

Powering the Future: EVER Monaco 2023, a Conference on Electromobility and Sustainable Development of Territories and Cities

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Electric systems are being transformed, and having the right tools to integrate electromobility and local energy production in cities and territories has become a pressing need. Indeed, more than ever, local governments have a role in designing both their energy and transportation systems. Thus, there is a role for local governments to create territorial organizations that can prepare the electric and transportation systems for climate change and energy sobriety.

The difficulty of coordinating energy and transportation for territories and cities has become more complex than ever. There are several interdependencies that planners need to consider. Notably, the speed and uncertainties regarding future technological innovation, business models, and regulation of mobility and electric systems increase the difficulty of designing plans for the future. As a consequence, in its role as a platform for technical and expert discussion of the relevant aspects of energy economics, the **International Association of Energy Economists (IAEE)** organized the roundtables of the **EVER Monaco 2023** conference, which was held on Monaco the 11 and 12 of May 2023.

The conference roundtables' objectives were twofold: first, to acknowledge the growing importance of local government's role, opportunities, and challenges in the future of mobility and electric systems, and second, to emphasize the crucial role of technical discussion for fostering knowledge sharing among various stakeholders, such as the industry, academia, and public authorities. The conference was organized around panel presentations and debates that gave the floor to renowned speakers and conference participants, including representatives from municipal governments, territorial planning agencies, Electric Vehicle (EV) manufacturers, energy providers, and sustainability experts. Indeed, the diversity of actors facilitates the identification of several critical aspects related to the interactions between territories, cities, and electromobility.

All the presentations revolved around three main topics: energy sobriety and electromobility, adaptation of territory networks, and local renewable energy production.

One of the points of discussion which was fundamental in setting the context of the conference was the recent regulation to ban from the year 2035 onwards the sale of vehicles with internal combustion engines in favor of electric vehicles. A panel of actors from the automotive and energy industries highlighted the importance of being prepared for a surge in EV adoption. Indeed, the rate of EV adoption is expected to continue, and this growth will likely change mobility patterns, given that drivers will transition from fuelling

their vehicles at gas stations to recharging them with electric chargers. Consequently, to deal with these changes, a proposed strategy was to identify measures to encourage the optimal development of charging infrastructure according to the changes in mobility behaviors and the new opportunities presented by electromobility. For example, it is well known that charging infrastructure needs to be deployed to reduce owners' range anxiety. In the second phase of the deployment of charging infrastructure, once the range anxiety is addressed, also infrastructure should be designed to encourage local energy production from solar energy, thereby providing incentives to install charging infrastructure where EVs are parked. For instance, this could allow for the improvement in the utilization of local resources if EVs can leverage the highest peak of local renewable energy production.

The emergence of new business models that harness the opportunities for integrating electromobility into electric systems might increase the value of the territories and cities. Indeed, most speakers emphasized this point throughout the conference. However, presenters had different opinions on the subject, as there was no consensus on which should be the dominant type of business model. Several business models were presented, from charging points and mobility operators to energy aggregators. Nevertheless, presenters agreed on a fundamental notion: all business models require a reliable "smart grid" and a network of charging infrastructure with standardized charging protocols, interoperability, and accessibility that ensures a seamless experience adapted to customers. For example, in the business case of Vehicle-to-Grid (V2G), a technology that enables to use of EVs as decentralized storage, it was emphasized that charging infrastructure and EVs will need to have bidirectional capabilities, in addition to reliable and secure communication between EV owners, aggregators (who control the vehicles as a single entity), and the grid operators.

A significant highlight of the event was the opportunity to showcase success stories from cities and regions that successfully integrated electromobility and combined it with local energy production into their territory planning. The presentation of case studies provided tangible examples of the positive impacts of a strategic approach to electromobility implementation and the related challenges, and local energy policy. For example, representatives of Vendée, a department in the west of France, shared how Vendée created the

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capabilities to encourage local energy production that was inexistent 20 years ago. Today, 25% of total energy production is covered by either wind farms within the department or decentralized solar energy. Yet, several challenges were also shared regarding reducing the administrative costs for reinjecting energy to the grid and regulating self-consumption.

Overall, the conference unveiled different perspectives and experiences on the policies implemented and required for the sustainable development of territories. Local governments must consider the design of policies that go beyond the typical policies used to incentivize EV adoption, such as reduced parking fees for EV owners. Indeed, leveraging solar and wind power, in combination with EV adoption, is the new challenge that local communities face to reduce their carbon footprints and achieve significant cost savings in the long run. Stakeholders and conference participants agreed that despite the positive momentum in electromobility adoption, challenges still require careful consideration and innovative solutions. Uncertainties related to technology and regulation, limited funding for infrastructure development, lack of standardized charging infrastruc-

ture, and public resistance to change were among the most mentioned hurdles that industrial actors, cities, and territories currently share.

Looking ahead, the future of the integration of electromobility with the energy system, considering territorial and city planning, appears promising. The conference showcased the immense potential of collaboration, knowledge exchange, and decision-making for organizing territories and cities with a sustainable lens. Despite the uncertainty previously mentioned, by continuing to share best practices and lessons learned and fostering partnerships, cities, and territories can pave the way for sustainable, liveable environments that prioritize citizens. The event was a valuable learning opportunity, highlighting key lessons from the private and public sectors. Flexibility and adaptability were critical attributes of policymakers for territorial planning. Indeed, there are several innovative technologies and emerging trends to keep up, such as V2G.

Programme: <https://www.fae.fr/en/89-conferences.html#/conf/314/1>

Photos: <https://www.fae.fr/fr/89-conferences.html#/conf/314/2>