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## Net Metering: Bane or Boon?

Jose Redmond Eric S. Roquios, the general manager of the Pototan, Iloilo, Philippines-based Iloilo II Electric Cooperative, Inc. (ILECO II), just finished walking around the office, trying to get a better feel of his workers' readiness for the government's net-metering program. Net metering allowed electrical energy consumers with wind, biomass, or biogas systems (not exceeding 100 kW in power-generating capacity) to sell their excess power to a distribution utility to offset their electricity consumption or get a reduction on their energy bills. It was a non-conventional mechanism used by the Philippine government to combat global warming, reduce dependence on fossil fuels, increase the power supply at local distribution utilities, and decrease power outages. Many customers were using renewable energy, but only one was selling excess power to ILECO II. Roquios hoped many more would sign on.

Roquios walked outside ILECO II. As he approached the portals of the building, he stopped and looked up at the brightly shining sun, and wondered why more of ILECO II's renewable energy customers were not interested in selling their excess power to the company. It seemed like such a sensible thing to do. What was holding them back? How could he get them to participate in the net-metering program? How would their participation impact the power supply of ILECO II? What impact would it have on the environment?

## About Iloilo II Electric Cooperative, Inc. (ILECO II)

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Categorized as a mega-large cooperative ILECO II was<sup>1</sup> established on October 18, 1975 as the 69<sup>th</sup> electric cooperative registered with the National Electrification Administration.<sup>2</sup> ILECO II served 16 municipalities by 1980. By 2016, it serviced 117,876 households.<sup>3</sup>

### Renewable Energy

Climate change is a global phenomenon affecting all sectors of society. One of the causes of climate change is carbon dioxide (CO<sub>2</sub>) released into the environment through the use of fossil fuels. Use of renewable energy mitigates climate change by reducing CO<sub>2</sub> emissions.<sup>4</sup>

Under Republic Act No. 9513, otherwise known as Renewable Energy Act of 2008, distribution utilities could make their systems available for both residential and commercial net metering arrangements.<sup>5</sup> The Renewable Energy Act of 2008 aimed to accelerate the exploration, development, and utilization of renewable energy resources to increase the power supply of the country and lessen its dependence on costly imported fossil fuels. Incentives were provided to encourage participation in net metering. Participants were entitled to an income tax holiday for a maximum period of 21 years as well as an exemption from duties on renewable energy machinery, equipment, and materials.<sup>6</sup>

### The Net-Metering Program

In the Philippines, residential and commercial customers with renewable facilities such as solar, wind, biomass, or biogas systems not exceeding 100 KW in power generating capacity were allowed to feed unused electricity back to the grid under a net-metering program. In other words, any unused electricity would be automatically exported to the distribution utility. The distribution utility then would give consumers a peso credit for the excess electricity received. Electricity from individual power producers was transmitted through the local distribution grid to the end-user<sup>7</sup> as shown in **Exhibit 1**.

Through the government's net-metering program, end users (see **Exhibit 2** for a residential unit example) controlled their electricity bills. The rate of savings received on electricity generated was equivalent to the distribution utility's retail rate, consisting of charges for generation, transmission, system loss, distribution, subsidies, and taxes.

## The Net Metering Challenge at ILECO II

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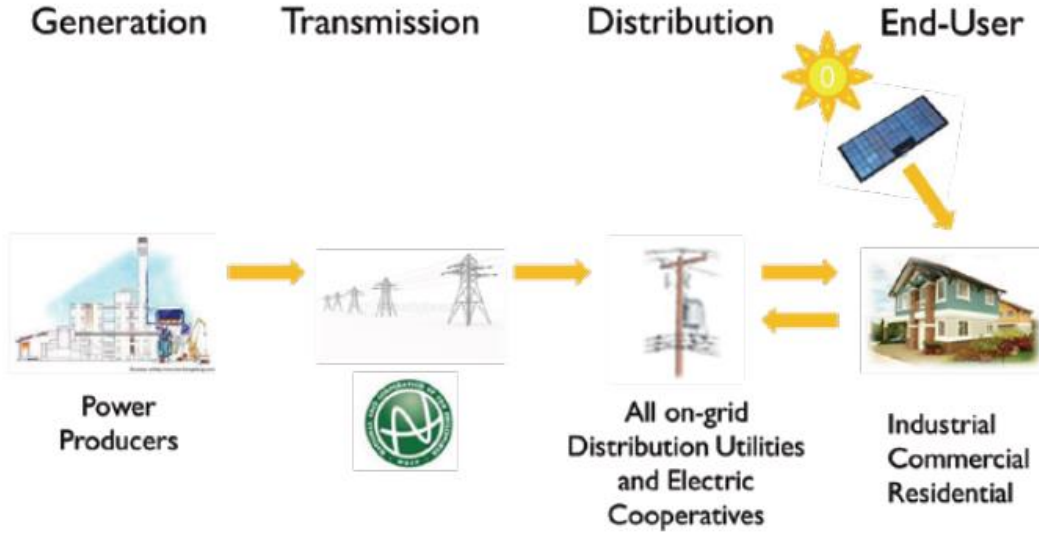
Roquios felt that the net-metering program of the Philippine government was ILECO II's best solution to alleviating power outages in the area as well as mitigating the greenhouse effect in the environment caused by dependence on fossil fuels. Nevertheless, only one person was participating in the program within ILECO II's service area.

Roquios thought that a pilot program at local schools would help workers develop the skills necessary to implement the program at the household and commercial levels. After seeing the program's success in the schools, he felt more residential and commercial customers would be interested in net metering. Still, he wondered if this was the best plan.

Roquios needed to jump-start participation in the net-metering program in Iloilo. How could he get residential and commercial customers interested in the program? What benefits would it bring to ILECO II? What would the environmental impact be? There were so many questions to be answered. He rolled up his sleeves, opened up his laptop and began to compose a plan.

**Exhibit 1**

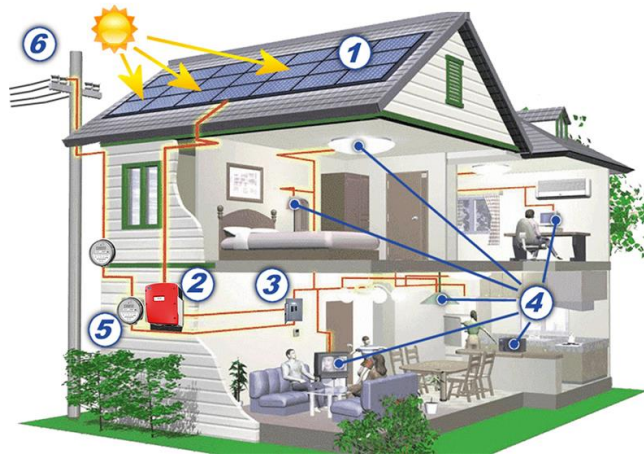
Power Distribution System



Source: National Renewable Energy Board. "Net-Metering Reference Guide: How to Avail Solar Roof Tops and Other Renewables Below 100 kW in the Philippines." Accessed 9 Aug. 2016. <<https://www.giz.de/fachexpertise/downloads/giz2013-en-net-metering-reference-guide-philippines.pdf>>.

**Exhibit 2**

Net Metering in a Residential Unit



Key: 1. Solar Panels, 2. Inverter Panels, 3. Disconnect/Control Panel, 4. Appliances, 5. Net Metering, 6. Building Connection  
Source: Meister Solar. "We Feed Your Solar Energy System into the Grid." Accessed 27 July 2016. <<http://www.meister-solar.com/solar-power-services/net-metering/>>.

## **Acknowledgements**

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## Endnotes

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- 1 Roquios, Jose Redmond Eric S. General Manager, Iloilo II Electric Cooperative, Inc. 12 Apr. 2016.
- 2 Iloilo II Electric Cooperative. "About Us." Accessed 27 July 2016. <[http://ileco2.com/index.php?option=com\\_content&view=article&id=2&Itemid=2](http://ileco2.com/index.php?option=com_content&view=article&id=2&Itemid=2)>.
- 3 Iloilo II Electric Cooperative. "ILECO II Map of Coverage Area." Accessed 30 May 2016. <[http://www.ileco2.com/index.php?option=com\\_content&view=article&id=3&Itemid=3](http://www.ileco2.com/index.php?option=com_content&view=article&id=3&Itemid=3)>.
- 4 GmbH. "Accompanying the Philippines on the Road toward Sustainable Energy Supply." Makati, Philippines. Apr. 2013. Accessed 20 July 2016. <<https://www.giz.de/en/downloads/giz2013-en-support-renewable-energy-philippines.pdf>>.
- 5 Republic of the Philippines Department of Energy. Republic Act No. 9513. "An Act Promoting the Development, Utilization and Commercialization of Renewable Energy Resources and for Other Purposes." Accessed 28 Apr. 2016. <<https://www.doe.gov.ph/laws-and-issuances/republic-act-no-9513>>.
- 6 Energy Regulatory Commission. "DOE Circular NO. DC2009-05-0008. Rules and Regulations Implementing Republic Act No. 9513." 25 May 2009. Accessed 29 Apr. 2016. <<http://lia.erc.gov.ph/documents/290>>.
- 7 Energy Regulatory Commission, Philippines. "Net Metering: Rules Enabling the Net-Metering Program for Renewable Energy." Accessed 3 May 2016. <<http://www.erc.gov.ph/ContentPage/51>>.