Iceland – Economic Analysis of Climate Change Mitigation Potential

Workshop on mitigation potentials, comparability of efforts and sectoral approaches, Bonn, 23-25 March, 2009

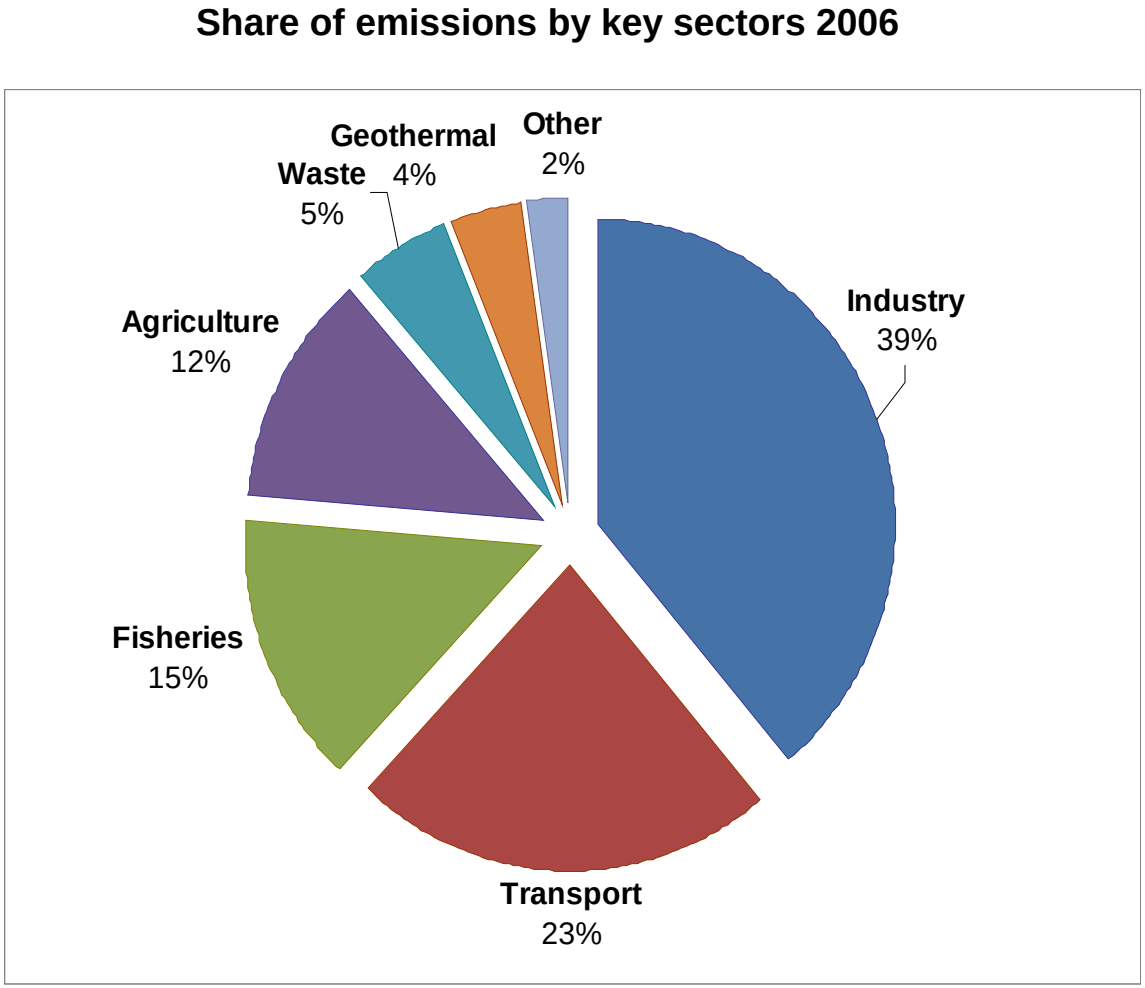
Ministry for the Environment, Iceland

Economic Study of Mitigation Potential to 2020

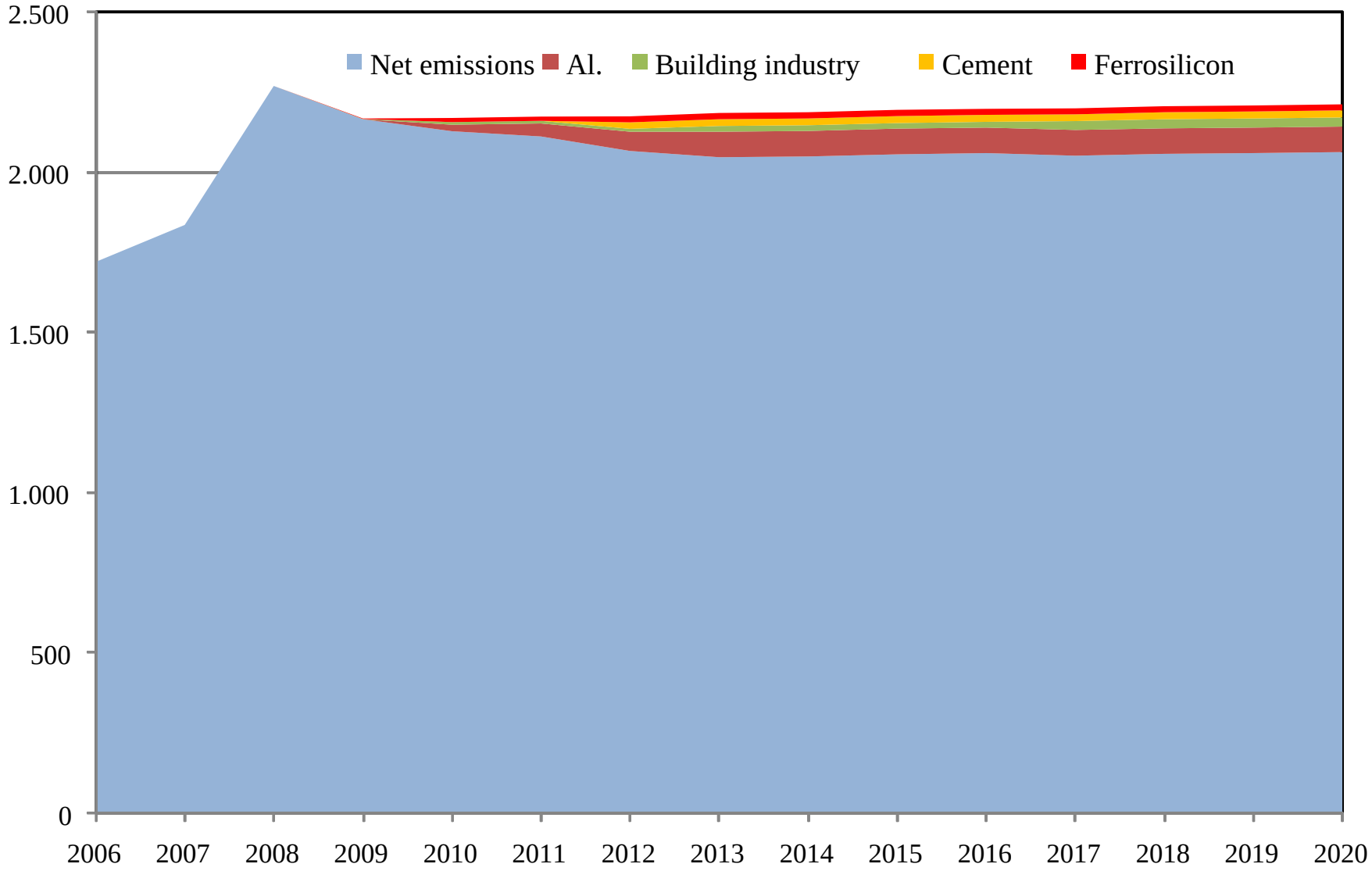
- Committee of independent experts, led by economist at University of Iceland
- Comprehensive analysis by sectors
- Significant mitigation potential in fisheries and road transport
- Limited mitigation potential in agriculture, waste and industrial processes (aluminium, ferrosilicon)
- Negligible or negative mitigation potential in energy production (almost 100% renewable)
- Sizable potential for carbon removal in afforestation and revegetation

Iceland GHG Emission Profile

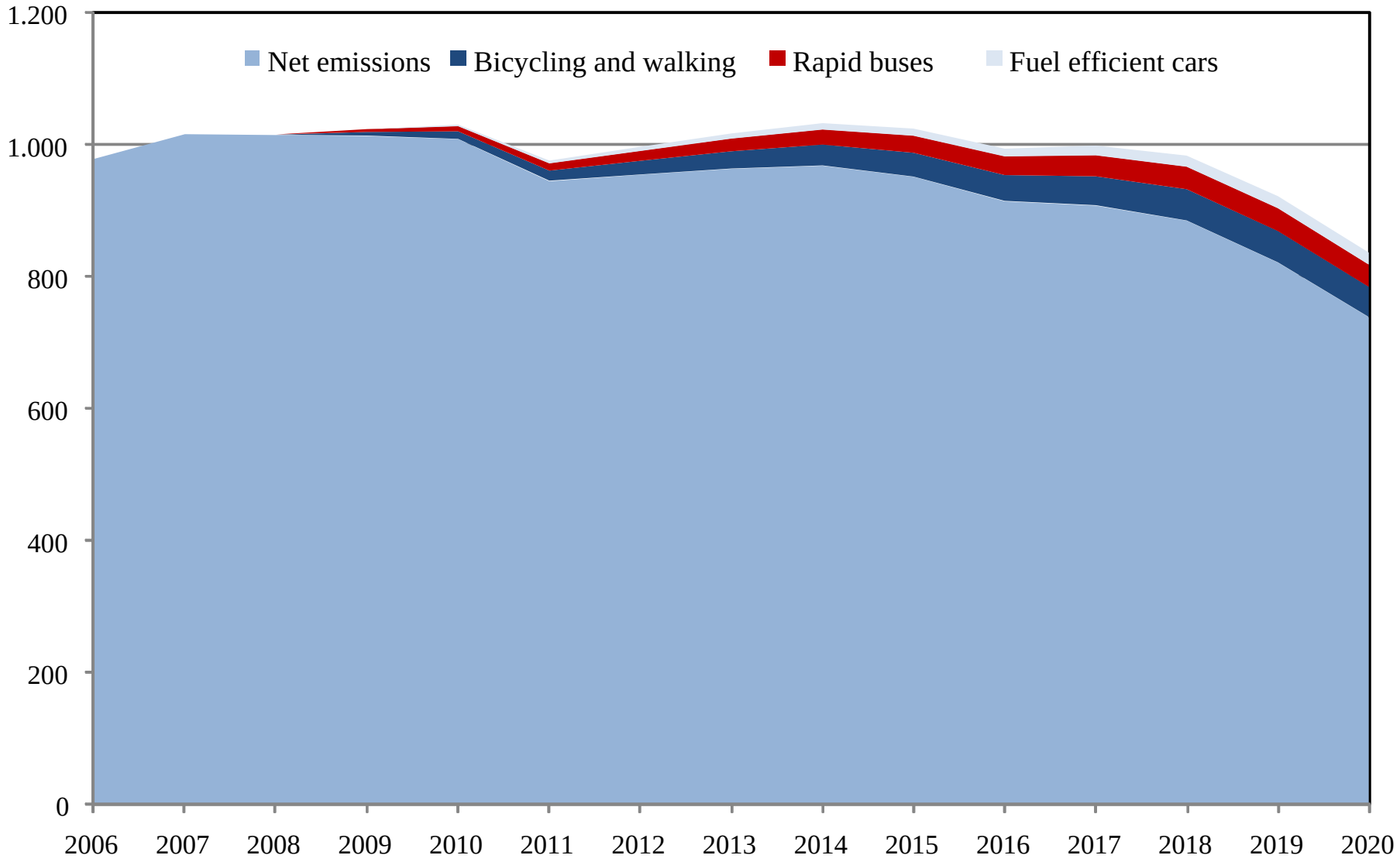
- Small population (320,000)
- Specialized trade-dependent economy (fishing, metal smelting)
- Large renewable energy sources (geothermal, hydro)
- Highest share of renewables in OECD: 72% of total gross energy production
- Degraded land: Great potential for carbon sequestration



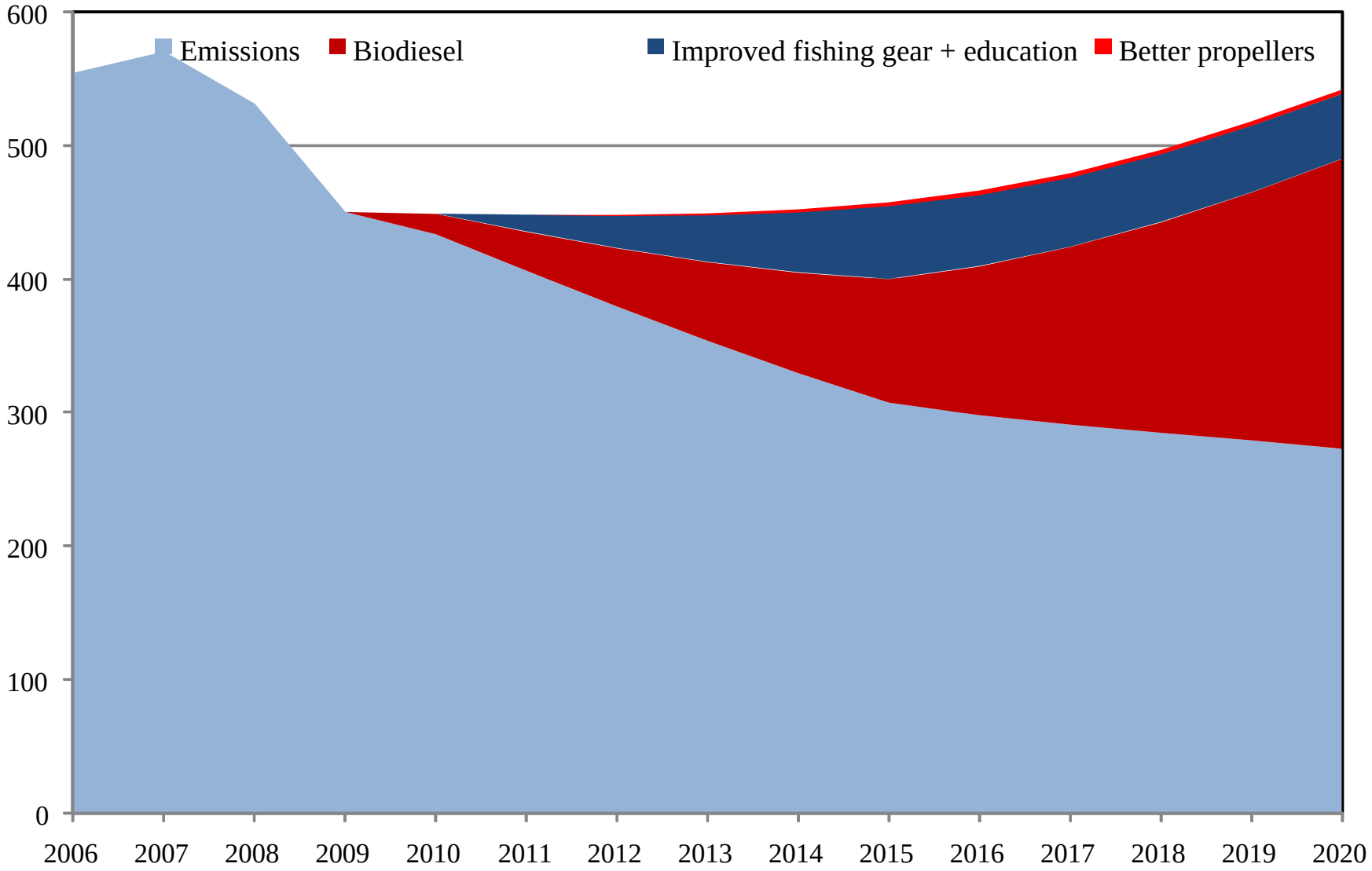
Key Sectors 1: Industrial Emissions (39%)



Key Sectors 1: Road Transport (23%)

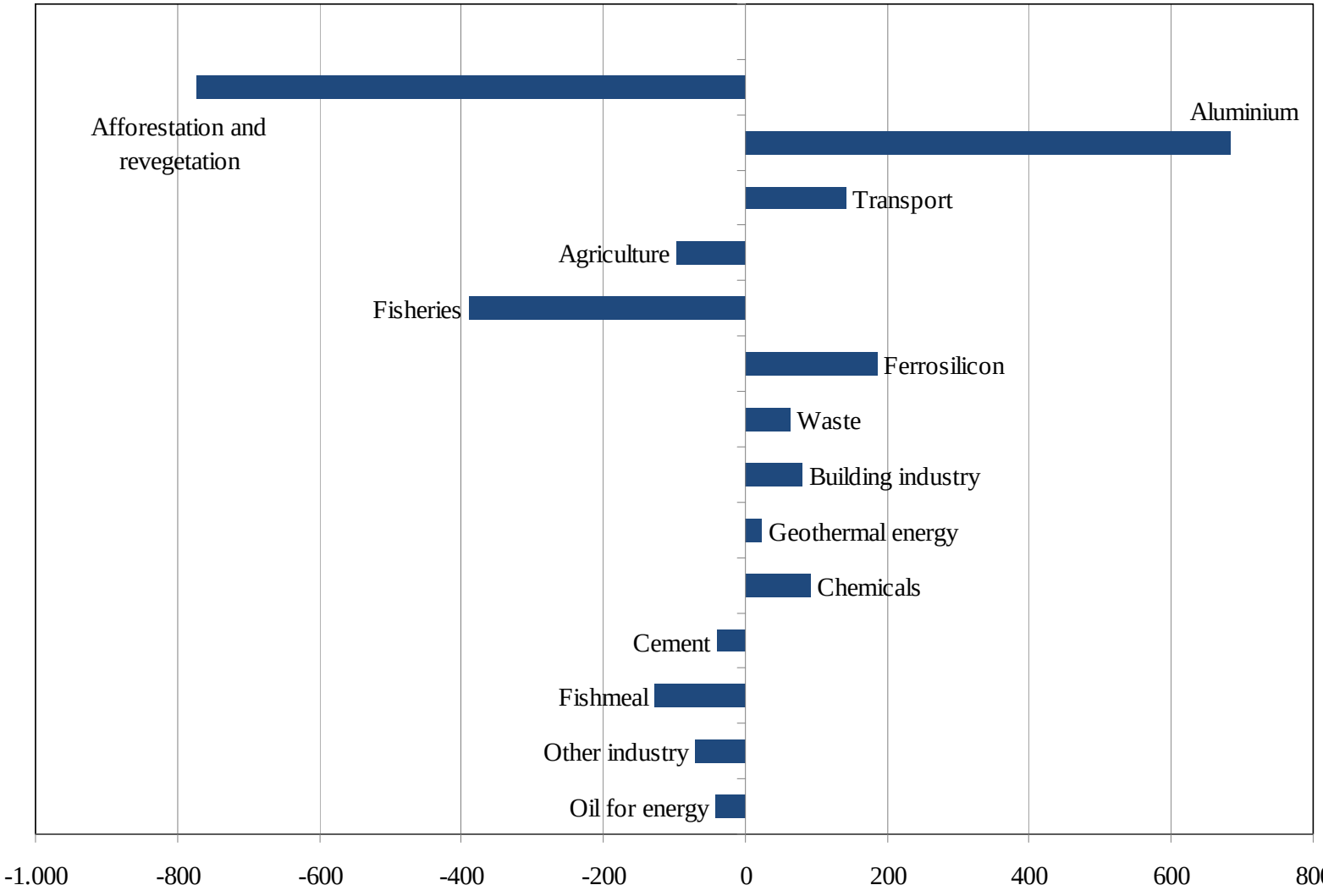


Key Sectors 2: Fisheries (15%)

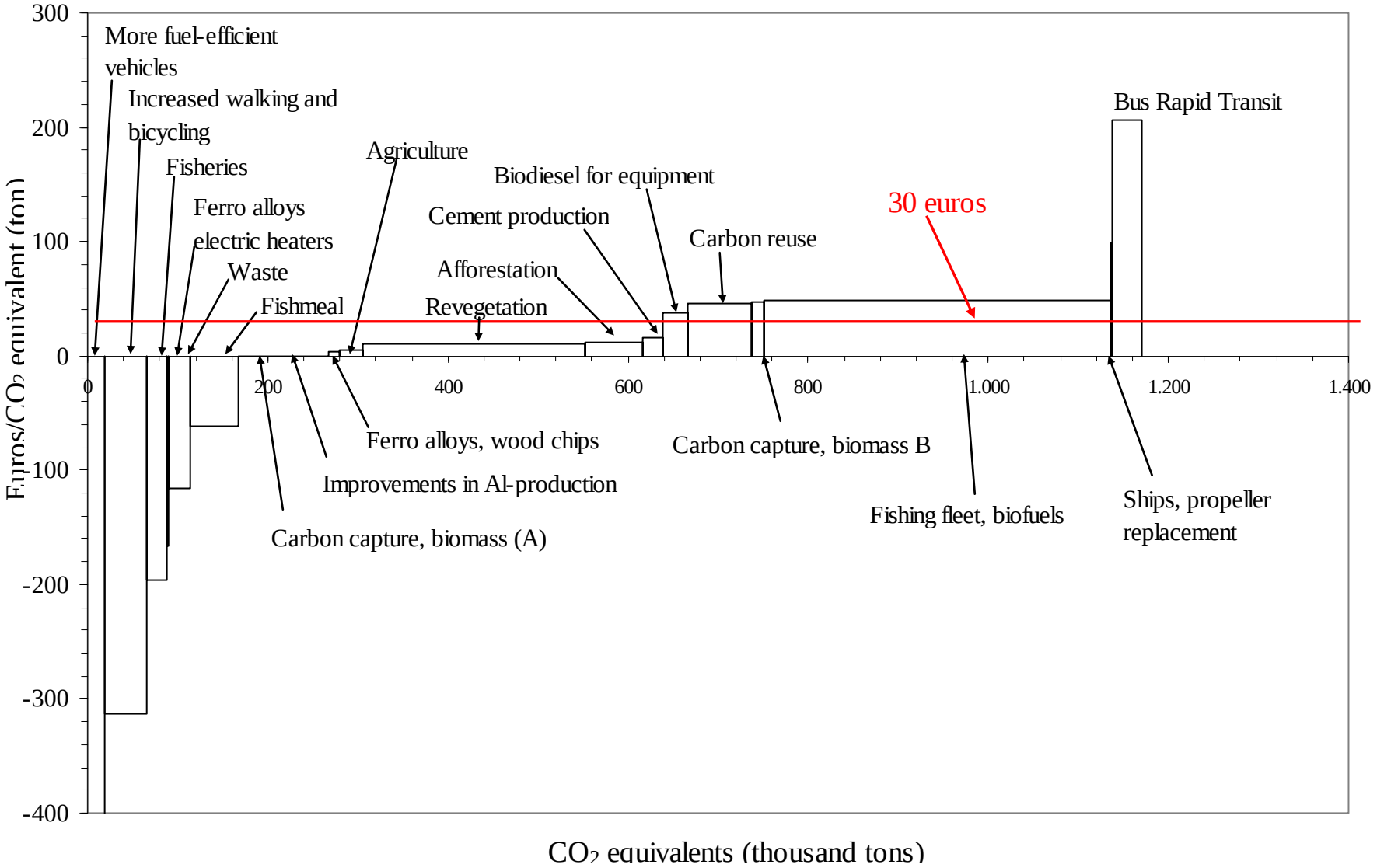


Change in net emissions 1990-2020, with measures

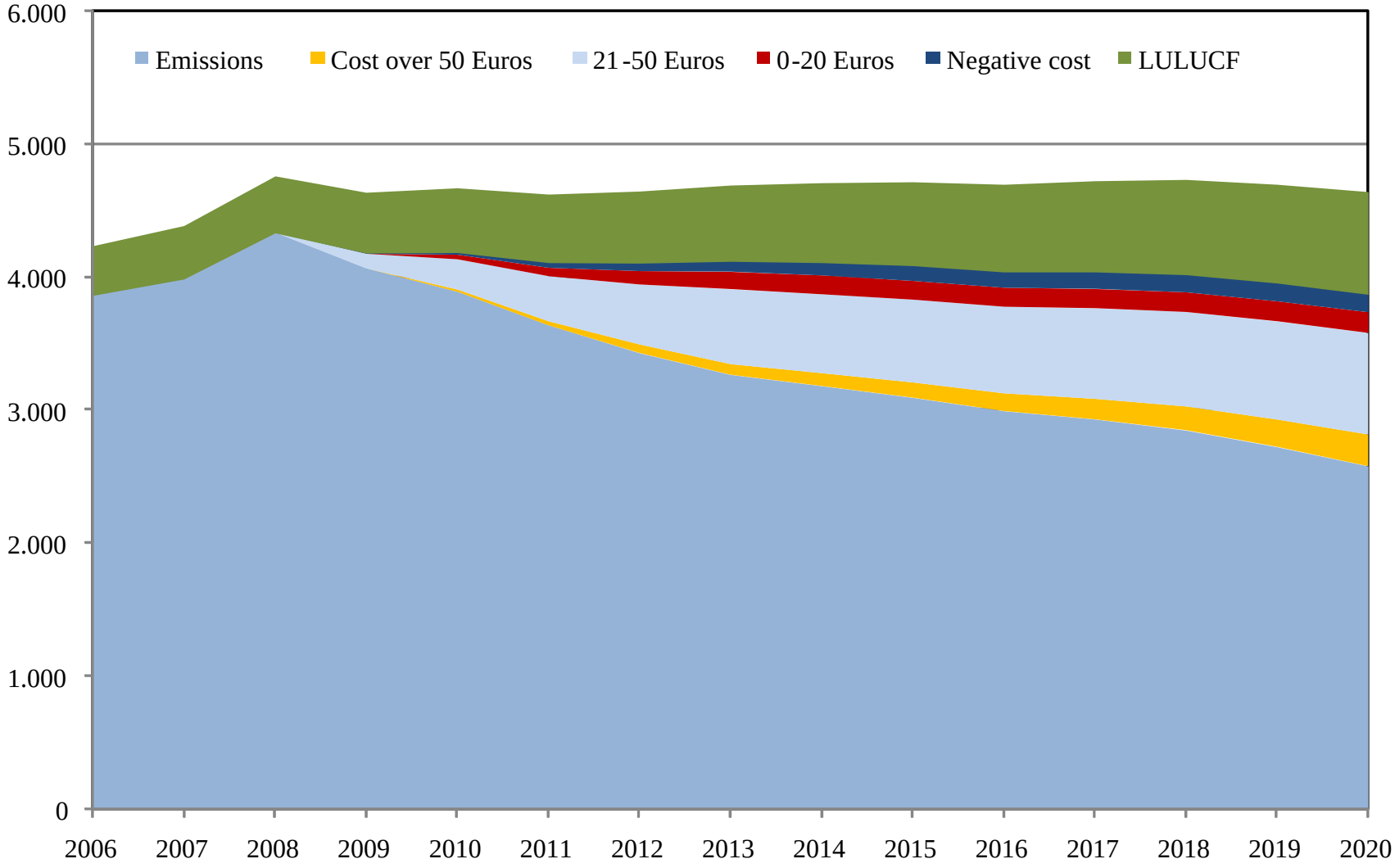
(1,000's tons CO_2 equivalent)



Mitigation Actions – scale and cost



Net emissions of GHG and possible mitigation efforts, according to cost per ton CO_2-equivalent



Iceland's current two-fold target

- "Small-economy syndrome": Single projects can have big effect on emissions and quantified commitments (over 10% of national emissions)
- Was addressed by Decision 14/CP.7, allowing for emissions from single projects to be counted seperately up to 1.6 m tons CO2/year; has been employed by Iceland
- 14/CP.7 allows for significant increase in emissions from 1990 to 2012, these emissions have to be accounted for in 2nd commitment period
- Iceland's current Kyoto commitments are two-fold:

QELRO: +10% (general emissions) + 1.6 m tons CO2/year
(qualified emissions according to 14/CP.7 for relatively big single projects using renewable energy, BAT and BEP)

Future target: Possible Presentations

- Present situation: Heavy industry in Iceland will be part of EU Emission Trading System (EU ETS) after 2012

- A big part (40%) of Icelandic emissions will be under EU ETS rules, but maybe also under a special clause in an international agreement (14/CP.7 or a similar arrangement for the 2nd Commitment period); a very complex arrangement

- Iceland has done an economic study that allows for analysis of comparable effort with other parties and the development of a target; however, the question of dealing with the effect of single projects has to be dealt with in deciding on the presentation of Iceland's target

- Possible presentations of target:

  a) Target for "general emissions" + extension of 14/CP.7 (same as Kyoto)

  b) One target for all emissions (general+14/CP.7), new reference year (2012)

  c) Joint commitment with other parties (flexibility, no "single project" problem)

  d) ETS emissions in EU "bubble"; Iceland's target only for non-ETS emissions