Towards a low-carbon society

Presentation by Iceland at AWG-3 Round Table Session

Hugi Ólafsson
Ministry for the Environment

From coal to renewables – a short history

Three prerequisites:

- Resources
- Capacity to utilize
- Government stimulation of technology development and deployment

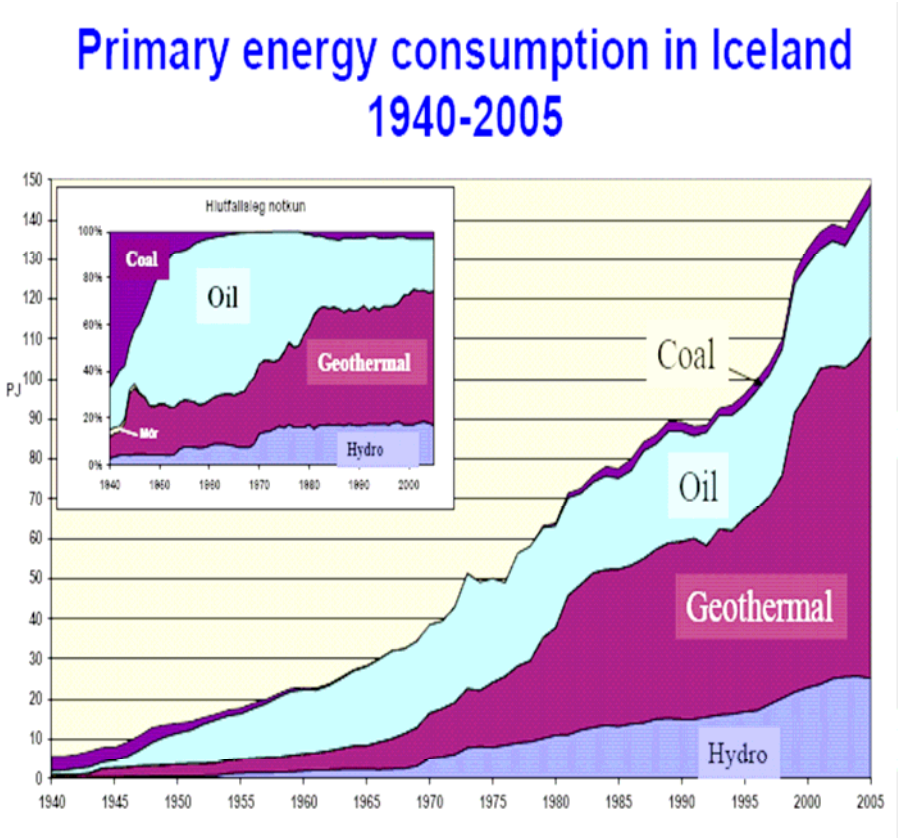
Coal smoke over Reykjavík, around 1930

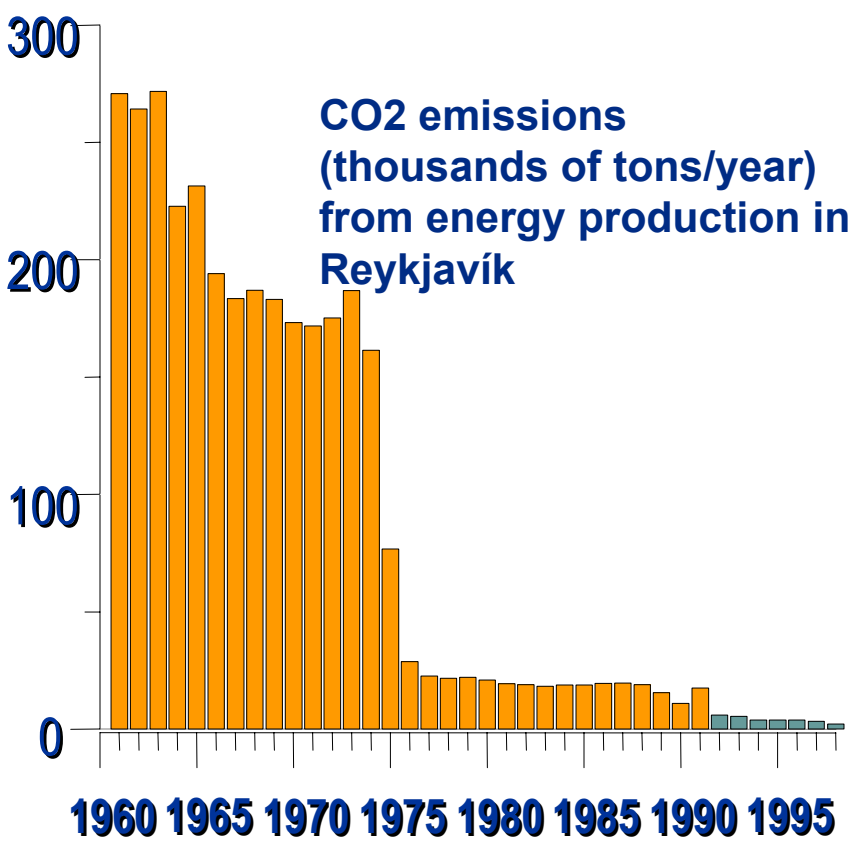
“Cold areas” of limited geothermal potential

De-carbonization – energy production:

Energy production = 4% of total emissions

- Emissions from energy production = 88 thousands tons; would be around 10 million tons CO2 with fossil fuels
- Small CO2 emissions from geothermal fields; research on carbon mineralization in geothermal fields

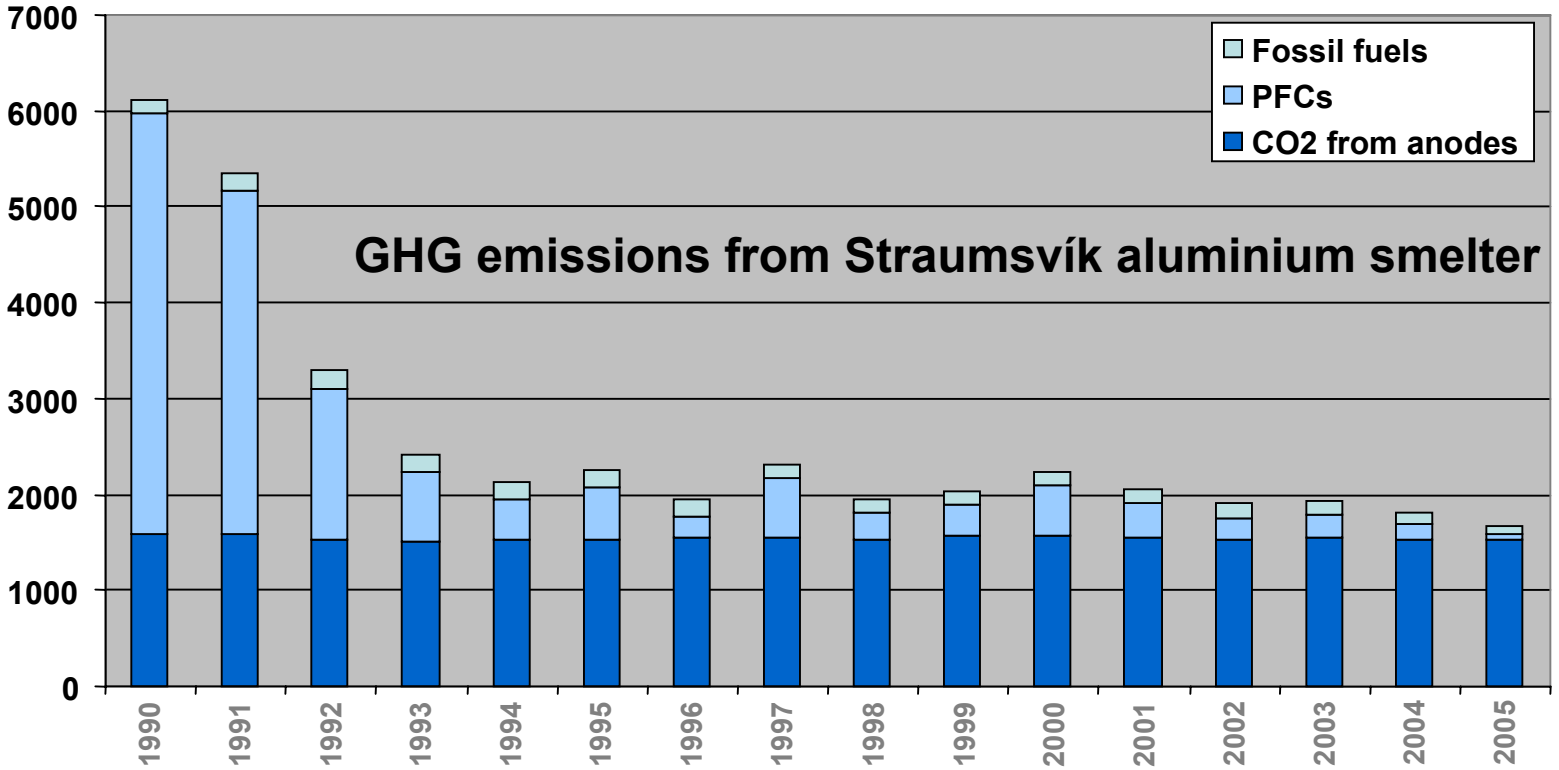




De-carbonization – Industrial processes:

Industrial processes = 25% of total emissions

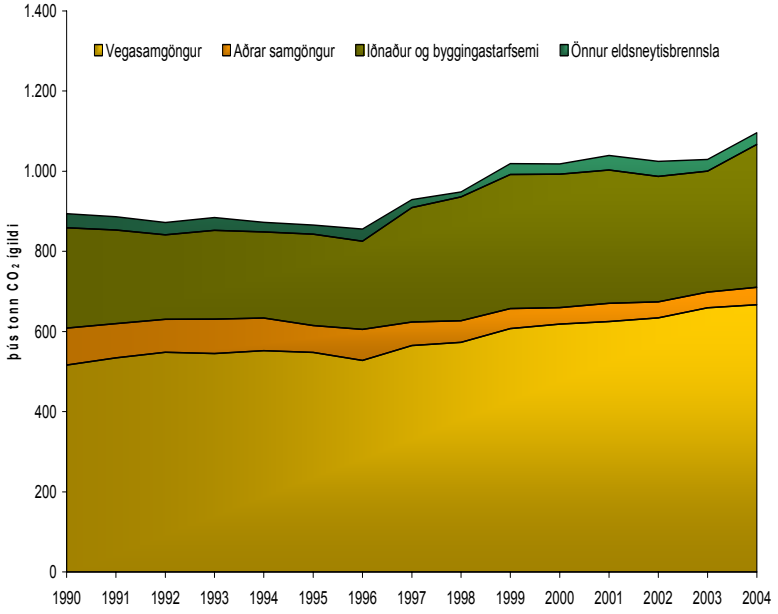
- Renewable energy + strong limits on PFCs = big drop in emissions
- Aluminium smelters in Iceland emit about 35-40% of world average per ton produced
- Decision 14/CP.7: international pressure on making energy-intensive projects climate-friendly
- Future: Carbon-free anodes? Almost GHG-free process?

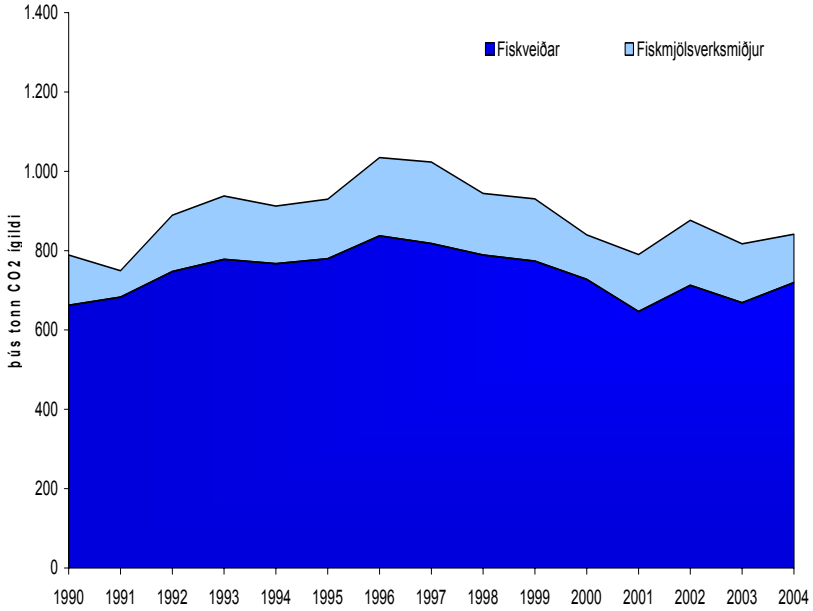


De-carbonization – fuel use:

Fuel for transport (20%) and fisheries (22%) = 42%

- Big fishing industry – need for assessing carbon efficiency
- Transport; growth in road transport – probably least carbon-efficient sector in Iceland
- Economic incentives for climate-friendly vehicles and fuels
- Research on new technologies (hydrogen, fuel-saving in ships)



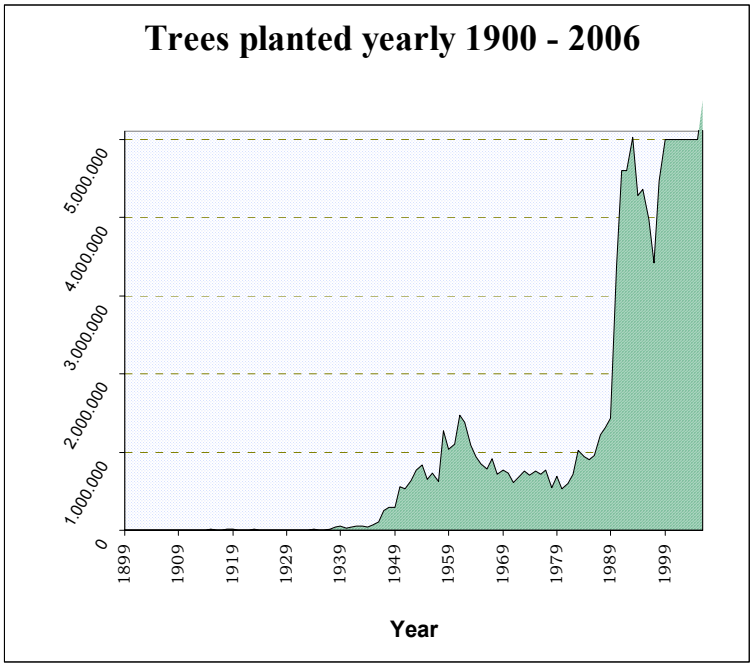


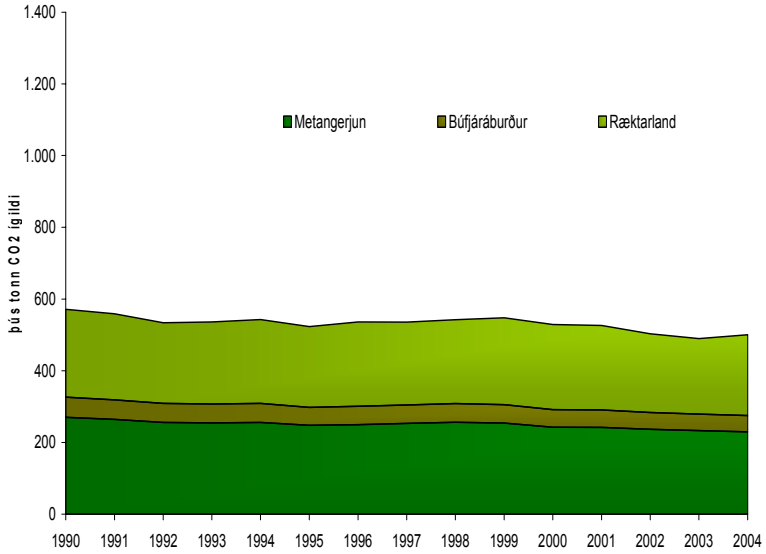
De-carbonization – land use:

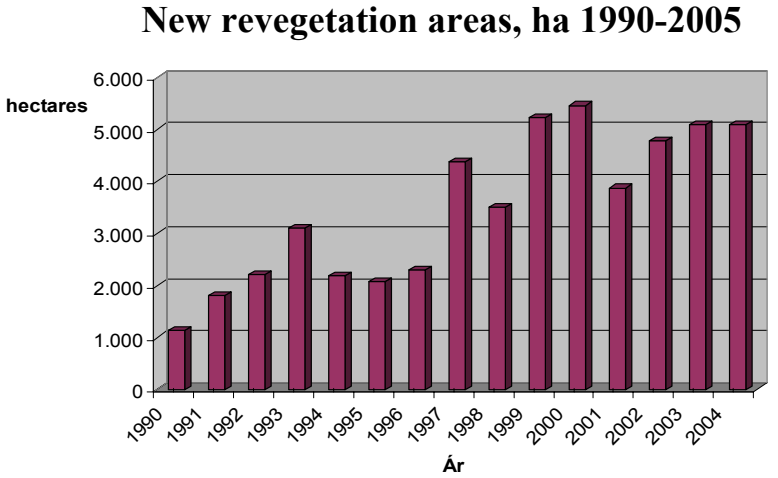
Agriculture (13%)

and land reclamation (-7%)

- Livestock raising (net emissions) declining
- Afforestation and revegetation (net removal) increasing
- Great potential for carbon sequestration in soil and vegetation







Some conclusions and lessons learned

- Iceland has effectively decarbonized its stationary energy sector – other countries with abundant clean energy sources can do the same
- Iceland has set up foundations for “phase 2” of decarbonization, with transport and fisheries as main targets – will take some time to achieve
- International context of actions is essential
- Small parties should face same pressure to de-carbonize their economies and individual sectors as big parties
- Focus on sector performance helps in constructing a fair international regime (burden-sharing) and in bringing sustained pressure on emission cuts where they are most effective and least costly