

# FINLAND

## KEY FACTS:

- Gas consumption in Finland declined by 49% between 2010 and 2017.
- Gas consumption in Finland has continuously declined for 7 years in a row.
- Gas represents a minor contribution to overall energy needs of the country (~5%)
- Finland is currently fully dependent on Russian gas
- Construction of PCI Balticconnector pipeline project with heavy taxpayers' money, risking stranded assets and a high-carbon lock-in

## 1. GAS DEMAND

According to EU data:<sup>1</sup>

- Gas represented 8% of Finland's energy mix in 2016.
- Finland consumed around 2.45bcm of gas in 2016
- Compared to their recent peak in 2010, Finnish gas demand has declined by 49% to 2017.<sup>2</sup>
- After 2017, a stagnation/slight increase in gas demand can be observed [Status 2018].<sup>3</sup>

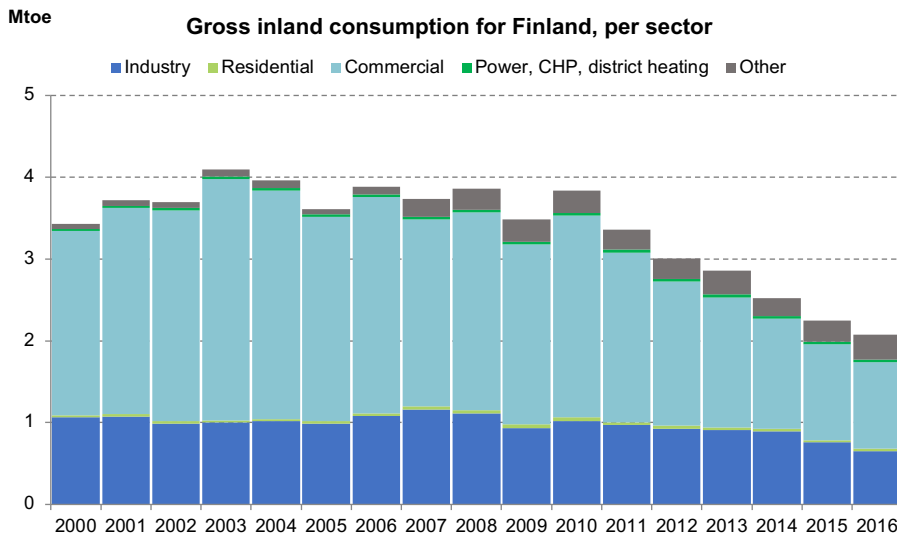
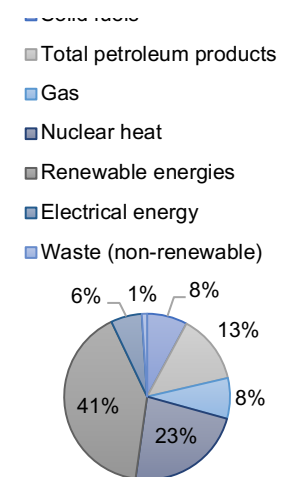


Figure 1: Finland 2016 Energy Mix



## 2. GAS SUPPLY

While Finland's gas demand significantly increased between the mid-70s' (~0.5bcm/y) and mid-2000's (approaching 5bcm/y),<sup>4</sup> it has steadily decreased since then to 2.4bcm in 2016. In the past gas represented around 12% of Finland's total primary energy sources (2003) but in 2018 only represented 5%.<sup>5</sup>

Apart from a small amount of biogas production, Finland has no domestic production of fossil gas. With only one gas import link, Finland has been importing all its fossil gas from a single source since 1974: Russia. However, since the gas crisis that occurred in 2006 and 2009 between Russia and Ukraine, the EU has accelerated its discussions to increase the resilience of the EU gas market, to be able to respond to various cases of possible gas disruptions (particularly from Russia).

Finland's isolation and high dependence on Russian gas makes some experts believe that "Finland would experience gas shortages even if Russia cut off exports just for one month".<sup>6</sup>

<sup>1</sup> E3G compilation of data extracted from Eurostat

<sup>2</sup> [http://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=nrg\\_cb\\_gas&lang=en](http://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=nrg_cb_gas&lang=en)

<sup>3</sup> [http://www.stat.fi/til/ehk/2018/04/ehk\\_2018\\_04\\_2019-03-28\\_kuv\\_004\\_en.html](http://www.stat.fi/til/ehk/2018/04/ehk_2018_04_2019-03-28_kuv_004_en.html)

<sup>4</sup> [https://www.iea.org/media/freepublications/security/EnergySupplySecurity2014\\_finland.pdf](https://www.iea.org/media/freepublications/security/EnergySupplySecurity2014_finland.pdf)

<sup>5</sup> [http://www.stat.fi/til/ehk/2018/04/ehk\\_2018\\_04\\_2019-03-28\\_tie\\_001\\_en.html](http://www.stat.fi/til/ehk/2018/04/ehk_2018_04_2019-03-28_tie_001_en.html)

<sup>6</sup> <https://euobserver.com/economic/125441>

### 3. GAS INFRASTRUCTURE

In 2017, there were 24 local Finnish gas distribution network operators (80% of which are wholly or partly owned by municipalities) and one transmission system operator, Gasum Oy. All the gas distribution system operators and the consumption sites of gas are situated in the southern part of the country along the main transmission pipeline.<sup>7</sup>

In 2016, Finland's first off-grid LNG terminal started operating, and in 2018, constructions for a small-scale LNG terminal in Hamina (in the south-coast of Finland) started.<sup>8</sup> Currently there are plans to build more small-scale LNG terminals to serve local industry and provide LNG for ships and trucks.<sup>9</sup>

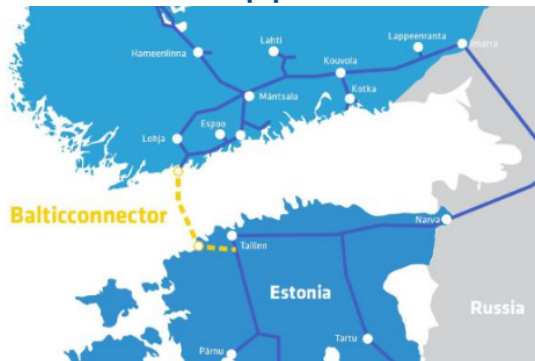


Figure 6. Map of natural gas network in Finland (source: Finnish Gas Association)

Given that Finland has no domestic fossil gas production, Finnish gas demand is entirely met by imports from Russia supplied via a twin pipeline connection. A single importer, Gasum Oy, has agreed a contract to import Russian gas to Finland until the end of 2026. The maximum annual importing volume of the contract is 5.5bcm. The maximum annual import capacity of the pipeline is around 8.2bcm/y.<sup>10</sup>

In the context of the Baltic Energy Market Interconnection Plan (BEMIP) initiated by the European Commission in 2008 and of the construction of EU energy Projects of Common Interest,<sup>11</sup> Finland will soon access gas markets and storage facilities in the Baltic States with the construction of a big pipeline project with PCI status:

#### The Balticconnector pipeline between Estonia and Finland



Work has just started to build a bidirectional offshore pipeline **connecting Inkoo in Finland to Paldiski in Estonia**.<sup>12</sup> After years of discussions, the European Commission announced in August 2016 that it would allocate €187.5 million of public money for the construction of the pipeline (75% of total construction costs). With a yearly import capacity of around 2.5bcm, the project officially aims at “ending the gas isolation of Finland and develop the Baltic regional gas market”.<sup>13</sup> With constructions of the pipeline having started in 2018<sup>14</sup> the Balticconnector is projected to start operating by the end

of 2019.<sup>15</sup>

The project may create possibilities for gas storage in Latvia, as Finland's geological structure makes domestic storage very expensive to build.<sup>16</sup>

This project raises a number of important concerns however:

- The **project connects Finland to Estonia and Latvia: countries fully dependent on Russian gas**. While the project gives the Finnish gas market access to the Latvian Inčukalns underground gas storage and Klaipeda LNG terminal, it could be used by Estonia as a political justification to

<sup>7</sup> [https://www.ceer.eu/documents/104400/5988265/C17\\_NR\\_Finland-EN.pdf/b1048901-ce81-7586-4a9f-5f9fdb4ce5b8](https://www.ceer.eu/documents/104400/5988265/C17_NR_Finland-EN.pdf/b1048901-ce81-7586-4a9f-5f9fdb4ce5b8)

<sup>8</sup> <https://www.lngworldnews.com/wartsila-breaks-ground-at-hamina-lng-facility/>

<sup>9</sup> [https://www.ceer.eu/documents/104400/5988265/C17\\_NR\\_Finland-EN.pdf/b1048901-ce81-7586-4a9f-5f9fdb4ce5b8](https://www.ceer.eu/documents/104400/5988265/C17_NR_Finland-EN.pdf/b1048901-ce81-7586-4a9f-5f9fdb4ce5b8)

<sup>10</sup> [https://www.iea.org/media/freepublications/security/EnergySupplySecurity2014\\_finland.pdf](https://www.iea.org/media/freepublications/security/EnergySupplySecurity2014_finland.pdf)

<sup>11</sup> <https://ec.europa.eu/energy/en/topics/infrastructure/projects-common-interest>

<sup>12</sup> <https://ec.europa.eu/eipp/desktop/fr/projects/project-98.html>

<sup>13</sup> <https://ec.europa.eu/energy/en/news/energy-union-eu-invests-1875-million-euro-first-gas-pipeline-between-estonia-and-finland>

<sup>14</sup> <https://ec.europa.eu/inea/en/news-events/newsroom/construction-phase-balticconnector-pipeline-started>

<sup>15</sup> <https://ec.europa.eu/inea/en/news-events/newsroom/pipeline-installation-offshore-section-balticconnector-track>

<sup>16</sup> [https://www.iea.org/media/freepublications/security/EnergySupplySecurity2014\\_finland.pdf](https://www.iea.org/media/freepublications/security/EnergySupplySecurity2014_finland.pdf)

receive support to build a closer but economically unnecessary LNG terminal (Paldiski), deeply incompatible with the EU decarbonisation objective.

- The project (with a more than 50-year lifespan) will increase imports and exports capacities in two countries with **dramatically decreasing gas demand**.
- Risks that the project becomes stranded are therefore high. Equally high is the risk for the country to lock itself into a growing dependence on external energy - which cannot be good for its energy independence.
- The pipeline is **heavily financed with EU tax payers' money** at a time when the entirety of limited public budgets for the energy sector should be going to the sustainable, long-term and low-carbon energy sources that we need in order to fight climate change.



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