Draft Proposal for a Global Road Map for De-carbonization of the Transport Sector

“Re-defining climate ambition” IEA workshop
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Dr. Patrick Oliva, Michelin
Put us on track for a ‘zero net emission’ economy early in the second part of the century, to secure a ‘well below 2°C’ landing by century end.

Ambition and 8 priorities of draft roadmap:

1. Synergistic urban transformation
2. Low-carbon energy supply strategy
3. Modal efficiency improvement
4. Shortened supply chains
5. Unnecessary travel reduction
6. Adapted solutions for ‘rural’ world
7. Investment in adaptation & offsetting
8. Financial & regulatory tools

Make innovation take center stage
Avoid, Shift, Improve, Enable
Key Building Blocks are NOW in place already
Institutional Synergy & Simultaneity
To be presented in Marrakesh

Trailblazers / OECD:
- 2016
- 2020
- 2025
- 2030
- 2035
- 2040
- 2045
- 2050
- 2060
- 2080

Fast followers:
- 2016
- 2020
- 2025
- 2030
- 2035
- 2040
- 2045
- 2050
- 2060
- 2080
Focus on synergistic urban transformation
Leverage aspiration for healthier, inclusive lifestyles to drive de-carbonization

- Expand ULEZ concept (e.g. London) to include GHG emissions
- Move towards ultra-low emission cities (ULEC), before moving to zero transport emission ZEZ/ZEC.
  - Realize efficient and effective market for new services and technologies.
  - Maintain local mandate for urban transport policies

Suggestions:
- ----- Develop joint SUMP/ULEC approach ----- Work with Covenant of Mayors

Modal Shift
- More walking & cycling high service quality, connected, seamless mass transit solutions (dedicated lanes + rail promotion in dense habitat areas)

Technology
- ITS development and hydrocarbon (fossil or bio) combustion reduction (more electric powertrains)

Redesign
- Inner city community planning & last mile freight delivery optimization

Finance
- New business models & PPP promotion
A three-pronged low-carbon energy strategy

- Renewable energy is essential for low-carbon and decentralized electricity generation.
- Battery industries must be strengthened for secured supply.
- Sustainable bio-kerosene (aviation) & other bio-fuels are required (road, rail, boats) for internal combustion engines.
- Low-carbon hydrogen industry indispensable for transition to electric powertrains, (in addition to battery, supercaps, and power electronics industries).

- In addition to low-carbon electricity, sustainable bio-fuel & hydrogen industries are indispensable by 2025/2030 at the latest to significantly start de-carbonizing transport.
- An exhaustive low-carbon energy plan is a must for the world.

- **Electricity**
  - 2016: 500g CO₂/kWh
  - 2020: 200g CO₂/kWh
  - 2025: 100g CO₂/kWh
  - 2030: 40g CO₂/kWh
  - 2040: 20g CO₂/kWh
  - 2050: 40g CO₂/kWh
Orchestrate modal and system efficiency improvement

- Post 2020 emission standards trajectories must extend to 2050, at minimum.
- Encourage co-modality and modal shift to most efficient solutions, based on evidence of performance improvement.
- Optimize the whole multi-modal system as this is perhaps where transport policy can have the greatest impact.

*include CO₂, NOₓ and particles in negotiated objectives
Launch reflection on targeted financial and regulatory tools (externality pricing, fiscal incentives to rapid investment in long-term low-carbon solutions, standards, level playing field and risk cover measures...).

Support an accelerated transport de-carbonization through global standards & technology transfers.

**Suggestion:**
Complementary Strategies

Supply chain
Redesign + modal shift

20% km optimization?
10% shift?

Circular economy and industry 4.0 schemes will help re-design supply chains (local & long haul). A public/private workstream on this issue must be launched without delay.

Less unwanted travel through Smart Working

Reduced Congestion
50% less commuting kms?

Side impacts of mode sharing, teleworking from shared remote offices ..., on behaviors and the economy may be hugely positive. Strong action in this area must be coordinated, once again, to create business opportunities.

Rural planning

E-Charging (individual or collective) accessible to 50% of the rural population?
50% supplied by bio-fuels?

Infrastructure planning should in particular take into consideration that decentralized electricity or renewable energy generation is favored in rural areas, with potential considerable benefits. Car pooling to be widely promoted.

Adaptation + Offsetting Strategy

By 2060/2080, the temperature will have increased and the transport sector will not be ‘zero-emission’. From now on:
1/ strengthen efforts in adaptation and make our economy more climate-resilient
2/ start imagining and implementing EU-wide, large scale offsetting solutions (unless other sectors become GHG positive enough to counterbalance mobility/transport externalities, which is doubtful).

Shorten and improve supply chains

Avoid unnecessary travel / Promote shared commuting

Deploy pertinent solutions for ‘rural’ population

Invest in adaptation, economy resilience and offset strategy
PPMC is an Open-Ecosystem and is Ready to Work with all of You.

Thank you!

www.ppmc-cop21.org

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