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European Union and the Republic of Turkey

Technical Assistance for Developed Analytical Basis for Formulating Strategies
and Actions towards Low Carbon Development
Düşük Karbonlu Kalkınma için Çözümsel Tabanlı Strateji ve Eylem Geliştirilmesi
Teknik Yardım Projesi TR2013/0327.05.01-01/001



Analysis of barriers and Opportunities for Low Carbon Mobility

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EU Strategy

Strategy for low emission mobility (July 2016) with 3 main elements:

- Increasing the efficiency of the transport system by:
 - Making the most of digital technologies
 - Smart pricing
 - Further shift to lower emission transport modes
- Speeding up deployment of low emission alternative energy such as:
 - Advanced biofuels (agricultural and forestry residues, e.g. wheat straw/corn stover/bagasse, wood based biomass)
 - Electricity (attention to the electricity grid)
 - Hydrogen (if political decision exists)
 - Renewable synthetic fuels
 - Removing obstacles to the electrical transport
- Moving toward zero-emission vehicles by accelerating transition towards low- and zero-emission vehicles:
 - Plug-in hybrids
 - Full electric cars
 - Fuel cells (hydrogen-powered vehicles)

Source: UNFCCC, 2017





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More efficient transport

Cooperative, connected and automated mobility (C-ITS) will allow road users and traffic managers to share information and use it to coordinate their actions (V2V and V2I)

- Optimal use of transport capacity (infrastructure and fleet), traffic and travel data
- Continuity in traffic and freight management ITS services

Requirements/ barriers:

New regulatory framework for:

- Market uptake incentives and
- Standardization

Well developed infrastructure (transport and for data transfer)

Skilled users & institutions

Investments

Modern fleet

Provides opportunity for:

Seamless door-to-door mobility

Integrated logistics

Value added services

Improved safety and comfort of driving

Creating jobs

Supporting economic growth and innovations

Source: UNFCCC, 2017





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More efficient transport

Fair and efficient pricing: powerful instrument to give incentives to low emission transport modes and energy and for faster renewal of the vehicle fleet

- In place for lorries and rail; from time to distance related; differentiation based on CO2 emission
- Time to address passenger transport: include buses, coaches and cars and vans

Requirements/ Barriers:

Amendments in regulatory framework for:

- Fuel and vehicle taxation
- Charging use of infrastructure

Political and social opposition

Provides opportunity for:

Improved competitiveness of intermodal freight and public passenger transport

Modal shift towards clean modes

Generating revenues to finance other LCD actions

Improving road safety

Source: UNFCCC, 2017





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More efficient transport

Promoting multi-modality

- Freight: incentives to make rail/intermodal/combined and short sea shipping transport more competitive than road
- Passengers: strengthen public transport; further develop bus and coach services

Requirements/ Barriers:

Further liberalization of the railway sector

Modernization of railway infrastructure

Amendments in regulatory framework for:

- Enhance capacity and efficient use of railway freight corridors
- Incentives for combined transport

Investments and subsidies

Opposition from road operators

Provides opportunity for:

Improve accessibility and affordability of passenger public transport

Reduce subsidies and compensations for railway sector (passenger transport and infrastructure M&O)

Improving transport safety

Source: UNFCCC, 2017





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Low emission alternative energy

Setting framework for alternative energy

- Food-based fuels should not benefit public support after 2020
- Innovation in new fuel types/mixes is needed
- More options for cars and busses; electricity for railways; bio-fuel for aviation, lorries and coaches; natural gas for shipping, lorries and coaches

Requirements/ Barriers:

Support in R&D for innovative fuels
Revision in legislation on fuels & renewable energy
Investments in advanced bio-fuels (currently not competitive with fossil and food-based)
User opposition (e.g. towards electrical cars and or bio-fuels)

Skills



Provides opportunity for:

Financial support for R&D could be made available
Lower operation costs (for some fuels only, i.e. natural gas and electricity)
Scaling-up technological development
Supporting innovations

Source: UNFCCC, 2017





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Low emission alternative energy

Roll-out of infrastructure for alternative fuels so to become widely available:

- Electricity
- Natural gas
- Hydrogen (optional)

Requirements/ Barriers:

Common standards to be established
Investments for specific infrastructure
Provision of information for the users about the compatibility of fuels and vehicles
Distribution of electricity at peak times

Provides opportunity for:

Financial instruments from EU could be made available
Creating jobs
Supporting economic growth and innovations

Source: UNFCCC, 2017





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Low emission alternative energy

Interoperability and standardization are critical issues for:

- Electromobility and
- Charging systems

Common plug standard exists for cars; buses and motorbikes are next

Requirements/ Barriers:

Establishment/ adherence to a EU/ nation-wide standard

Skills

Establishing/ amending regulatory framework

(Cross-border) interoperability of payments

Real-time information on charging points

Provides opportunity for:

International cooperation

Innovations

Creating jobs

Supporting economic growth and innovations

Source: UNFCCC, 2017





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Towards low- & zero-emission vehicles

In road transport further improvement of combustion engines will go in parallel to further policy development with focus on lorries, busses and coaches

Regain trust of consumers by:

- Improving vehicles' emission testing
- New type approval
- World harmonised Light Vehicle Test Procedure
- New fuel efficiency standards and post 2020 CO2 emission standards for cars and vans

Requirements/ Barriers:

New standards
New/amended regulatory basis, incl. public procurement & vehicle taxation
Financial incentives
Investments for gradual fleet renewal
Development of local production base
Opposition from manufacturers

Provides opportunity for:

International cooperation
Creating jobs
Supporting economic growth and innovations
Lower vehicle operation costs
Lower vehicle purchasing costs

Source: UNFCCC, 2017





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Low carbon urban mobility

Vital are policy and incentives for promoting low emission mobility; comprehensive approach includes:

- Sustainable Urban Mobility Planning and Integrated Spatial Planning
- Demand management (parking, congestion, deliveries management) and
- Promoting active travel (cycling & walking), public transport, and shared mobility (sharing & pooling)

Requirements/ Barriers:

Amendments in regulatory framework
Building skills and capacity
Investments in PUT, ITS and infrastructure
Fast urbanization and car ownership growth
Social perceptions & cultural specifics
Acceptability issues

Provides opportunity for:

Improve transport accessibility and affordability
Improving the living environment
Improving population health and safety
Generating revenues
Integrated city logistics
Value added services
Creating jobs
Supporting economic growth and innovations



Source: UNFCCC, 2017





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Thank you for your attention!

