

FINAL REPORT

CAPACITY BUILDING AND TRAINING IN THE INSTALLATION OF PHOTOVOLTAIC SYSTEMS BY MEANS OF A TRAVELING SCHOOL CART

1. Introduction

The Roadshow Solar project was carried out by the Brazilian Association of Distributed Generation (ABGD) in partnership with the Secretariat of Infrastructure and Environment of the State of São Paulo (SIMA), between May 3rd and June 12th 2021, in the Vale do Ribeira region.

The project, which toured 13 municipalities, trained, for free, 260 people who attended the basic introductory course on the installation of photovoltaic solar energy system, thus stimulating the renewable energy market in the region.

The reason for which the Vale do Ribeira was chosen to host the project is because the region is part of the São Paulo State program called Vale do Futuro - coordinated by the State Secretariat of Regional Development, which aims to transform one of the most vulnerable regions of the state of São Paulo, yet the richest in biodiversity, into a development model based on sustainable exploitation.

Therefore, the Government of São Paulo in partnership with the Brazilian Association of Distributed Generation, implemented the Roadshow Solar project, which was grounded on four important pillars: sustainable development, income generation, conservation and improvement in the quality of life of the population of the Vale do Ribeira region.

2. Objectives and expected outcomes

The course was carried out in an adapted classroom, built inside a travelling school cart. Students had access to a first-class training facility that simulated a household powered by an on-grid and off-grid photovoltaic microgeneration energy system.

The eight-hour training period was held over the course of two days in each of the 13 toured municipalities.

Participants received introductory knowledge and basic instructions on how to install rooftop solar energy panels in houses and commercial buildings. Those who attended the eight-hour basic course on the Fundamentals and Dimensioning of Photovoltaic Systems were granted a certificate of completion.

3. Project outcomes

Participation of local municipalities

The Secretariat of Infrastructure and Environment of the State of São Paulo and the Brazilian Association of Distributed Generation contacted the city halls of all 13 municipalities located in the Vale do Ribeira region in order for them to become acquainted with the project and to help organize the logistics and activities carried out in each city.

The municipalities recognized the importance of the initiative for their respective local population and highly supported the project by providing appropriate parking space for the travelling school cart, energy and internet access, as well as chemical portable toilets.

Course outcomes

In total, 242 people were certified for having completed the basic course on the Fundamentals and Dimensioning of Photovoltaic Systems, which covered the following subjects: The fundamentals of solar energy; Photovoltaic modules; Inverters and energy storage systems; Dimensioning of an on-grid photovoltaic system (SFCR); Installation and commissioning; and, finally, Legislation, rules and conclusion.

Most participants had access to a physical training material of more than 130 pages with the aforementioned content, except for those from the municipality of Sete Barras, who, due to a technical problem, had to access the content online.

Participants demonstrated a high level of interest while taking the course and raised many questions, such as: differences between thermal and photovoltaic solar panels; main differences between on-grid, off-grid and hybrid systems; the functioning of inverters; how to calculate the size of a solar PV system; how to calculate a solar panel payback period; solar cell efficiency; how to avoid the shading effect on the solar panels; battery storage systems; solar financing models; how to comply with the main rules and regulations for solar PV projects; ways to protect solar panels from hail; what certifications are needed to become an accredited solar PV installer.

Collected and distributed food items

In order to take the free of charge course, offered by the Brazilian Association of Distributed Generation, participants were encouraged to donate 1kg of non-perishable food items.

The collected items were transferred to the corresponding Social Solidarity Fund of each municipality with the objective of being donated to a local charity.

In total, 325kg of non-perishable food items were collected, of which: 26kg in Iguape; 22kg in Miracatu; 21kg in Sete Barras; 34kg in Eldorado; 26.5kg in Iporanga; 28.5kg in Apiaí; 21kg in Registro; 31kg in Pariquera-Açu; 12kg in Jacupiranga; 13kg in Cajati; 21kg in Cananeia; 31kg in Pedro de Toledo, and 38kg in Juquiá.

The project's impact on the local population

The travelling school cart aroused the interest of the general public, especially in the smaller municipalities, due to its big dimensions. Many curious people passed by and asked questions to the members of the Brazilian Association for Distributed Generation about the purpose of the project. Many of them visited the interior of the cart and were able to see its functionality.

4. Media repercussion

Local, regional and national media outlets were informed and invited to cover the kick-off of the project in each municipality.

The most important media outlet that the Secretariat of Infrastructure and Environment of the State of São Paulo managed to contact was TV Tribuna, an affiliate of TV Globo, the largest television station in Brazil, which covers cities in the Vale do Ribeira region and also cities located on the coast of São Paulo. By means of this contact, two media insertions were made possible: a live interview with Carlos Evangelista, the president of the Brazilian Association of Distributed Generation and a recorded interview with Marcos Penido, Secretary of State of Infrastructure and Environment.

Media insertions were also registered on the website of the prestigious electronic magazine Exame.com and also on specialized websites, such as Canal Solar, Ciclo Vivo, among others.

The City Halls have also featured the project on their social media networks and on their websites.

5. Financial summary

The financial resources granted by the Climate Group, through the Under2 Coalition Future Fund up to US\$10,000.00 were used to cover part of the expenditures of the traveling school cart from May 3rd, 2021 to June 2nd, 2021 in order to tour the following outlined municipalities: Iguape, Miracatu, Sete Barras, Eldorado, Iporanga, Apiai, Registro, Pariquera Açu, Jacupiranga and Cajati.

The costs of the traveling school cart were paid to Truckvan Indústria e Comércio LTDA and correspond to the truck's rental costs, kilometers traveled and the driver's per diem. Copies of the payment invoices have been attached to this report, corresponding to R\$566,660.00. This amount, once converted to today's (05/07/2021) commercial dollar exchange rate (US\$5.05), corresponds to US\$112,209.90. Therefore, the received amount of US\$10,000.00 covered an average of 9% of the total costs of the Project.

6. Acknowledgment to the Future Fund contributors

The Secretariat of Infrastructure and Environment of the State of São Paulo and the Brazilian Association of Distributed Generation take this opportunity to acknowledge and appreciate the selection of the "Capacity Building and Training in the Installation of Photovoltaic Systems by means of a Travelling School Cart" project by the Climate Group to receive international financial support (US\$10,000,00) from the Under2 Coalition Future Fund – that contributes to mitigate the impacts of climate change by subnational governments in developing and emerging economy regions.

The Government of the State of São Paulo also acknowledges and appreciates the international donor governments of Scotland, Wales, Baden Wurttemberg and Québec for having believed in this important project, which provided knowledge to the population of one of the most vulnerable regions of the state of São Paulo, thus, contributing to enhance employment opportunities and income generation.

7. Conclusion

The project exceeded its initial expectations and gained prestige from municipalities located outside the Vale do Ribeira region. These municipalities were highly impressed by the project and its outcomes and requested the carrying-out of the project in their cities.

In addition, the State of São Paulo believes that the capacity building will also contribute to the post Covid-19 pandemic economic recovery and stimulate the generation of green jobs.

The project meets the targets established in the São Paulo State Policy on Climate Change - PEMC, complying with the Paris Agreement and with the Race to Zero campaign of the United Nations Framework Convention on Climate Change (UNFCCC).

It also complies with the Government's goals and commitment to reduce São Paulo's greenhouse gas emissions and decarbonization pathways by mid-century (2050). This important project will be showcased at CoP 26, to be held in November, in Glasgow in the United Kingdom.

8. Annex

Electronic version of the training material that was handed out to all participants in each of the 13 toured municipalities has been attached to the sent e-mail on 05/07/2021.

Excel Spreadsheet that comprises all photos taken within each of the 13 toured municipalities. To see photos of the course, click on the links in column J for each corresponding municipality.

https://docs.google.com/spreadsheets/d/1w6PSGZfl-HirOcm_xyezPAt9fu2y1nndkrBgfji3ERk/edit?usp=sharing