



Santa Fe launches solar-powered buses

Government: Santa Fe, Argentina

Region: Latin America

Sectors: Renewable energy, Clean transportation

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Summary

Santa Fe has implemented a new Bio Bus initiative to use renewable sources to power urban transport. The project includes electric buses powered by solar energy, and biodiesel and hybrid buses.

It aims to demonstrate that public investment in innovative technology, coupled with large scale procurement, can significantly improve the delivery of public services and contribute to smart, sustainable and inclusive economic growth. The project is coordinated by the province of Santa Fe and the city of Rosario and delivered together with a number of private companies.

The Bio Bus project uses 100% solar electricity to power two bus lines in Rosario, with electricity generated in nearby San Lorenzo. By using solar energy to power urban passenger transport, the Bio Bus program achieves zero emissions. It is contributing to the fight against climate change and at the same time improving citizens' health by avoiding emissions of particulate matter.

There are also now 200 urban 'colectivos', small busses, powered by at least 25% regionally produced biodiesel on the streets of Rosario. Two of those passenger vehicles are powered by 100% biodiesel. As Santa Fe produces 80% of Argentina's biofuels, there are positive economic impacts and green jobs created in the state.

Hybrid buses developed by Santa Fe are also included in the Bio Bus project. The hybrid model combines a traditional internal combustion engine and a hydraulic accumulator able to recuperate and reuse the energy generated during braking. One of the main advantages of the technology is that it can be used to convert existing traditional buses to hybrids. The new model also supports local industry as it has been designed by a Rosario citizen and all the components are developed and assembled by local companies.



Results

The Bio Bus Solar program's impact is threefold:

- **Economic:** It demonstrates the photovoltaic potential of the region, promoting investments in renewable energy generation. At the same time, it promotes the consolidation of a new value chain based on the generation of electricity within the Santa Fe region, increasing the efficiency of the system in general.
- **Social:** Avoiding emissions of particulate matter improves the air quality in the region, improving public health and the quality of life of citizens. Additionally, the installation and management of these technologies will generate new green jobs.
- **Environmental:** By avoiding the use of electric energy produced from fossil fuels, significant savings of carbon dioxide are made. This contributes to the fight against climate change and the commitments assumed internationally by the city of Rosario and the Province of Santa Fe.

With biodiesel being carbon neutral, buses with 25% biodiesel have 25% less emissions compared to conventional fuel. The hybrid buses use 30% less fuel than traditional buses, reducing both costs and emissions. An analysis of the 100% biodiesel buses after six months in use found no technical or operational issues with the buses or use of biodiesel.

Next steps

Following an announcement by the national government to end subsidies for transportation from January 2019 onwards, and given the excellent performance of the biodiesel buses, the Secretary of Energy of Santa Fe convened a new biofuels working group. The working group includes local transport companies and other relevant stakeholders, who will work together to organize and facilitate the use of 100% biodiesel in public transport throughout the province.

Enabling conditions

An initiative launched in 2017, the Polo de la Automoción, provided the enabling framework for the development of the Bio Bus programme. This initiative brings together different stakeholders to work on the transition towards a sustainable mobility future.

Key lessons learned

- Having a successful pilot project in place was fundamental to ensure the interest of the transport companies.
- The state played an important role as facilitator for the sharing of specialized knowledge and connecting the supply (biodiesel producers) and the demand (transport companies).
- It was essential to draw on specialized professional consultants (in the case of Santa Fe, they contracted the consulting company ALG).

For more information

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