

state. The framework for the reform plans will be presented by GoG in a forthcoming Sustainability and Growth Plan II<sup>11</sup> (the successor of the Growth and Sustainability Plan 2016).

In the field of energy, hydropower is a significant example of the GoG's prioritisation and commitment to a development path oriented towards decarbonisation of the energy supply, economic diversification, and economic growth. Today, five hydropower plants provide six cities with green electricity accounting for more than 70% of the energy production in the public electricity supply and planned extensions combined with the construction of new plants will increase the share to close to 90%.

The largest known hydropower potentials in Greenland are situated in West Greenland. Three lakes have the potential to produce at least around 7.500 – 9.500 GWh/a<sup>12</sup>. According to an analysis carried out in 2022 by BCG for the Government of Greenland, Power-to-X (PtX) applications, such as production of renewable hydrogen or ammonium, as off-take product exported from Greenland to Europe will be cost competitive both now and in the future.

The GoG and the state-owned company NunaGreen A/S have looked into the possibilities of inviting investors to set up off-take industries in an industrial park in Nuuk, planned to produce renewable hydrogen or ammonia. In autumn 2021, the Greenland Parliament (Inatsisartut) decided to attract investors to utilise the hydropower potentials by initiating a tender process to identify best suitable entrepreneur for the projects.

The coalition agreement between the ruling parties of *Inuit Ataqatigiit* and *Siumut* sets out the vision of full employment of the Greenland work force<sup>13</sup>. The new hydropower construction projects create job opportunities and require actions to ensure availability of the required domestic workforce. Accordingly, the technical and vocational education and training (TVET) activities facilitated with the EU budget support programme for the education sector will be useful for this purpose.

Expanding the hydropower supply in South Greenland can pave the way for the first mining of rare earth minerals in Greenland fuelled by renewable energy sources, an essential input for the carbon free technology to be used for the global green transition.

In particular, the scale up of hydropower will also enable production of green energy for the mining sector, e.g. through Power-to-X for green ammonia and renewable hydrogen, that can be transported from the production plants/electrolysers to mines having no access to the electricity infrastructure to supply mining equipment powered by fuel cells. With green ammonia to be used for generators applied for remote mining operations as well as for other remote off-grid production and heating purposes, a larger scale production of green ammonia could develop into an export article with potential for GoG revenue generation.

To meet international investors' requirements and expectations, the GoG needs to have an administration capable at handling the implied tasks and duties. Greenland's small administration could hamper swift processing of investment case handling, which may dissuade foreign potential investors due to increased transaction costs. In the past, slow case handling due to the limited GoG capacity posed problems during mining exploration operations<sup>14</sup>. Consequently, the GoG administration needs competencies and to expand the existing capacity and competencies (e.g. handling and regulation of investments in the energy and raw materials sectors).

A Memorandum of Understanding on sustainable raw materials value chains with the EU will be signed in 2023 (scheduled for November 2023), which aims at supporting the GoG in attracting investment and underpin matchmaking with European investors and mining sector actors. The accompanying roadmap will be supported by this action.

<sup>11</sup> The GoG *Sustainability and Growth Plan II* is expected to be published in 2023.

<sup>12</sup> As a comparison, in 2021 Greenland produced 603 GWh of electricity. See: <https://ourworldindata.org/grapher/per-capita-electricity-generation?tab=chart&country=~GRL>

<sup>13</sup> Cf. GoG Coalition agreement, 4<sup>th</sup> April, 2022. [https://naalakkersuisut.gl/-/media/filer/koalitionsaftale/naalakkersuisooqatigiitsumaqatigiissut-03042022-final\\_dk-\(1\).pdf](https://naalakkersuisut.gl/-/media/filer/koalitionsaftale/naalakkersuisooqatigiitsumaqatigiissut-03042022-final_dk-(1).pdf)

<sup>14</sup> See paper by Christiansen, FG, 2022: *Greenland mineral exploration history*.