

# Liechtenstein's Intended Nationally Determined Contribution (INDC)

## Submission of 22 April 2015 under the United Nations Framework Convention on Climate Change, UNFCCC

The content of Liechtenstein's INDC follows the guidelines established by the 20<sup>th</sup> Conference of the Parties to the UNFCCC in December 2014 in Lima, Peru. Reference is made in particular to paragraphs 13 and 14 of 1/CP.20<sup>1</sup>.

### 1. Summary

The **assumptions** underlying Liechtenstein's INDC are based on the possibility to achieve emission reductions abroad which may be accounted towards Liechtenstein's reduction target in 2030.<sup>2</sup> However, primary focus will be given on domestic emission reductions. Liechtenstein aims at a reduction of greenhouse gases by 40 % compared to 1990 by 2030. The reduction target will be subject to the approval of the Liechtenstein Parliament.

Reduction Target	Base Year	Timeframe
40 %	1990	2021 - 2030

### 2. National Circumstances

With a population of 37'100 inhabitants and a total area of only 160 km<sup>2</sup>, Liechtenstein is one of the smallest countries in the world. Within 50 years Liechtenstein developed from a mainly agricultural state to one of the most highly industrialized countries in the world. The high value-added development until today is particularly due to the strong industrial sector and financial services, while the public sector of the national economy is

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<sup>1</sup> <http://unfccc.int/resource/docs/2014/cop20/eng/10a01.pdf>

<sup>2</sup> To this regard Liechtenstein reserves the right to revisit its overall commitment if no internationally agreed rules are given.

comparatively small. From 1990 until 2012 the country's GDP experienced a growth of about 140 %, with an increase of population of around 25 %. At the same time Liechtenstein managed to decouple its economic growth from its greenhouse gas emissions. Despite the growth of its economy, the increase in population and commuters Liechtenstein's emissions are today below the levels of 1990.

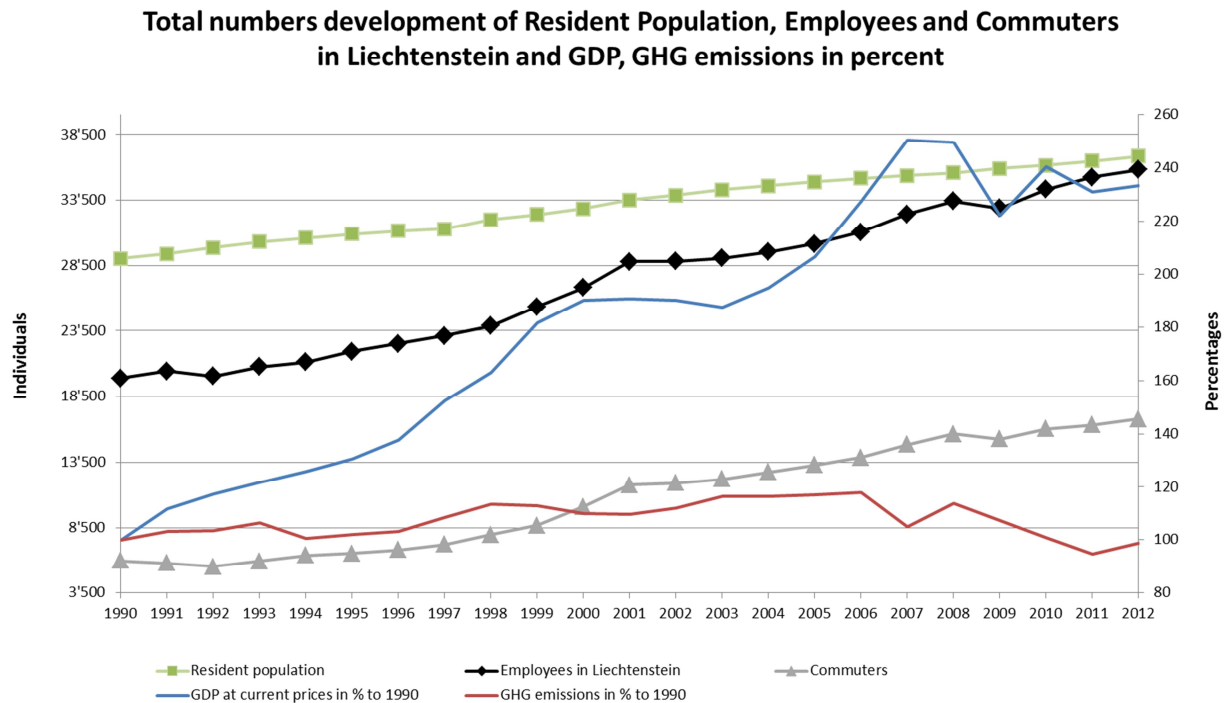


Figure 1: Trend from 1990-2012 of resident population, employed persons and commuters in Liechtenstein as well GDP and greenhouse gas emissions in percent to 1990.<sup>3</sup>

The decoupling of greenhouse gas emissions and economic growth is the consequence of the establishment of rigorous environmental standards and a comprehensive set of climate related policy measures such as the participation in the European Emissions Trading regime, levying of CO<sub>2</sub> emissions from the combustion of fossil fuels or the obligation to compensate emissions caused by motor fuel consumption.

<sup>3</sup> Source: Gross domestic product (GDP) 1990 - 1997: Office of Statistics (OS), Statistical yearbook. GDP 1998 - 2012: OS, National accounts. Resident population: OS, Population Statistics. Greenhouse gas emissions: OS, Environment statistics. Please note gross domestic product (GDP) at current prices, source data in billion CHF. Number of employees and commuters origin from Table 3\_1\_01 and T\_3.1\_02 of the statistical year book. Please note that the number of commuters is corrected for out-bound commuters.

### **3. Ex ante information according to paragraph 14 of 1/CP.20**

#### **3.1 Quantifiable information on the reference point**

For its reduction target Liechtenstein will apply 1990 as base year. The quantified amount of emissions in 1990 is currently considered to be 228.7 Kt CO<sub>2</sub> eq<sup>4</sup>. This figure is however provisional since the 1990 value will be fixed once the respective initial report is defined.

#### **3.2 Time frame for implementation and scope and coverage**

Liechtenstein's INDCs encompass a reduction target within a time frame from 2021 until 2030. The scope of Liechtenstein INDCs covers all sectors relevant to the state's greenhouse gas emissions. The respective sectors and subsectors are based on the most recent IPCC Guidelines for National Greenhouse Gas Inventories: Energy, Industrial Processes, Solvent Use, Agriculture, LULUCF and Waste.

Liechtenstein's INDCs cover seven greenhouse gases (as foreseen under the UNFCCC and the Kyoto Protocol) and generally apply the base year 1990<sup>5</sup>: carbon dioxide (CO<sub>2</sub>), methane (CH<sub>4</sub>), nitrous oxide (N<sub>2</sub>O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), sulfur hexafluoride (SF<sub>6</sub>), and nitrogen trifluoride (NF<sub>3</sub>).

#### **3.3 Planning Processes**

The planning processes for Liechtenstein encompass the sectors mentioned above under 3.2. These sectors are addressed by individual sectorial policies which are guided by Liechtenstein's climate strategy which will be revised in the course of 2015/2016. The strategy requires an interdisciplinary coordination of the focussed areas.

The focus will be on the coordination of climate relevant measures within Liechtenstein's energy policy, transport policy, environmental policy, agricultural and forestry policy.

In addition to that the relevant CO<sub>2</sub>-Act will be revised in the course of 2016 / 2017 to reflect the targets for 2030. The EU energy and climate policies will also contribute to reach Liechtenstein's goal within the energy sector on the long run. Within these policy areas Liechtenstein's influence is very limited.

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<sup>4</sup> NIR 2014 (1990-2012) Resubmission

<sup>5</sup> not relevant where reference level apply (e.g. forests)

## 4. Assumptions and methodological approaches

The **assumptions** underlying Liechtenstein's INDC are based on the possibility to achieve emission reductions abroad which may be accounted towards Liechtenstein's reduction target in 2030.<sup>6</sup> However, primary focus will be given on domestic emission reductions.

The **methodological** approaches for estimating and accounting for anthropogenic greenhouse gas emissions and removals use standard methods. The emissions in Liechtenstein are calculated based on the standard methods and procedures of the Revised 1996 Intergovernmental Panel on Climate Change (IPCC) Guidelines for National Greenhouse Gas Inventories (IPCC 1997a, 1997b, 1997c) and IPCC Good Practice Guidance (IPCC 2000, IPCC 2003) as adopted by the UNFCCC.

## 5. Fairness and ambition

Liechtenstein understands fairness of its INDC within the context of national circumstances. As Liechtenstein is one of the smallest countries in the world its total emissions count up to 0.0073 % of the global total emissions. Liechtenstein's responsibility in terms of greenhouse gas emissions is insignificantly low. Nevertheless per capita emissions of 6.1 tonnes in Liechtenstein lie within the European average. The overall reduction target of 40 % compared to 1990 corresponds to per capita emissions of 3.6 CO<sub>2</sub>eq. The reduction path is considered to be very ambitious taking into account the already existing very high technical environmental standards applied in Liechtenstein. Moreover the reduction path is well in line with the respective recommendations made by the IPCC in 2014.

Liechtenstein stays committed to deliver its fair share within the international efforts to combat climate change.

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<sup>6</sup> To this regard Liechtenstein reserves the right to revisit its overall commitment if no internationally agreed rules are given.

## **6. Contribution to the objective described in Art. 2 of the UNFCCC**

Liechtenstein's main focus for its contribution, towards achieving the objective of the Convention as set out in its Article 2, is to reduce domestic emissions as much as possible. Albeit Liechtenstein is already highly efficient in its energy use some costs for further reductions within the country would be unreasonably high. Therefore Liechtenstein aims at the supplemental realization of emission reductions abroad. To that respect Liechtenstein emphasizes to invest in emission reduction projects of high quality standards which besides the mitigation of greenhouse gases also lead to social, health and environmental benefits. Liechtenstein is of the view that encompassing domestic emission reductions as well as emission reductions achieved abroad by its INDC states the most effective contribution to the objective described in Art. 2 of the UNFCCC.