Zero-emission road transport: Funding the ZEV transition

Moderated by Urda Eichhorst, Advisor on Transport and Climate Change, GIZ
ZEV Alliance: Peer-to-Peer Collaboration

- Monthly collaboration of 18-government ZEV Alliance member network
  - Collaborate, share info, experiences on policy and market developments
  - Support each other on action plans, incentives, utility policy, campaigns, infrastructure
  - Email exchange: 75 individuals from ZEV Alliance governments
  - Monthly teleconference representation: 25+ staff from 18 governments

- In-person meetings 2015-2019:

ZEV Alliance events: http://www.zevalliance.org/all-events/
ZEV Alliance reports: http://www.zevalliance.org/publications/
ZEV Alliance: Focus areas for deep collaboration

Three 2020 focus areas to be announced!

- Expanding access to ZEVs
- Implementing open, smart charging
- Funding the full transition to ZEVs
- Accelerating ZEVs in shared fleets
- Fast charging best practices
- Electrifying non-road transport
- Hydrogen infrastructure practices
- Charging infrastructure practices
- Zero-emission heavy-duty vehicles
- Consumer outreach best practices
- Utility ZEV best practices
- Evolution of incentives
- Next-generation ZEV technology
- Principles for incentive design
- ZEV role in climate mitigation
- Collaborative agenda

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Funding the ZEV transition research objectives

- How are governments funding ZEV support programs now?
  - *Vehicles, infrastructure, consumer awareness, R&D*

- How can governments design sustainable, long-term funding sources?
  - *Polluter-pay principles, carbon markets, bonus-malus taxes*

- What are key low-outlay policies for long-term support?
  - *Emissions regulations, ZEV mandates, green building codes, low emission zones*

- How does total investment compare with long-term benefits?
Costs, benefits, and policy in the U.S. through 2050

By 2050: Cumulative benefits are 10x the cumulative costs, annual benefits over $250 billion

- **Incentives**
  - Pollution-indexed fees and taxes for all vehicles for road maintenance, infrastructure

- **Consumer campaigns**
  - Standard industry marketing for ZEVs

- **Infrastructure support**
  - Market-led public infrastructure rollout

- **Vehicle standards (CO₂ and ZEV regulations)**

### Chart

- **Net present value (billion 2018 $)**
  - $250
  - $200
  - $150
  - $100
  - $50
  - $0
  - -$50

### Timeline
- 2020
- 2025
- 2030
- 2035
- 2040
- 2045
- 2050

### Lines
- Upfront incremental cost
- Public charging
- Home charging
- Awareness
- Federal income tax credit
- State purchase rebates
- Upfront reduced price
- Energy savings
- Maintenance
- GHG mitigation
- Net benefits

**Source:** Slowik, Hall, Lutsey, Nicholas, & Wappelhorst (2019): [http://www.zevalliance.org/funding-zev-transition/]
Perspectives from ZEV Alliance leaders

Moderator: Urda Eichhorst, Advisor on Transport and Climate Change, GIZ

Benoit Charette, Minister of the Environment and the Fight Against Climate Change
Québec, Canada

Jared Blumenfeld, Secretary for Environmental Protection
California, United States

George Heyman, Hon. Minister of Environment and Climate Change Strategy
British Columbia, Canada

Mariette van Empel, Director of Sustainable Mobility, Ministry of Infrastructure and Water Management
The Netherlands

Aaron Berry, Deputy Head of the Office for Low Emission Vehicles, Department for Transport
United Kingdom
Resources

For more information about the ZEV Alliance, please visit www.zevalliance.org
For questions, please email secretariat@zevalliance.org
Download the full report on Funding the ZEV transition at: www.zevalliance.org/funding-ZEV-transition

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