Nexus of Sustainable Transport and Renewable Energy

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**Transport Needs to Raise Ambition**

- Findings of REN21 GSR 2018 shows that transport is lacking behind other sectors and more ambitious actions are needed.
- Paris Agreement set the goals of limiting average global temperature increase to well below 2 degrees and strive to **1.5 degree Celcius**.
- SLoCaT translated this target to the transport sector and identified that we need to achieve **2 Gt CO2 by 2050**.
- Low carbon transport activities need to be accelerated and new actions need to be stimulated.

Read our paper here: [https://www.researchgate.net/publication/325021150_Decarbonising_transport_to_achieve_Paris_Agreement_targets](https://www.researchgate.net/publication/325021150_Decarbonising_transport_to_achieve_Paris_Agreement_targets)
Transport is responsible for 32% of total final energy consumption but renewable energy in transport accounts for only 3.1%.

- 90% provided by **liquid biofuels**
- Use of **biogas** is very limited
- **Electrification** of transport is rising but it will only have climate benefits if the power comes from renewables

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**Transport is the least diversified sector in terms of energy sources**

**Success of energy transition will rely on transport decarbonization**

(Source: REN21, Renewables 2018 Global Status Report)
Electrification of all transport modes is often seen as solution

Examples of heavy and light rail supplied by renewable electricity can be found in the Netherlands, the cities of Delhi (India) and Santiago (Chile)

Austria and Germany implemented policies to stimulate the use of renewable electricity in EVs through financial and fiscal incentives

New milestone was reached in 2017: **3 million electric vehicles on roads** (only 0.3% of global vehicle fleet)

(Source: IEA Global EV Outlook 2018)
SLoCaT maintains overview of targets and trends by countries, cities and companies as well as findings of market reports.

- Identified that 61 countries, 64 cities and 28 companies are enhancing electrified mobility.
- 6 countries in 2017 announced phase out of fossil fuel cars, adding to previous commitments made by Norway and others:

  - **Scotland**: ban sales of fossil fuel-powered vehicles by 2032 and 40% of car sales by 2032 to be EVs and other low-emission vehicles. [Source](https://bit.ly/2FVFPzH)
  - **Ireland**: have no new non-zero-emission vehicle to be sold in 2030 and no diesel-only buses purchased from 2019. [Source](https://bit.ly/2ZdZgB3)
  - **California**: state bill could ban fossil fuel cars by 2040. [Source](https://bit.ly/2FVFPzH)
  - **United Kingdom**: wants to make every new car an ULEV from 2040 and an effectively decarbonised fleet by 2050. [Source](https://bit.ly/2sa0640)
  - **Norway**: allow only zero-emission light vehicles, city buses and light commercial vans after 2025 and all new heavy commercial, 75% of new long-distance buses and 50% of new lorries should be zero-emission vehicles by 2030. [Source](https://bit.ly/2HSImrl)
  - **Netherlands**: plans ban of all new internal combustion engine vehicles by 2030. [Source](https://bit.ly/2rftdfd)
  - **Slovenia**: new sales of cars to have less than 100 grams of CO2/km by 2025 and only low-emission cars (50 grams of CO2/km) by 2030. [Source](https://bit.ly/2oMFqGm)
  - **Taiwan**: to ban fuel-powered motorcycles by 2035 and internal combustion engine cars by 2040. [Source](https://bit.ly/2OVM49y)
  - **Sri Lanka**: government fleet and public buses to be hybrid and fully electric vehicles by 2025, followed by complete ban of fossil fuel cars by 2040. [Source](https://bit.ly/2s5eL4t)

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Our E-Mobility Overview is available here: [http://slocat.net/sites/default/files/e-mobility_overview.pdf](http://slocat.net/sites/default/files/e-mobility_overview.pdf)
• 71 countries have enacted biofuel blending mandates on national or subnational level

• **Slow progress** due to policy uncertainties of biofuels feedstocks (highlighted in Box 2 of GSR) and slow deployment of new technologies (for example in biojet fuels for aviation)

• Advanced biofuels are enacted by Denmark, Italy and USA

**Countries with Ethanol Blend Mandates**

(Based on REN21, Renewables 2018 Global Status Report)
# G20 Activities: The need for a transport and energy transition

For more information, please refer to [Agora Verkehrswende and GIZ (2017)](https://example.com) “Towards Decarbonising Transport”.

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Holistic Approach is required for Transport Transition

- 75% of NDCs submitted highlight transport as a mitigation source
- Few NDCs have a transport sector GHG mitigation target
- E-mobility and biofuels are regarded as major measures

- But holistic approach is needed!
- Balance between measures that:
  - **Avoid** motorized transport
  - **Shift** to environmentally friendly modes
  - **Improve** efficiency of current transport modes
Key Messages on Transport

• Transport is lacking behind other sectors, needs to step up through comprehensive action and support of other sectors

• Transport needs:
  – Clean energy (alternative fuels, electrification + renewable energy)
  – Less energy consumption (substitute shorter trips with walking and cycling, longer trips with public transport)
  – More energy efficiency (better fuel economy standards)
Thank you for your attention!

For more information, visit our website:

http://slocat.net/
http://www.ppmc-transport.org/

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