

Vehicle to Grid (V2G) Evaluation in Brazil

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This study is part of the proposed activities in the course of Global July 2023:

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Course: Energy Modelling with OSeMOSYS & FlexTool

Local: Engineering Graduate Program – Federal University of Juiz de Fora (UFJF)

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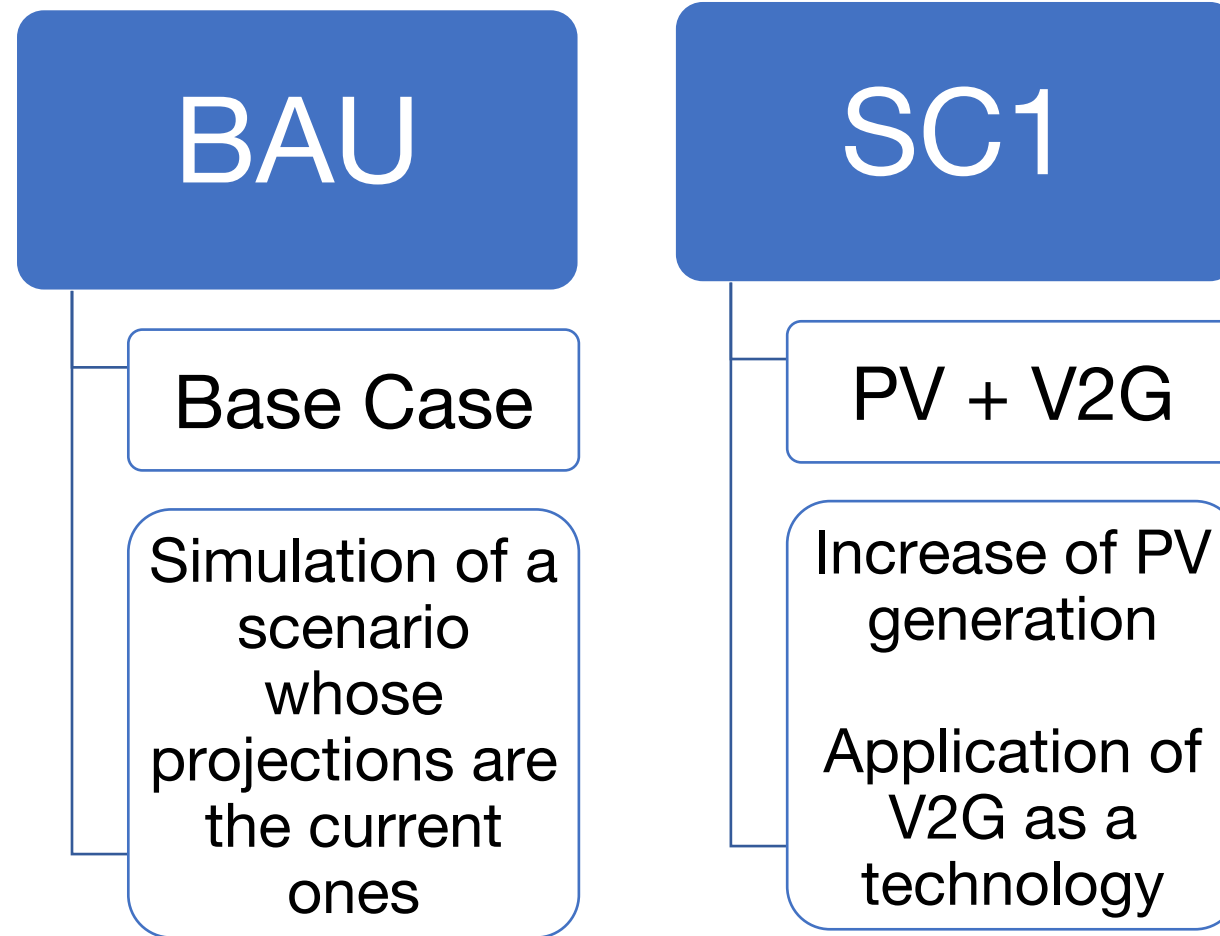
Responsible Professor: Bruno H. Dias (UFJF)

Research Questions:

1. How could V2G technology contribute to Brazil's energy transition?
2. Could V2G become a popular practice in the Brazilian scenario?
3. Can V2G contribute to reduce carbon emissions?



Scenarios:



Results

Installed Capacity of Power Sector | Brazil

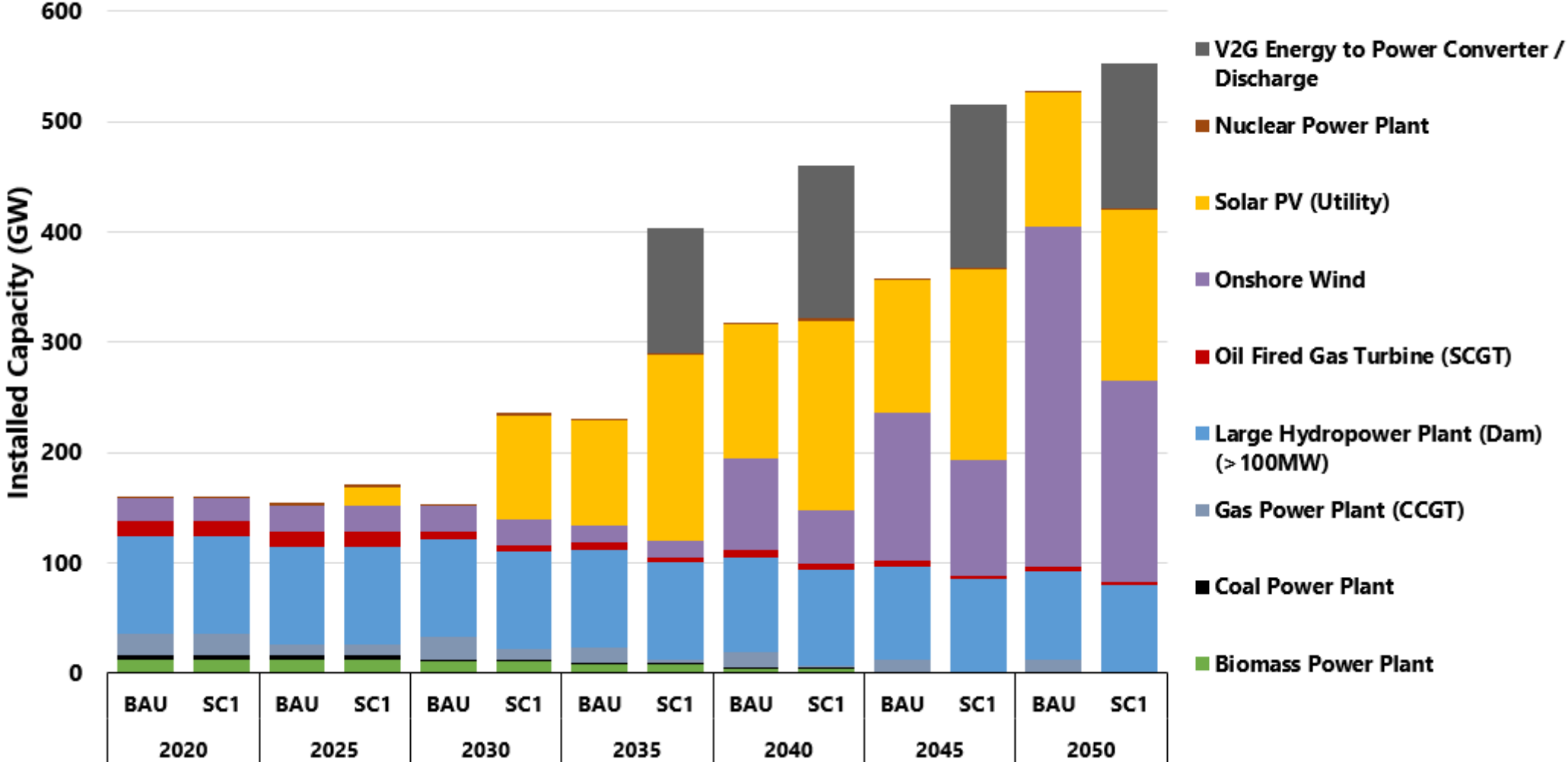


Figure 1: Installed Capacity (GW) in Brazil. Source: elaborated by the authors.

Results

Transport Energy Production | Brazil

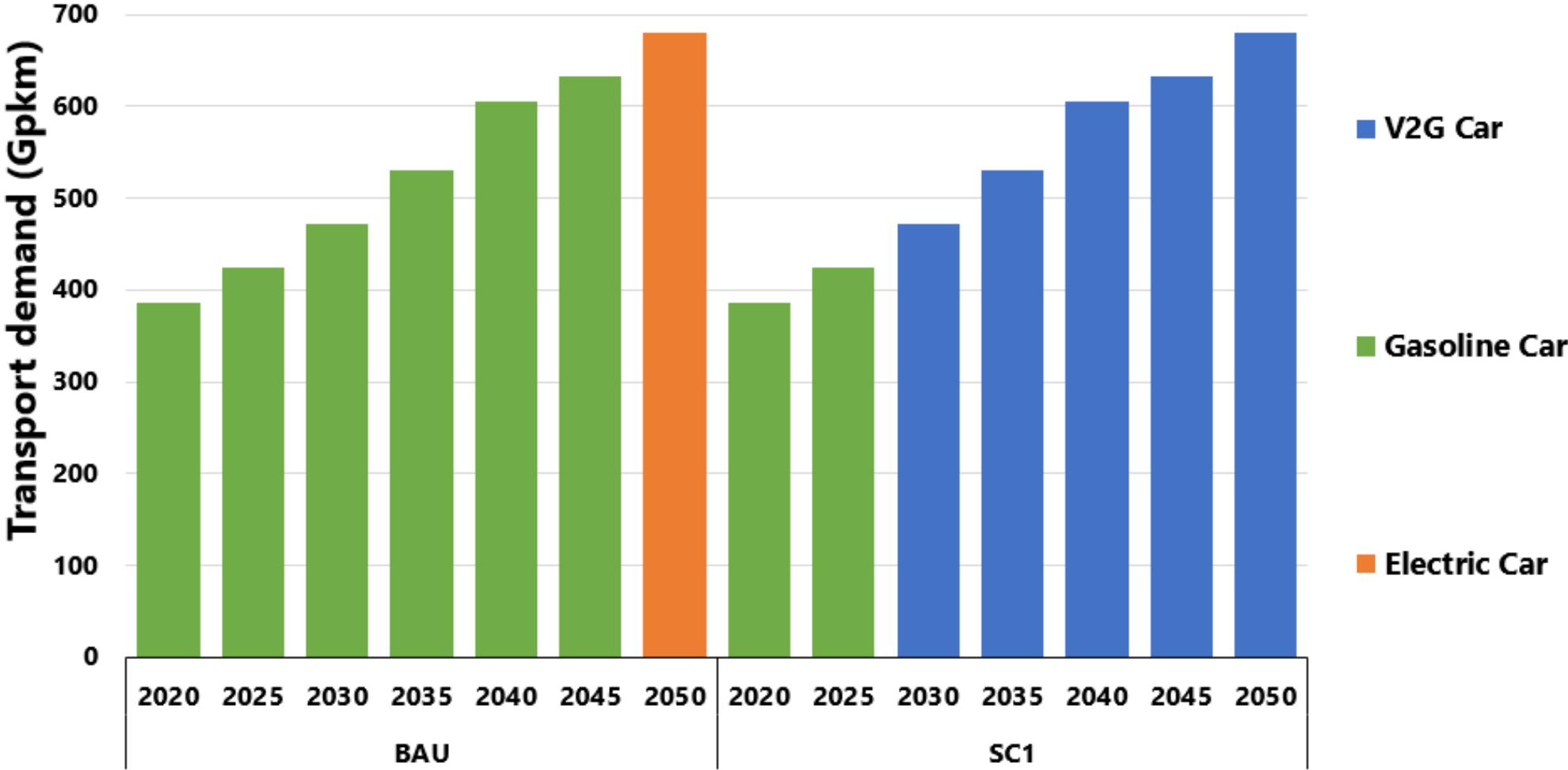


Figure 2: Transport demand (Gpkm) in Brazil. Source: elaborated by the authors.

Results

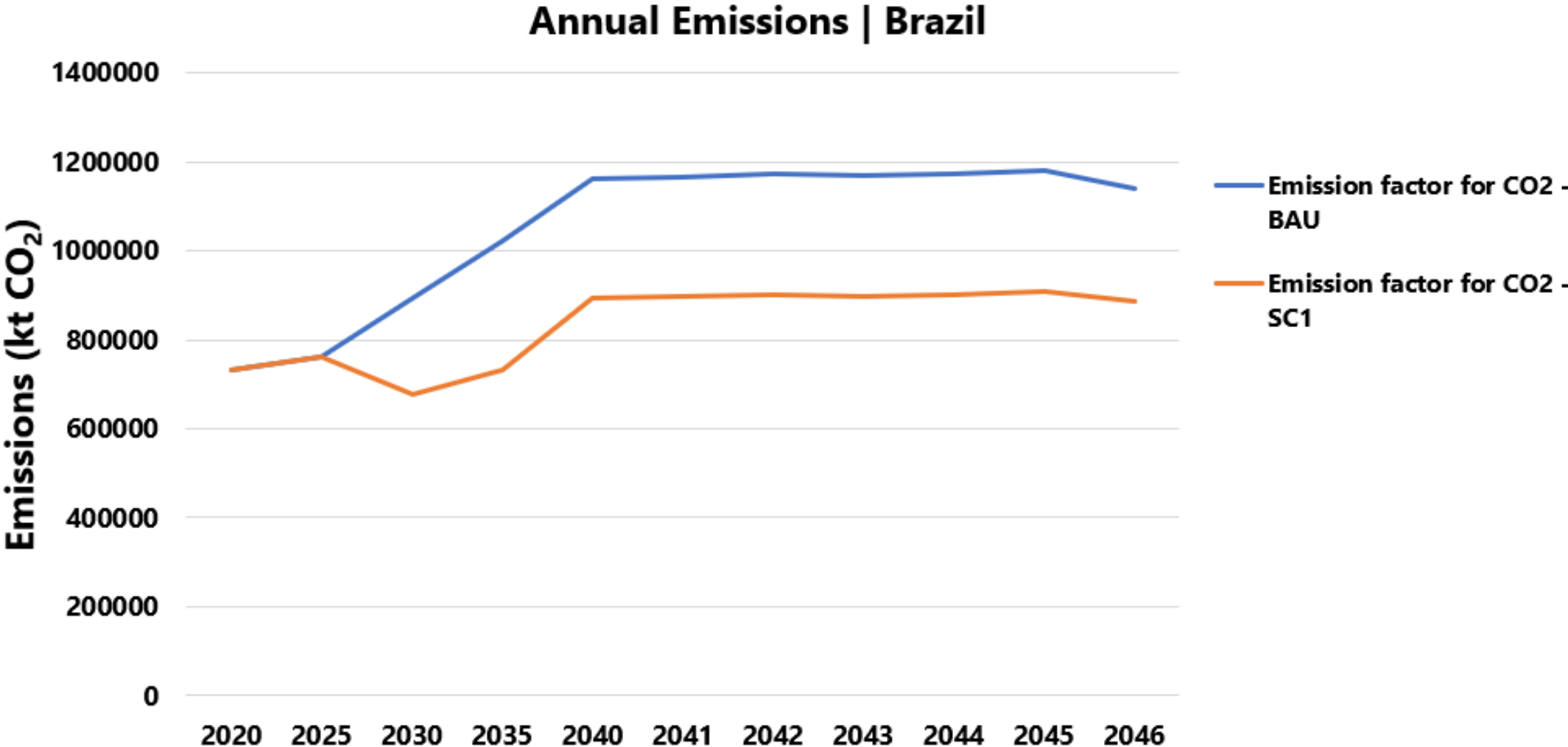


Figure 3: Annual Emissions in Brazil. Source: elaborated by the authors.

Conclusions

Q: How could V2G technology contribute to Brazil's energy transition?

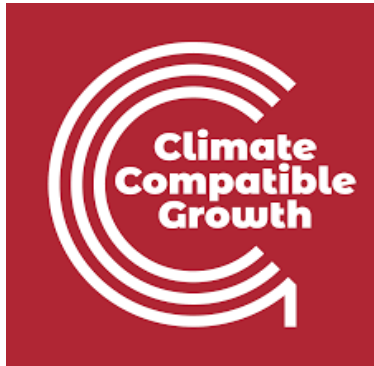
A: V2G can be useful to consume the surplus power of PVs.

Q: Could V2G become a popular practice in the Brazilian scenario?

A: V2G can be a more economic alternative for Brazilians costumers.

Q: Can V2G contribute to reduce carbon emissions?

A: V2G combined with PV incentives can significantly reduce the emissions.



Thanks!