integrate solar energy concepts STEM Education curriculum, community involvement, and integration across various subjects.

Science; Students engage in scientific investigations related to solar energy and conduct experiments to explore the factors affecting solar energy generation, such as shading, tilt, and orientation of solar panels.

Technology; Explore the technology behind solar panels, inverters, and energy storage systems. Discuss how photovoltaic cells work and the advancements in solar technology. Introduce students to software tools for designing solar installations and calculating energy output based on various parameters.

Engineering; Students design and build solar-powered devices or structures, such as solar cookers, water heaters, or mobile chargers. Task students with optimizing the design of a solar installation for maximum energy output based on specific criteria.

Mathematic; Students calculate solar panel efficiency, energy production, and payback periods for different solar installations.

7. Engagement with the community and sharing of school practices to the community

Solar Installation Engagement: Facilitate partnerships with local renewable energy organizations, professionals, and experts. Provide opportunities for students to interact with these stakeholders, learn about current industry trends, and gain insights into potential career paths in the renewable energy sector.

Solar Showcase Event: Conclude the program with a solar showcase event where students present their solar projects and solutions, fostering a sense of accomplishment and community engagement. When students create solar model prototypes, they test those prototypes with the real users in the community in order to receive feedbacks and suggestion to improve their projects. Empower students as solar energy ambassadors to represent the project within the community. After that the solar scholars engage with the local administrations, parents, and community in order to transfer their knowledge, hand-on learning experiences and passion to inspire about the benefits of solar and the sustainable environment. Finally, the solar scholar follow up the family that use the solar energy in order to assist and study about outcomes.

8. Monitoring and evaluation mechanisms

1. **Monitor** the continued involvement of students in solar projects beyond the program's duration. Assess the integration of solar energy education into the curriculum by reviewing lesson plans, teaching materials, and student assessments.
2. **Evaluation of Outcomes:** Conduct periodic evaluations to determine whether the program is achieving its intended outcomes. Assess the program's impact on energy consumption, cost savings, educational objectives, and community awareness.
3. **Engagement:** Engage with students, teachers, parents, and the community to gather feedback on the program's effectiveness and impact. This can include surveys, focus groups, and discussions to understand perceptions and suggestions.

9. Measurable achievement of the school's program to students, teachers, parents, and wider community

1. **Energy Savings:** Calculate the amount of money saved on electricity bills due to the use of solar energy. Compare these savings to the costs of installing and maintaining the solar panels.
2. **Educational Impact:** Assess the educational impact of the program on students' understanding of solar energy and renewable resources. Conduct surveys or quizzes to measure their increased knowledge about solar energy.
3. **Behavioral Changes:** Survey students, teachers, and parents to understand any changes in energy consumption behavior or awareness of energy-saving practices since the implementation of the solar energy program.
4. **Community Engagement:** Document the involvement of the wider community in the solar energy program. This could include participation in open house events, community talks, or volunteering for maintenance and awareness activities.

10. Plan for the future

1. **Advanced Education:** Provide students with a strong interest in renewable energy with more advanced educational possibilities. Students could participate in workshops, seminars, or even form relationships with a nearby solar farm to work there in the future.
2. **Internships:** Collaborate with local solar energy companies (EGGO) to provide internship or apprenticeship opportunities for students who are interested in having careers in the renewable energy sector.

11. Interrelationship of school program with other Sustainable Development Goals (SDGs)

1. **SDG 7: Affordable and Clean Energy:** A school solar energy program directly aligns with SDG 7, which aims to ensure access to affordable, reliable, sustainable, and modern energy for all. By promoting solar energy, the program contributes to increased use of clean and renewable energy sources, reducing reliance on fossil fuels.
2. **SDG 4: Quality Education:** The solar energy program can integrate educational components that align with SDG 4, which focuses on ensuring inclusive and equitable quality education. Teaching students about solar energy, its benefits, and its role in mitigating climate change not only raises awareness but also enhances their understanding of sustainable practices.

3. **SDG 1, 2:** The energy savings gained from solar energy adoption can be redirected towards improving food security by supporting community gardens, sustainable agriculture practices, or initiatives that address malnutrition and hunger-related issues and earning income from the projects.

4. **SDG 11:** Sustainable Cities and Communities: By implementing solar energy systems, the school contributes to SDG 11, which aims to make cities and human settlements inclusive, safe, resilient, and sustainable. Solar installations can inspire communities to adopt renewable energy practices and create more environmentally friendly urban environments.

5. **SDG 17:** Partnerships for the Goals: The school can collaborate with local government, businesses, and community organizations to implement the solar energy program. This aligns with SDG 17, which emphasizes the importance of global partnerships for achieving all the SDGs.

12. Link to the information of school's program in social media platforms

https://youtu.be/vVby_EDbYZk

13. Photos related to the program



field trips to solar installations nearby, EGGO solar farm



Invite experts in solar energy to deliver inspiring talks and share their experiences!



Interactive workshops where students construct and experiment with solar-powered devices.



Integrate solar energy concepts into science and technology classes (STEM education)



solar showcase event where students present their solar projects.