Intellectual Property Strategies for Facilitating Diffusion of Climate Technologies in Cities

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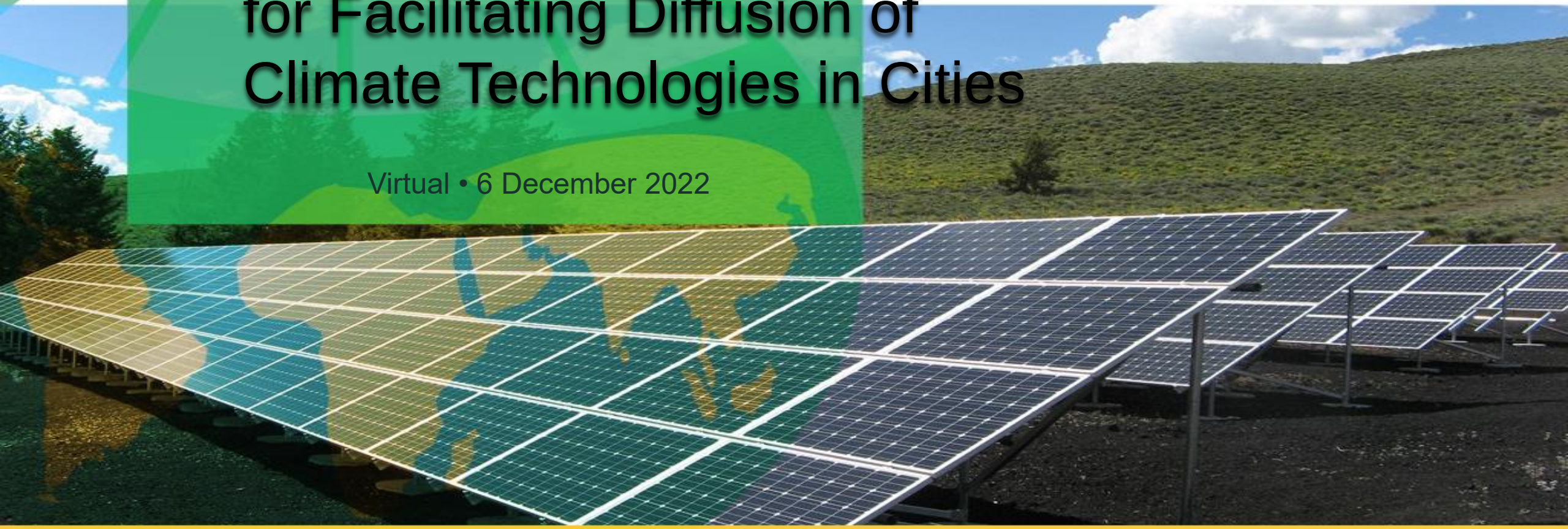

Climate Friendly Technology in Urban Settings

- Mitigation
  - ✓ Electric Vehicles
  - ✓ Waste Management/Recycling
  - ✓ Energy efficient homes/offices/public spaces
  - ✓ Energy efficient industrial areas
- Medicines/Treatments for diseases arising due to climate change (respiratory, cardiovascular, cancers, communicable diseases)

For developing countries, the challenge of addressing climate change in the context of cities is a dual challenge – ensuring mitigation of and adaptation to climate change and addressing the adverse impacts of climate change on the citizens, while ensuring this does not adversely impact the livelihoods of citizens. Affordable and mass scale access to climate friendly technologies is essential for this to happen.

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Relation to Intellectual Property

- Mainstream economic literature suggests that IP may not be an incentive for innovation
  - In most [industries], the cost of invention is low; or just being first confers a durable competitive advantage… so there's no point to a patent monopoly that will last 20 years… **Most industries could get along fine without patent protection** (R. Posner, 2012).
  - Indeed, the historical evidence provides little or no support for the view that intellectual monopoly is an effective method of increasing innovation (Boldrin & Levine, 2007)
  - Overall, the weight of the existing historical evidence suggests that patent policies, which grant strong intellectual property rights to early generations of inventors, may discourage innovation. On the contrary, policies that encourage the diffusion of ideas and modify patent laws to facilitate entry and encourage competition may be an effective mechanism to encourage innovation (Moser, 2013).

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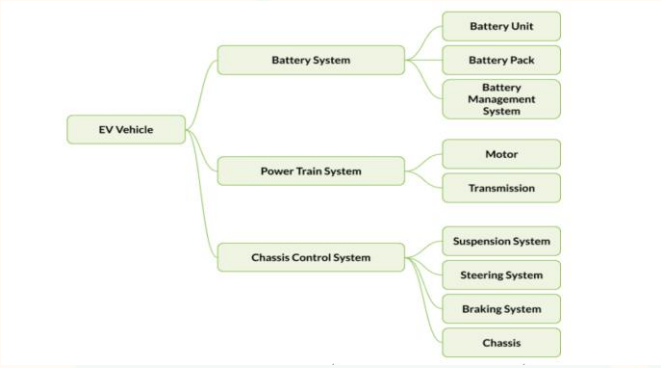
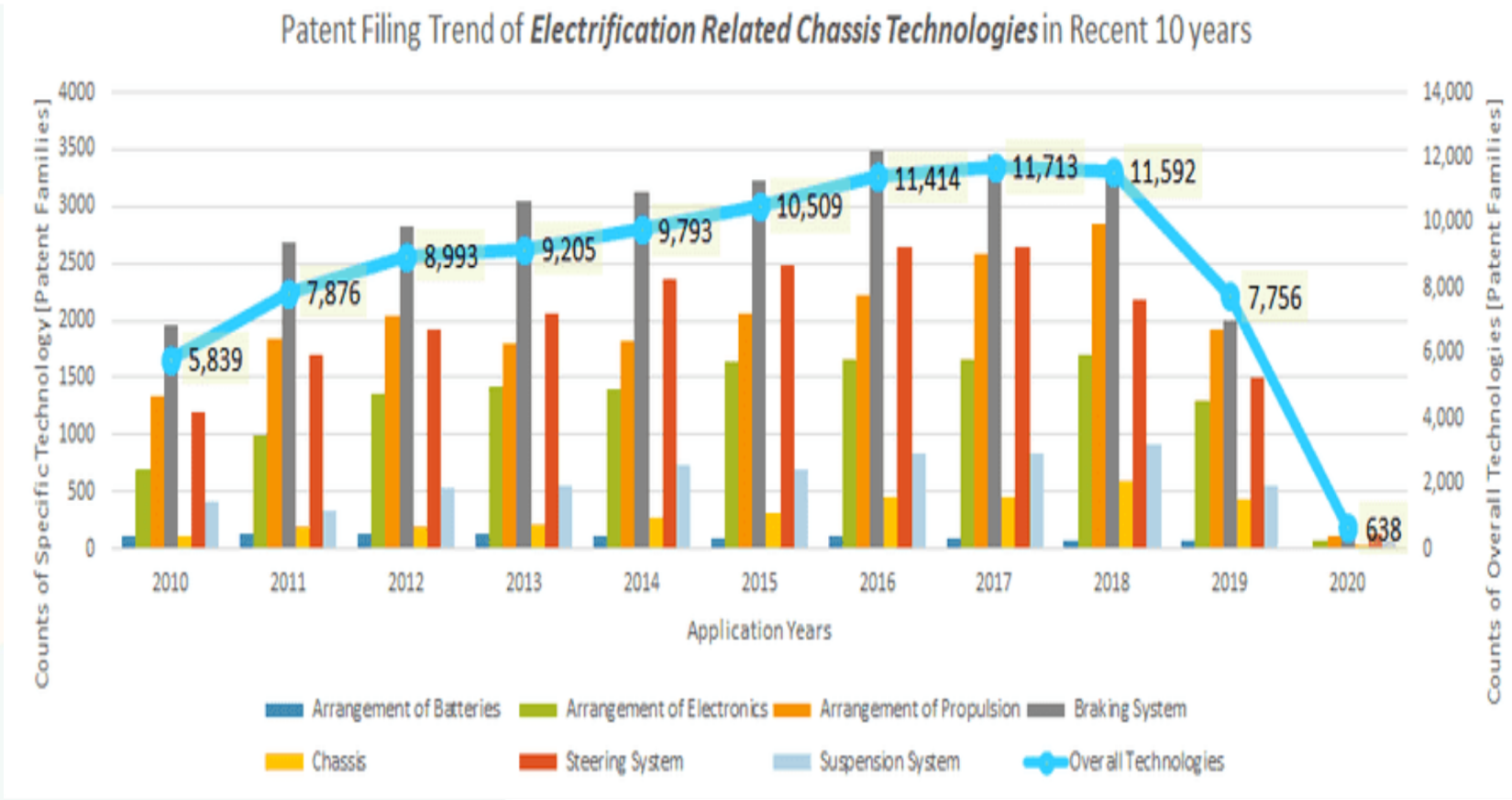
One Technology, Multiple Patents

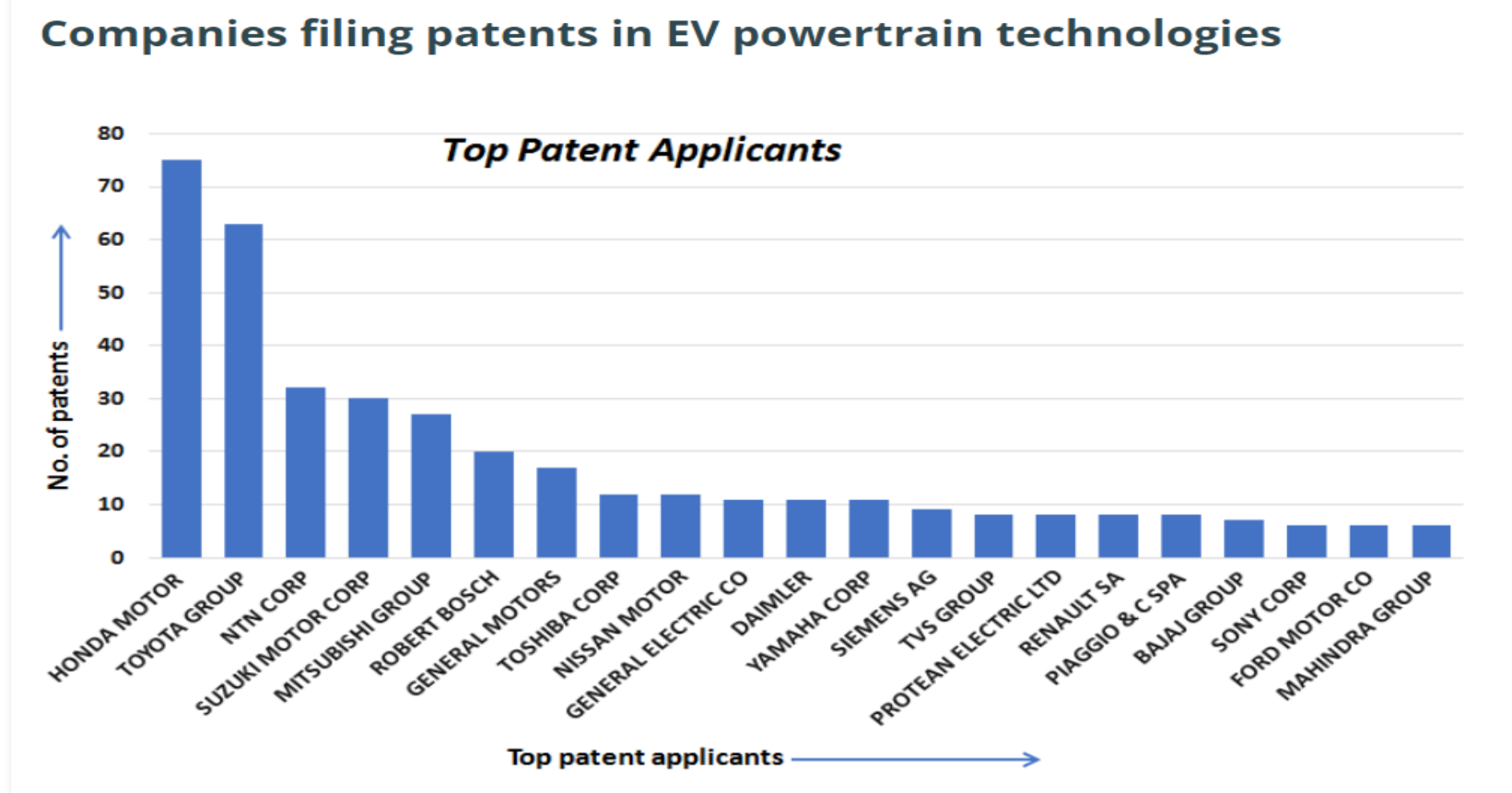
- Patents – Multiple patents could cover different claims. For example, some firms could patent powertrains of electric vehicles, others could patent the chassis control system or the battery system



Patenting Trends can vary within sub-technologies



Dominance of Foreign Firms – Emerging Local Firms



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Need to Shape IP Law in Support of Industrial Development Objectives

- Formulate patent laws to contribute to development of industries related to climate friendly technologies -
  - Encourage technology transfer and diffusion

- Lessons from post-war Japanese IP policy
  - Pre-grant opposition and delays in patent examination to create strategic incentives for early bargaining between (foreign) innovators and potential (local) rival firms
  - MITI empowered to compel cross-licensing of technologies of national importance
  - Scope of patent applications limited to single independent claims
  - Defensive patent flooding by local firms – surrounding patent over core technology by innovator with minor incremental claims by local firms

- Crucial factors – local industrial capacity to innovate around; supportive government policies

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How to use IP flexibilities for Technology Diffusion

- Robust patent examination
  - Application of patentability criteria
  - Ensuring adequate scrutiny over speedy disposal of applications
  - Deferral of examination
  - Limiting the scope of claims in an application
  - Pre-grant opposition
- Appropriate use of doctrine of exhaustion for parallel importation
- Exceptions to patent rights
  - Research by local firms
  - Manufacturing for exports
- Compulsory licensing

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Thank you!

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