



Provincial Government of Sorsogon
through the Provincial Environment and Natural Resources Office-LGU
in cooperation with the Local Government of Irosin



and Center for Empowerment, iNnovation and Training on Renewable Energy



Solar Lamp & Ecobricks Making for LGUs in Sorsogon Province Seminar on Environment and Renewable Energy

November 25-26, 2019 – Una Pizzeria, Sorsogon City

November 27, 2019 – ABC Hall, LGU Irosin

Background

Extreme weather conditions are undeniably the new normal. Rising sea levels, stronger typhoons, flashflood and extreme heat are being experienced in many parts of the world, especially in the Philippines – among the countries most vulnerable to these impacts of climate change.

Burning fossil fuels for energy, deforestation and wasteful use and irresponsible disposal of resources – these are some of the corporate and human activities that according to studies cause global warming or climate change from high greenhouse gas (GHG) emissions, thus endangering the lives of people and the planet.

Many authorities now acknowledge that we are in a climate emergency. There have been global calls for everyone to act in order to arrest this climate emergency. The Paris Climate Conference in 2015 committed to take actions to limit warming to 1.5°C to 2°C in the next 20 years.

Actions to reduce GHG emissions include shifting to renewable energy as the energy industry sector is among the top contributors of GHG emissions, massive tree planting, and addressing waste. Sadly, the Philippines is among the top-plastic polluting countries in the world.

Appropriate and timely government policies and programs supported by funds, collaboration of various sectors, information dissemination, building model solutions, and capacity building are a must to at least slow down global warming, and establish climate- or disaster-resilient communities.

To move more people to act, massive awareness campaign coupled with strong policies are needed.

Awareness Raising and Capacity Building

In an effort to contribute in tackling climate change and promoting workable solutions, the Provincial Government of Sorsogon through its Provincial Environment and Natural Resources Office (PENRO), the local government of Irosin, and the Center for Empowerment, iNnovation, and Training on Renewable Energy (CentRE) collaborated in raising public awareness and building the capacity of stakeholders in Sorsogon.

A Seminar on Environment Protection and Renewable Energy Towards a Participatory and Sustainable Development was held in Sorsogon on November 25-27, 2019. This 3-day awareness raising and capacity building activity, linked with the Renewable Energy Academy project of the CentRE, aimed to broaden consciousness of key stakeholders on why and how we can tackle climate change through renewable energy and environmental protection.

Days 1 and 2 were designed for general audience – for general understanding of relationships of environment, climate change, and renewable energy as a key in tackling climate change, overview of various RE sources and technologies, and demonstration on examples of individual or community actions as contribution to addressing climate change.

Days 2 and 3 introduced the participants especially from the LGUs, electric cooperatives and the academe (college teachers and students) to basic concepts on energy and RE technologies especially on solar and hydroelectric energy.

The joint undertaking was attended by a total of 60 participants from Sorsogon – LGU officials and employees, technical staff and workers of electric cooperatives, college teachers and students, and CSOs/NGOs.

About the CentRE and the RE Academy

The CentRE is a not-for-profit public interest association that brings together renewable energy (RE) advocates, developers, producers, researchers and experts with the common goal of meeting the energy needs of everyone, especially the poor and unserved communities, in a just, sustainable, and democratic manner. It aims to promote the role of renewable energy technologies in achieving sustainable development in the country. The CentRE has created a platform, The Renewable Energy (RE) Academy, to contribute in building knowledge and providing practical courses in a more accessible, affordable and useful way to many including those without college education, thereby opening new livelihood opportunities and creating an avenue for those involved to interface in a more meaningful way.

The Renewable Energy (RE) Academy is a learning or skills development platform for all those interested in RE especially the non-academic practitioners and enthusiasts who intend to realize RE sources/technologies in their homes, facilities and respective communities, or to gain knowledge for appreciation and improving capacity for advocacy and technical skills. It aims to contribute in building knowledge and providing practical courses in a more accessible, affordable and useful way to many including those without college education, thereby opening new livelihood opportunities and creating an avenue for those involved to interface in a more meaningful way.

The Academy, envisioned to be launched in 2020, will pool the expertise within the CentRE especially from the academe, energy industry, and those working directly with communities. It is foreseen to be conducted in partnership with universities and other institutions like TESDA, DOLE and/or ILO, and LGUs among others.

PROGRAMME

Solar Lamp & Ecobricks Making for LGUs in Sorsogon Province and Seminar on Environment and Renewable Energy

November 25-26, 2019

Function Hall, Una Pizzeria, Sorsogon City

DAY 1: 25 November 2019

| Time | | |
|-------------|-----------------|--|
| 8:00 | Registration | |
| 9:00 | National Anthem | |
| 9:05 | Welcome Remarks | Engr. Maribeth Fruto , Provincial Environment and Natural Resources Officer |
| 9:15 | Keynote Address | Gov. Francis Escudero III , Provincial Government of Sorsogon |

| | | |
|--------------|---|--|
| 9:30 | State of Environment in Bicol/Sorsogon and actions | Mr. John Edward Dela Cruz , Planning Officer 1, DENR-PENRO Sorsogon Provincial Office |
| 9:45 | Introduction to the Event | Dr. Ginno Andres , CentRE Board of Directors; Chief, Center for Engineering Research, Polytechnic University of the Philippines |
| 10:00 | Climate Change and the Role of Renewable Energy <i>This aims to explain the problems arising from the current energy practices and how can renewable energy be part of the solutions to such problems.</i> | Prof. Joey S. Pinalas, MEM , Chief, Center for Environmental Studies - PUP |
| 12:00 | Lunch | |
| 13:00 | Framework on RE and Circular Economy | Prof. Nelson Enano Jr. , Director. Ateneo de Davao University - Center for Renewable Energy and Appropriate Technologies (AdDU-CREATE); Coordinator, Mindanao Renewable Energy Center |
| 14:00 | Applying Zero Waste Principles towards Sustainable Development and Demo on Eco Brick Making <i>This session aims to provide understanding on how Zero Waste strategies can affect our lifestyle and present practices we can take part of towards sustainable development.</i> | Mr. Dann Diez , Executive Director, Sustainable Energy and Enterprise Development for Communities (SEED4COM) |
| 16:00 | Demo on Solar Lamp Making | Mr. Dann Diez |
| 17:00 | End of Day 1 | |

DAY 2: 26 November 2019

| | | |
|--------------|---|--|
| Time | | |
| 8:00 | Basic Energy Concepts | Prof. Nelson Enano Jr. |
| 9:00 | Estimating Energy Demand <i>This session aims to provide understanding on the concept and demand trends of Luzon, Visayas and Mindanao, as well as apply the concepts to project demand.</i> | Dr. Ginno Andres |
| 10:30 | Energy Efficiency and Demand-Side Management <i>This session aims to provide understanding on the basic concepts and various technologies used.</i> | Prof. Nelson Enano Jr. |
| 12:00 | Lunch | |
| 13:00 | Types of Renewable Energy <i>This session will present the different types of renewable energy, where they get the resource, and how they function.</i> | Engr. Jessa Ibañez , Associate for Research and Development, CentRE Secretariat |
| 17:00 | End of Day 2 | |

SEMINAR ON SOLAR POWER
ABC Hall, Main Building-Irosin LGU
Irosin, Sorsogon
27 November 2019

27 November 2019

| | | |
|--------------|--|--|
| Time | | |
| 9:00 | Welcome Address | Representative from LGU-Irosin |
| 9:15 | Recap on the previous sessions | Engr. Jessa Ibañez , Associate for Research and Development, CentRE Secretariat |
| 9:30 | Solar Energy <i>This session will provide understanding on the basic concepts of solar resource assessment, the tools and methods available, existing technologies, as well as solar PV configuration and sizing.</i> | Engr. Melvin Romano , CEO, Enerpower Access Solutions, Inc. (EASI) |
| 11:00 | Hydroelectric Energy <i>This will provide methods in assessing hydroelectric potential, in depth discussion on the parts of a hydroelectric power system, its sizing, operation, and maintenance.</i> | Engr. Roberto Verzola , Chair, Center for Renewable Energy and Sustainable Technologies (CREST), and Vice President of CentRE |
| 12:00 | Lunch | |
| 13:00 | Power Inverters: | Engr. Roberto Verzola |

| | | |
|--------------|--|---|
| | <p>Converting direct current (DC) to alternating current (AC)</p> <p><i>This will provide understanding on the basic concepts of DC-AC conversion, types, installation, operations, and maintenance.</i></p> | |
| 14:00 | <p>Storage Batteries: Storing DC</p> <p><i>This session will provide understanding on common battery storage technologies, sizing, operations, and maintenance.</i></p> | <p>Dr. Ginno Andres, CentRE Board of Directors Chief, Center for Engineering Research, Polytechnic University of the Philippines</p> |
| 15:30 | <p>Institutional Arrangements and Organizational Forms: Own-Use Koops</p> | <p>Engr. Melvin Romano Representative from LGU-Irosin (tbc)</p> |
| 17:00 | <p>End of Day 3</p> | |