The Sustainable Mobility Transition of Iceland

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Agenda

• General information about Iceland
• Sustainability in Iceland
• Mobility Transition
• Summary
Facts and figures

• Roughly 330 000 inhabitants (most live in cities)

• Second biggest island in Europe (thin populated)

• Volcanoes, glaciers, geysers and waterfalls typical for the country

• High standard of living

• Tourism, aluminum industry and export of fish
Infrastructure and mobility behavior

• Ring Road
• Difficult weather conditions
• Bus system
• No rail traffic
• Air transportation is popular
Sustainable measures

• Almost 100% of the energy comes from renewable sources

• Water and geothermal power (geology), wind energy

• Largest green energy and electricity producer per capita

• Promotion of sustainable tourism
ICELAND IS GREEN LEADER IN POWER PRODUCTION

<table>
<thead>
<tr>
<th>Rank</th>
<th>Country</th>
<th>MWh per capita annually</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Iceland</td>
<td>54 MWh</td>
</tr>
<tr>
<td>2</td>
<td>Norway</td>
<td>26 MWh</td>
</tr>
<tr>
<td>3</td>
<td>Canada</td>
<td>17 MWh</td>
</tr>
<tr>
<td>4</td>
<td>Kuwait</td>
<td>17 MWh</td>
</tr>
<tr>
<td>5</td>
<td>UAE</td>
<td>17 MWh</td>
</tr>
<tr>
<td>6</td>
<td>Finland</td>
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<td>7</td>
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<td>8</td>
<td>USA</td>
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<td>9</td>
<td>Qatar</td>
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<td>10</td>
<td>Bahrain</td>
<td>12 MWh</td>
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<tr>
<td></td>
<td>OECD average</td>
<td>8-9 MWh</td>
</tr>
<tr>
<td></td>
<td>EU average</td>
<td>5-6 MWh</td>
</tr>
</tbody>
</table>

Iceland is world’s largest electricity producing country per capita.

- Close to 100% Renewable Sources
- Substantial Renewable Sources
- Mostly Fossil Fuel Sources

Production as 2015.
Sources: IEA, EIA, OECD et al.

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Visitors through Keflavik Airport 2010 - 2016

- 2010: 459,252
- 2011: 540,824
- 2012: 646,921
- 2013: 781,016
- 2014: 969,181
- 2015: 1,261,938
- 2016: 1,767,726

Number of visitors smashes all earlier records.
Unsustainable behavior

- High level of car dependency

• Internal flights

• Compared to Norway much less electric vehicles

• Aluminum smelters -> GHG emissions (growth by 28% since the 90’s)
Mobility Transition

• Until the middle of the 20th century fossil fuels were used

• Fossil fuels today mainly in the transport sector

• Sheep dung as a fuel for heating

• Renewable energy -> energy consumption started to rise (>US)
TOTAL ENERGY USAGE PER CAPITA

ICELAND: 137,000 kwh/year

= 1000 KWH

UNITED STATES: 91,000 kwh/year

= 1000 KWH

https://millericeland.wordpress.com/category/iceland-overview/graphics-and-statistics/
Summary

- Sustainability pioneer
- From backwards, poor nation to advanced, wealthy economy
- Lucky because of the geographical conditions
- Improvements in regards of sustainability are possible
- Conflict between economic interests and pollution control
Takk fyrir!