

Government policy on renewable fuels and current status

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Government of Iceland

- First policy measures towards renewable energy for transport in 1998
 - Evaluate the possibility of utilising hydrogen as transport fuel
 - Iceland an international platform for hydrogen research
- Current position:
 - Create the worlds first transport paradigm fully based on renewable (domestic) fuels
- Market decides
 - The government provides a platform for all renewable fuels
 - Electricity (BEV)
 - Hydrogen (FCEV)
 - Methane (bio-methane from landfills/garbage other agricultural waste)
 - Bio-diesel
 - Methanol/ethanol



Government of Iceland (cont.)

- Actions since 2000~:
 - Revoked all taxes on H₂ vehicles and later all ZEV
 - Supported projects with financial support
 - Was a founding member of the IPHE (International Partnership for the Hydrogen Economy)
 - Created a one of the first Roadmaps on H₂
 - Supported RD&D projects
 - Changed the taxation policy of fossil fuel vehicles
 - Based fully on CO₂ emission
 - Founded a public/private partnership to have open dialogue
 - Græna Orkan (Ecoenergy)
 - Provided rebate on taxes for methane vehicles
 - Provided rebate on VAT for plug-ins <50g/CO₂/km



To name some.....



Current action plan

Adopted by parliament May 2012

Action	Short description	Responsible actors	Milestone	Status
Incentive ✓	Refund of VAT from ZEV	Ministry of Finance Ministry of Industry Ministry of Environment Ecoenergy	Should come into affect no later than 01.01.2012	In affect from middle of 2012. ~€ 10.000 refunded for each ZEV
Incentive ✓	Refund of 2/3rds of VAT for plug-in vehicles < 50g/CO2/km	Ministry of Finance Ministry of Industry Ministry of Environment Ecoenergy	Should come into affect no later than 01.01.2012	In affect from middle of 2012. ~€ 7.500 refunded for each plug-in with <50g/CO2/km
Incentive ✓	Determine how long incentives will be in place for environmental fuels/vehicles	Ministry of Finance Ministry of Industry Ministry of Environment Ecoenergy	Policy in place at the end of 2011	Approved that incentives should be in place until 10% of the total vehicle fleet is ecofriendly or at least to 2020 whatever comes later
Incentive ✓	Rebate on taxes for company provided vehicles if they are ecofriendly	Ministry of Finance Ecoenergy	Policy in place at the end of 2011	Has not been adopted. Minstry of Finance positive to put in place before during 2013



Current action plan (cont.)

Action	Short description	Responsible actors	Milestone	Status
Safety	Revision of regulations regarding alterations of conventional vehicles to eco-friendly	Ministry of the Interior The Road Traffic Directorate Automotive Association of Iceland	Should be revised in 2011, specifically focusing of safety, inspections, etc.	Has not been put into effect. Current goal that the work will be finalised in 2013
Safety	Training of first responders, fire brigade and polic - specifically regarding accidents	Ministry of the Interior The Road Traffic Directorate Automotive Association of Iceland Police and fire brigade	Plan in place before end 2012	Work has already started specifically regarding BEV's. Overall training still lacking.
Education	Revision of education for vehicle mechanics in relations to new environmentally friendly fuels	Ministry of Education Ministry of Industry Automotive Association of Iceland	Plan in place before end 2012	Has not started
Education	Environmentally friendly driving as part of drivers licence	Ministry of the Interior Ecoenergy	Plan in place before end 2012	Has not started



Current action plan (cont.)

Energyshift ✓	Measurement of total usage of electricity in the future car fleet	Ministry of the Industry The Road Traffic Directorate Energy Agency	Ideology ready by end 2012	First steps taken. The goal is to be able to measure the contribution of electricity in transport (i.e. to understand the contribution of electricity as part of the total fuel consumption)
Energyshift	Evaluate the cost of grid of fast charging stations	Ministry of the Industry Energy Agency	Finalised by end 2012	Has been delayed. Goal to finalise in 2013
Energyshift ✓	Mixing renewable energy into fossil fuels (biodiesel, methanol, etc).	Ministry of the Interior Ministry of Industry	Finalised by end 2012	Work is in full process and policy proposals will be made before end 2012
Energyshift ✓	National Renewable Energy Action Plan	Ministry of the Industry Energy Agency	Finalised by end 2012	In final stages - should be finalised before end 2012
Energyshift ✓	Iceland's production capacity of various renewable fuels	Ministry of the Industry Energy Agency	Finalised by end 2012	Work has been delayed. Project funding has been sought from EU-funds
Energyshift	Conduct an LCA for different renewable fuels	Ministry of Environment	Finalised by end 2013	Previous studies will be used and new ones
Energyshift	Reduce sulphur in ship oil	Ministry of Environment	Finalised by end 2011	Postponed - will be evaluated later



Current action plan (cont.)

Action	Short description	Responsible actors	Milestone	Status
Policy actions	Environmental transport policy for government institutions	Prime Minister Office	End of 2012	Progress is slower than anticipated. Milestone will not be reached
Policy actions	Future collection of funds from transport	All related parties	End of 2014	Work in slow progress - first discussions have taken place
Policy actions	Economic evaluation for building infrastructure for renewable fuels	Ministry of the Interior Ministry of Industry	End of 2012	Work in slow progress - EU funds being sought
Municipals	Revision of building codes - plugs outside new houses	Ministry of Environment Municipalities	End 2012	Has not started
Municipals	Environmental transport policy for municipalities	Ministry of Environment Municipalities	End 2012	Work in progress. Introduction has been done around Iceland in 2012 - actions missing
New funds	New fund to support construction of infrastructure for renewable energy	Ministry of Finance Ministry Industry Prime Ministers Office	End 2012	The Ministries are evaluating where financing could come from. Milestone will not be reached
Innovation	Joint public-private R&D center for renewable energy in transport	Ministry of Industry Innovation Center Iceland Ecoenergy	End 2012	Milestone has not been reached



Other government oriented activities

- The INTELECT project (Nordic project)
 - Mapping incentives and creating market tools
- NORA supported a report how to stimulate electromobility in the North Atlantic
 - Recently published www.nora.fo „reports“
- Membership in IPHE
- Adoption of EU - regulations and targets
 - Like 2020 goals, etc.



Scandinavian cooperation

- There is an increasing Nordic cooperation
- A specific funding program from “Norden –
 - Created many projects - increased networking specifically related to BEV's
- H₂ network has been in place for years
 - North Atlantic Hydrogen Association (NAHA)
 - Scandinavian Hydrogen Highway Partnership (SHHP)
 - Joint approach
 - Vehicle manufacturers - potential customers
 - Jointly seeking RD&D partners
- More Nordic funding is needed
 - Green valley of Europe - new green jobs - etc.
- Increased political cooperation would be positive



Achievements 2000 -

- Unique knowledge regarding hydrogen as a fuel
 - World first commercial H₂ filling station
 - H₂ bus demonstration
 - Europe's largest fleet of H₂ vehicles 2009-2011
 - Commercial demonstration of H₂ in maritime operation
- BEV tested 1999 -
- No BEV growth 2002-2012
 - End of 2012 - 6 BEV vehicles were registered
 - After VAT incentives grown to 14 - 133% growth - continuity.....
- Bio-methane drastic growth in the last years
 - More than 3x - mostly retrofitted vehicles

Achievements 2000 — (cont.)

- Methanol production has started
 - Using waste gas from geothermal plants - mixed with H₂
 - Mixing with gasoline has not started - certification issues and gasoline quality!
- Two methane station open in the capital area
 - More planned - also in Akureyri
- 6 public plugs available in Reykjavik
 - Provided by Reykjavik Energy and shopping malls
- Bio-diesel production in number of places
 - Some mixed with diesel - direct use - marine applications
 - Production capacity still very limited

Necessary steps for progress

- Infrastructure
 - Lacking for all fuel types
 - Government incentives needed? Public/private partnership
- Governments and municipalities
 - „Put your money where your mouth is“
 - Only the City of Reykjavik really purchasing environmentally friendly vehicles - 100 methane vehicles and 5 battery
- Funding - lacking in general
 - RD&D funding is lacking

Iceland is a unique setting

- Cooperation can achieve many things
- Over 7.000 people have visited the H₂ project in Iceland over the last 8 years
- >550 media visits
- With joint public/private partnership it should not be difficult to have 20% of the transport fuels by 2020 coming from domestic renewable energy



THANK YOU

