

Kárahnjúkar Hydro

Deep dive into preface of the Icelandic MEGA hydro project

Lunch and Learn
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Stimulating rural economy

Searching for a smelter

- Long term interest in large scale hydro in the east-rural highlands of Iceland (Aðalsteinsson, 1993)
- Success with FDI in the heavy industry
- Complementary economical benefits
- Attraction through tax incentives and energy price (Garðarsson, 2005)

Strategic approach from the State

State driven business development

- State business development and Landsvirkjun (MIL)
- Discussions with Hydro Aluminium Metal Products (division of Norsk-Hydro ASA)
- MOU in the year 2000
- In the spring of 2002 Hydro steps out and Alcoa steps in
- MOU signed in July 2002
- Contracts signed in December 2002
- Contracts approved by boards of directors (Alcoa and Landsvirkjun) 10th of January 2003^[SEP] simultaneously

The investment

360° multi-sector investment contract between the off-taker and the State

- Generation/Transmission (Landsvirkjun/State)
- Road systems (State/municipality)
- Harbour investment (Municipality)
- Wide range municipality infrastructure investment (Municipality/private sector)

Key name plate figures

- Installed capacity: 690MW (6x115MW Francis)
- Generation capacity: 5,150 GWh/y
- Head: 600m (1968 ft)
- Year: 2007





The map has been drawn according to 'Phase 1 of the Intended Master Plan for Hydro and Geothermal Energy Resources in Iceland' as publ. by the Icelandic Ministry of Industry and Commerce 27 November 2003.







Generation and Transmission

Finance

- Landsvirkjun's execution
- Est. investment of \$ 1,086 M (2003 dollars)
- Economic evaluation by Sumitomo Mitsui Banking Corporation (IRN, 2003)
- 25% Equity
- 75% Debt => Owners guarantees

Generation and Transmission

Finance ... continued

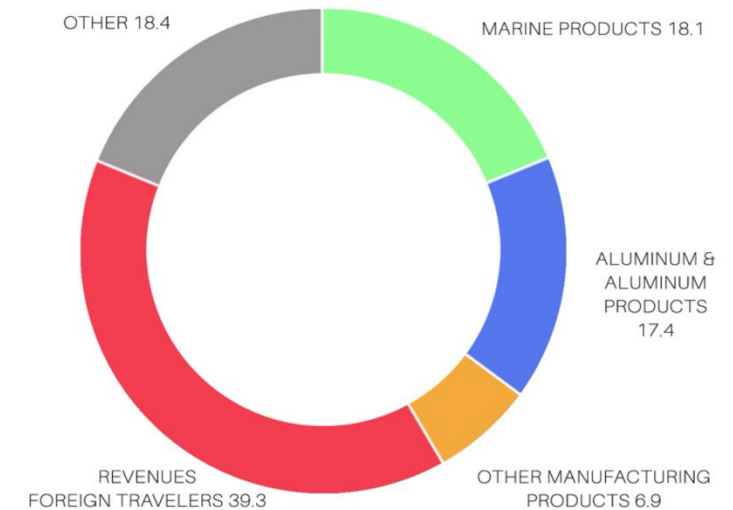
Type of finance:

- “large, longer-dated revolving facility”
- Long-term funding, EIB, NIB
- Euro Medium Term Note (EMTM)

Successful project?

- Population growth of 22% (Johannesson et al. 2010)
- 1/4 of States generation capacity
- “Growing” industry
- Short answer is YES

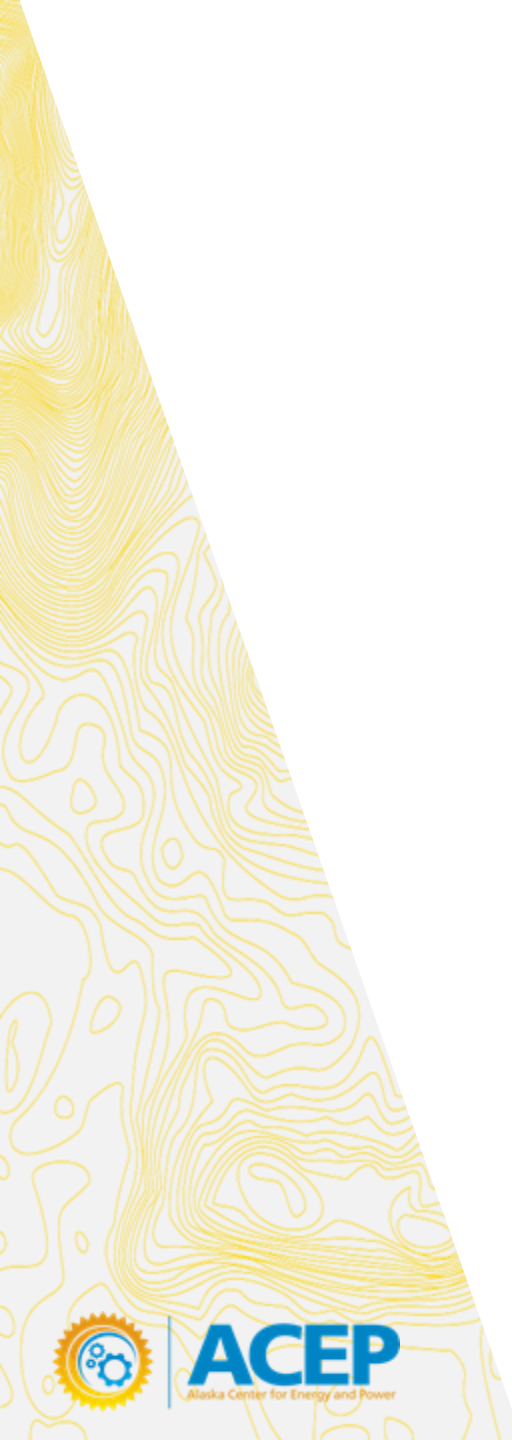
ICELAND EXPORT OF GOODS & SERVICES BY SECTOR, 2018



SOURCE: OECD Economic Survey / Iceland Comtrade Database
Infographic: Lea Rekow

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