Global Stocktake

Submission by Iceland

28 February 2022

Iceland welcomes the opportunity to submit an input to the Global Stocktake (GST) and thereby emphasize the importance of the cryosphere.

The GST presents important opportunities to affirm the role of science in international climate policy development. Iceland is pleased to be given the opportunity to submit its views on the first meeting of the Joint Contact Group on the GST, including its/the Technical Dialogue to take place at the next inter-sessional meetings in June 2022.

Climate change has brought about significant changes in the global Cryosphere, be it regarding snow, ice or permafrost; in both polar and mountain regions. These changes are not only evident at the local and national level, but also at the global level.

At the same time, changes in the Cryosphere influence the global climate system, and have wide-reaching societal consequences, not least because of sea-level rise (SLR) due to melting of glaciers such as those in Iceland; as well as Greenland and Antarctic ice sheets. Furthermore, there is feedback from loss of summer Arctic sea ice; and increased carbon emissions from thawing permafrost. These changes impact aquatic and terrestrial ecosystems, as well as societies and economies. In most cases, these changes are essentially irreversible, and cannot be reversed over decades, centuries and even millennia. This is especially true for emission scenarios containing an overshoot of the maximum global temperature rise set in the Paris Agreement (well below 2°C/1.5°C, with regard to pre-industrial levels).

Like many other countries and regions, Iceland already is, and stands to be further affected by climate change-induced changes in the Cryosphere. Most prominently, about 10% of Iceland's land surface is covered by glaciers and ice caps (about 10,000 km^2). Icelandic glaciers have been losing mass since the mid-1990s, with especially high loss rates from 1995-2010, when several smaller glaciers disappeared entirely. Cold conditions in the North Atlantic SW of Iceland have only temporarily halted this loss. Furthermore, it is projected that with high emissions, and overshoot of the upper Paris Agreement limit (of well below 2°C), Iceland will lose one-third of the volume of its glaciers by 2100; and nearly all of its ice by 2300. This represents a fundamental change in the natural environment of Iceland, with consequences for diverse economic activities and native ecosystems.

In sum, higher levels of warming will substantially increase the risk of crossing global Cryosphere tipping points. Lower levels of warming will in turn substantially decrease this risk.

Ocean acidification and other changes in high-latitude oceans are also a cause for concern for Iceland because of the importance of the fishing industry and the ocean in general in the Icelandic economy.

Iceland considers future changes in the cryosphere and the ocean to be of greatest concern and therefor it has to be taken into consideration with in the process of UNFCCC.

It is crucial that we all limit global warming through global efforts. The Global Stocktake must contribute to a better understanding and inform Parties if their efforts are in line with the Paris Agreement temperature goals and successfully limit negative impacts from the Cryosphere.

Iceland is of the opinion that these great dynamics require greater attention to inform the outcomes of the Global Stocktake, and suggest that a dedicated workshop should take place to raise awareness about the process prior to or back-to back with the next inter-sessional meetings in June 2022.