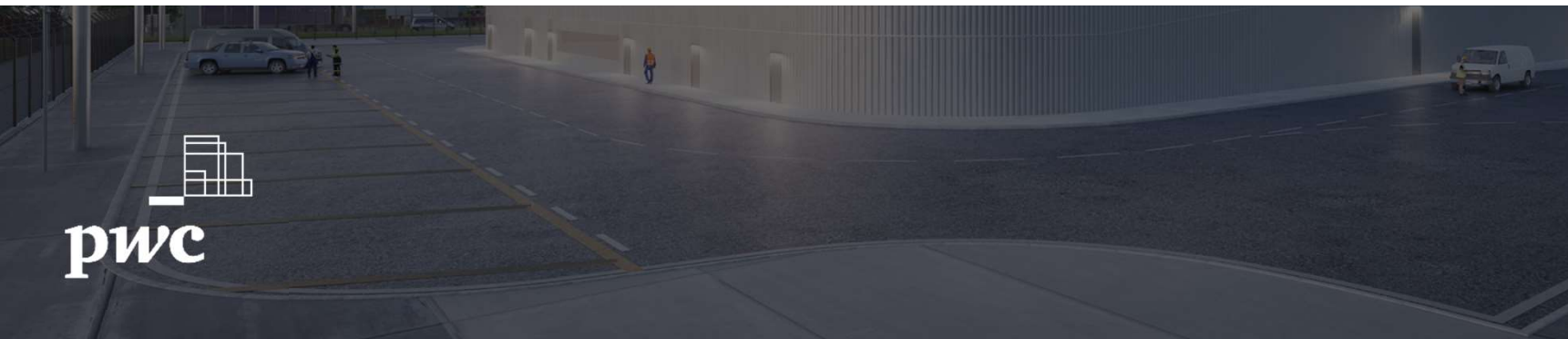
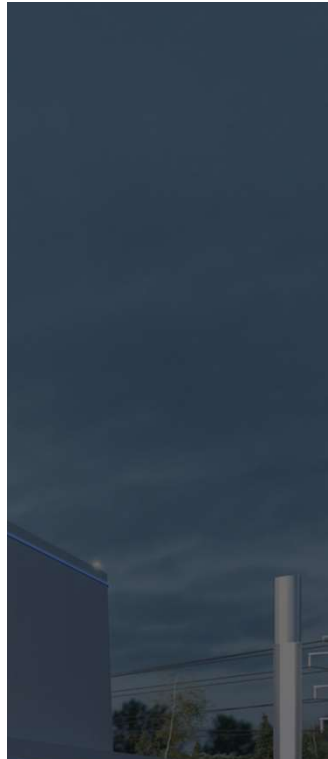
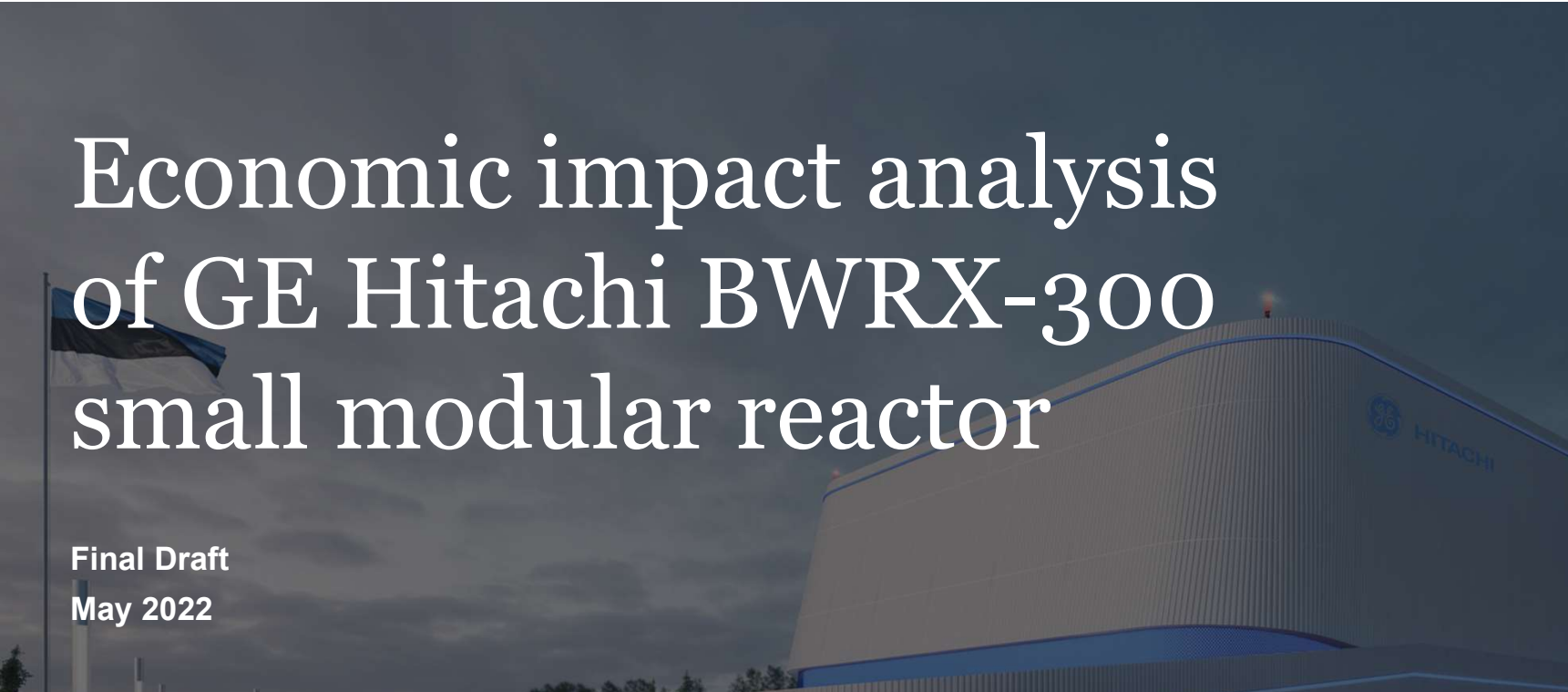


Economic impact analysis of GE Hitachi BWRX-300 small modular reactor

Final Draft
May 2022



PricewaterhouseCoopers disclaimer

This report has been prepared by PricewaterhouseCoopers SIA ("PwC") for Fermi Energia OÜ under the terms of Fermi Energia OÜ Contract with PwC dated 13 March 2022 (the "Contract") and its contents are strictly confidential.

This report has been prepared for assessing the socio-economic impact of deployment of two GEH BWRX 300 small modular reactors ("SMR") in Estonia.

The assignment was carried out from 13 March 2022 to 19 May 2022. Our work included an assessment of (1) the impact on the GDP of Estonia (indirect impact during construction phase and direct impact throughout 60 years of operations), (2) the impact on jobs (direct and indirect during the construction phase and direct impact throughout 60 years of operations), (3) the impact on labour income (direct and indirect during the construction phase and direct impact throughout 60 years of operations), (4) the tax revenue (direct during the construction phase and throughout 60 years of operations).

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We have not carried out any work or made any enquiries of the Client's Management since 19 May 2022. The Report does not incorporate the effects, if any, of events and circumstances which may have occurred or information which may have come to light subsequent to that date. We make no representation as to whether, had we carried out such work or made such enquiries, there would have been a material effect on the Report.

This is a draft report. The comments in this draft report are subject to amendment or withdrawal: our definitive findings and conclusions will be those set out in the final report.

We draw your attention to important comments regarding the scope of our work, the purpose for which the advice is to be used, our assumptions and limitations in the information on which the advice is based set out in our report.

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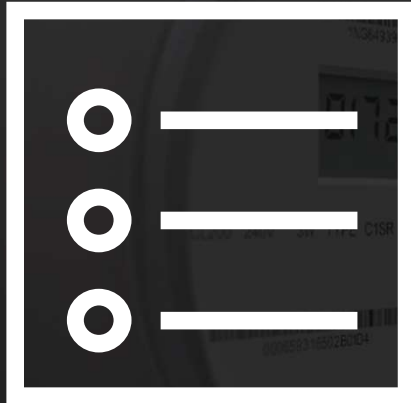
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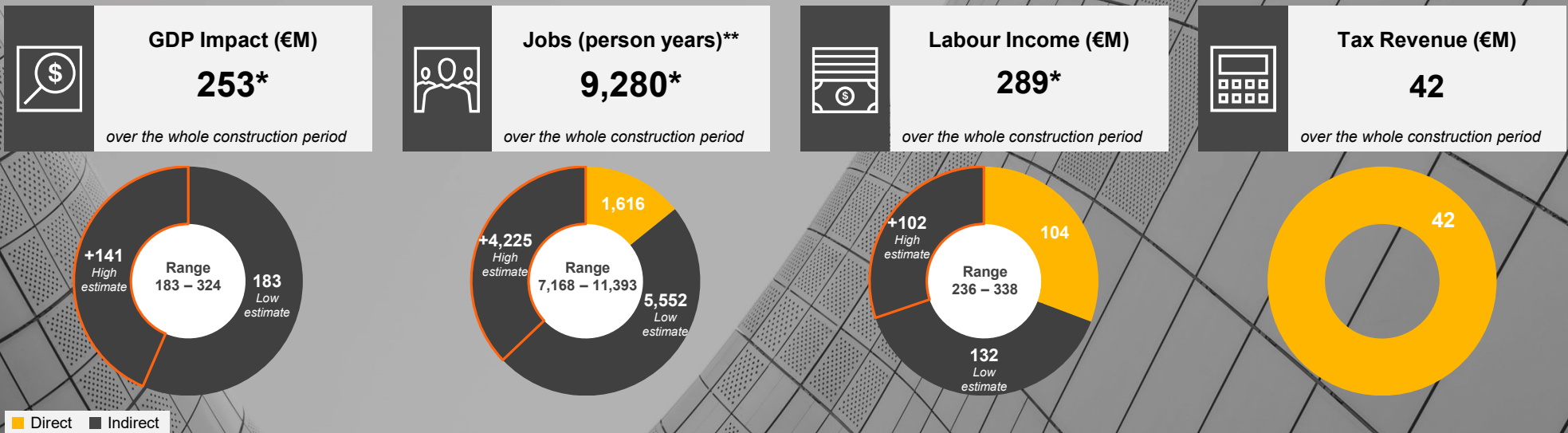
Summary of key findings

Fermi Energia is expected to spend €2 billion over fifteen years and create around €253 million in GDP and around 619 jobs per year in Estonia throughout the construction phase...



Total economic footprint of two GEH BWRX-300SMRs throughout the construction phase in Estonia, 2022 – 2036

Source: PwC analysis



All € values are presented in 2021 euros.
M - million

*Midpoint between low and high estimated value used (for indirect impact).

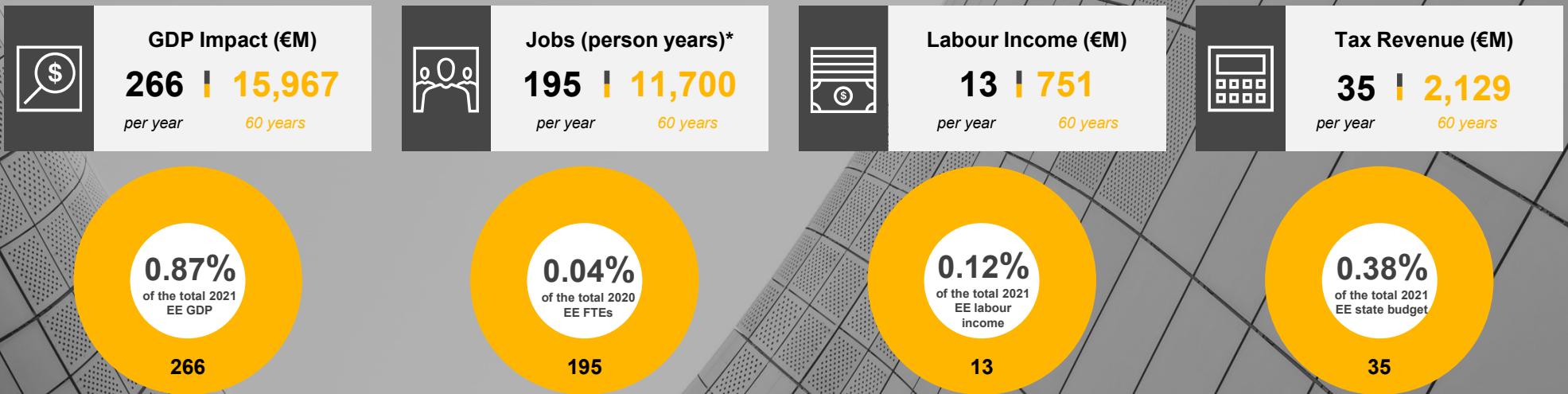
**9,280 person years are equivalent to 619 jobs sustained over fifteen years. Jobs are expressed as full-time equivalents.

... and over €266 million per year in GDP and sustaining 195 jobs each year over 60 years of operations in Estonia



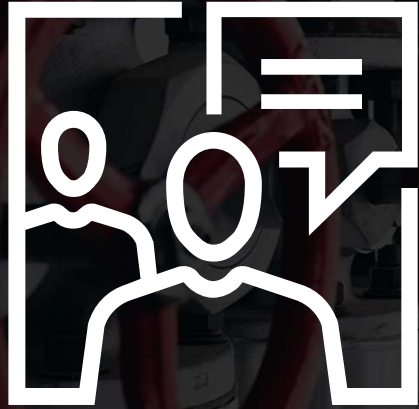
Total economic footprint of two GEH BWRX-300SMRs throughout the phase of operations in Estonia, annually for 60 years

Source: PwC analysis



■ Direct

All € values are presented in 2021 euros.
M - million



Introduction and background

Current situation

The current situation indicates that Estonia is about to face a critical electricity shortage in near future due to combination of several reasons.



Current situation

Estonia is about to face a critical electricity shortage in near future due to:

- » To tackle EU climate neutrality targets, Estonia's government has decided to shut down power stations using shale oil by 2035 and drop oil shale energy completely by 2040.
- » Baltic States agreed to withdraw from the Russian electricity network BRELL and connect and synchronise with the continental Europe's energy network by 2025.
- » Estonia's geographical location makes energy generation from renewable sources like the sun and wind less effective.

Thus, creating the potential need for the new generation of small nuclear technology to maintain energy independence and achieve climate neutrality.

As a result of feasibility study on the suitability of SMRs for Estonia's electricity supply and climate goals beyond 2030 launched by Fermi Energia in 2019, Fermi Energia and GEH Nuclear Energy have advanced their technology collaboration by entering into a teaming agreement to support the potential deployment of GEH BWRX-300 SMRs in Estonia.

Sources: Estonia's recovery and resilience plan
Fermi Energia



Resource adequacy forecasts

Future scenarios modelled by Elering reveal very low likelihood (<1%) of problematic electricity demand coverage throughout the period to 2035.



Forecasts

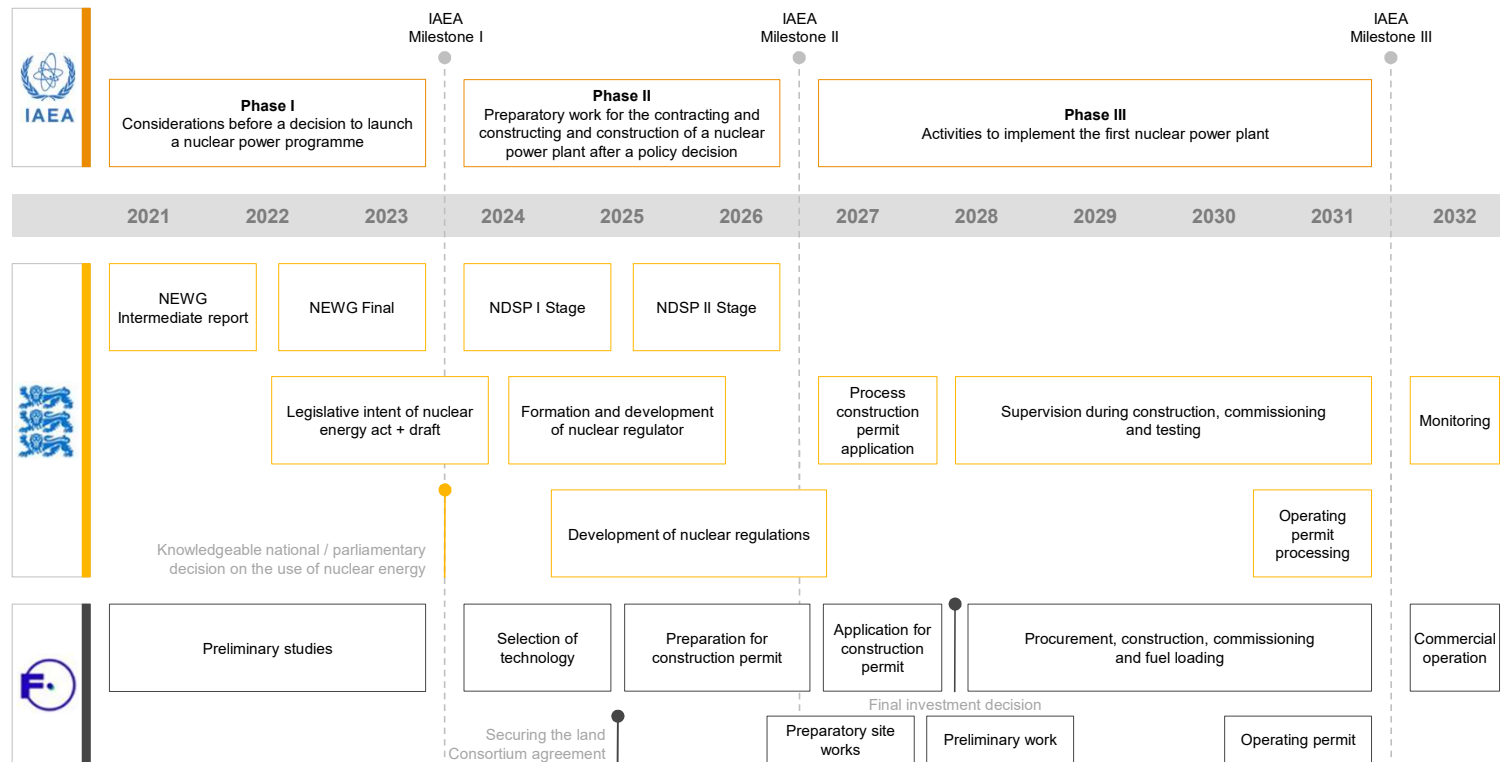
- » Baltic emergency continuity scenario foresees only reduced coverage of peak demand with an estimated (expert opinion) scenario likelihood of less than 1%.
- » Estonian vital service continuity scenario foresees coverage of the demand of vital service and general interest service with an estimated (expert opinion) scenario likelihood of less than 0.1%.
- » Based on the analysis carried out by Elering, the security of supply of the electricity system of Estonia and the Baltics is ensured, hence the main drivers towards the GE Hitachi BWRX-300 SMRs deployment are Estonia's energy independence and climate neutrality.

Sources: Security of Supply report 2020, Elering

Timeline of GEH BWRX-300 SMR deployment

SRMs deployment in Estonia require prior knowledge and research. Clear understanding of the options and their implications is needed before a country can make an informed and knowledge-based decision in principle to go nuclear or not.

Source: provided by Fermi Energia





Economic impact
analysis
methodology

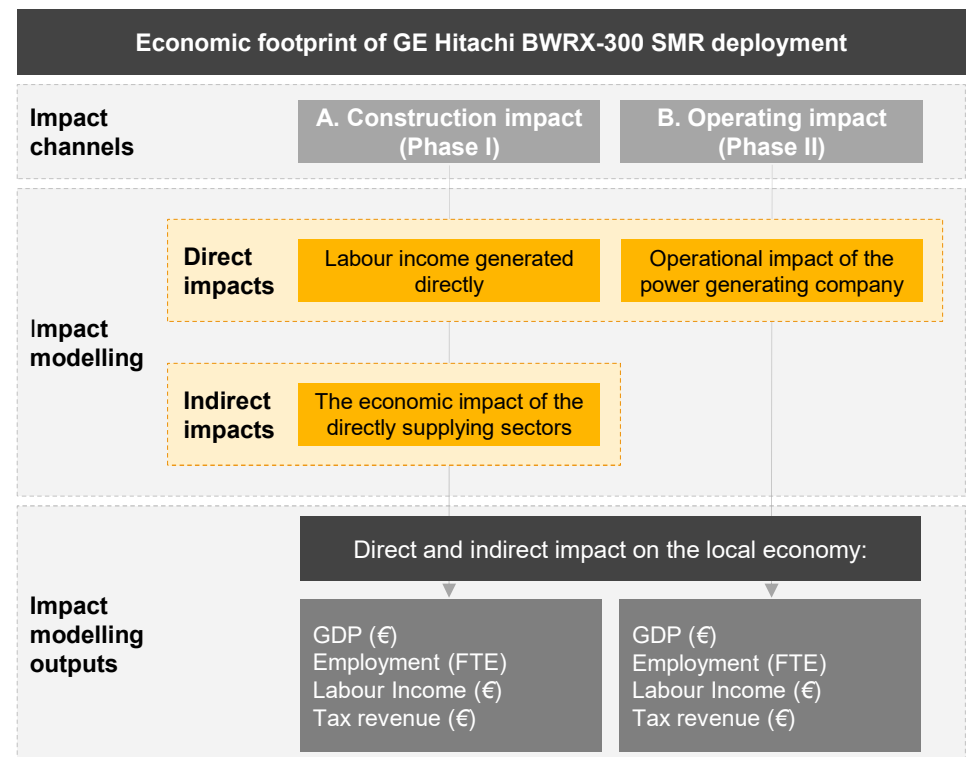
Methodology (1 of 3)

| Impact on | Type of impact | Phases | Based on | Information used as input |
|---------------|----------------|----------------------------|---|--|
| GDP | Direct | Construction and Operating | Added value of Fermi Energia and taxes on products and production (VAT) | <ul style="list-style-type: none"> Annual income statement forecast of Fermi Energia Construction phase costs forecast of Fermi Energia |
| | Indirect | Construction | Indirect added value of the direct suppliers of Fermi Energia | <ul style="list-style-type: none"> Costs forecast of Fermi Energia and local investment divided by industries Latest data on industry based revenues and value added (from the 2020 EM001 dataset by Statistics Estonia) |
| Employment | Direct | Construction and Operating | Employment created by Fermi Energia | <ul style="list-style-type: none"> Fermi Energia's forecast for number of employees |
| | Indirect | Construction | Indirect employment created by the direct suppliers of Fermi Energia | <ul style="list-style-type: none"> Costs forecast of Fermi Energia and local investment divided by industries Latest data on industry based revenues, number of FTEs and personnel costs (from the 2020 EM001 dataset by Statistics Estonia) |
| Labour income | Direct | Construction and Operating | Labour income generated by Fermi Energia | <ul style="list-style-type: none"> Construction phase costs forecast of Fermi Energia Annual income statement forecast of Fermi Energia |
| | Indirect | Construction | Indirect demand for local services added by Fermi Energia | <ul style="list-style-type: none"> Costs forecast of Fermi Energia and local investment divided by industries Latest data on industry based revenues, number of FTEs and personnel costs (from the 2020 EM001 dataset by Statistics Estonia) |
| Tax revenue | Direct | Construction and Operating | Tax revenue generated by Fermi Energia | <ul style="list-style-type: none"> Annual income statement forecast of Fermi Energia Construction phase costs forecast of Fermi Energia |

Methodology (2 of 3)

Approach and the scope of analysis

- » In contrast to most other economic impact analysis, this assessment has not used the input-output table of industries as the basis of the analysis. Input-output methodology would apply for analysis of changes in existing local industries or for estimating the indirect and induced impacts (value-added created by the suppliers and the suppliers of the suppliers of an industry, and the economic impact of the labour income that is spent on final consumption). However, the input-output model was not used as it would require significant hypothetical assumptions as the nuclear power generation industry does not exist in Estonia. Furthermore, the latest available input-output table is from the year 2015, which is outdated as the sale and purchase relationships between producers and consumers within an economy have changed since then. In addition, the corresponding estimates would be solely based on industry-wide statistics, instead of any company-level forecasts.
- » This economic impact assessment is based on the forecasted financials of Fermi Energia (instead of general industry-wide statistics) as well as on a breakdown of the investment by local existing industries which are used as inputs (both provided by Fermi Energia). All forecasts provided by Fermi Energia were in 2021 values. Additionally, the assessment is based on the latest available revenues and value added amounts for individual sectors (from the 2020 EM001 dataset by Statistics Estonia) for the indirect impact assessment.
- » The assessment mostly focuses on direct impacts, while the indirect impact is included for estimating the impact on GDP, jobs, and labour income during the construction phase. This is due to most of the economic impact being initially generated by the direct suppliers constructing the asset which itself starts generating value directly in the operating phase that follows.



Methodology (3 of 3)

General definition of phases and impact dimensions

- » The economic impacts are calculated separately for:
 - 1) the construction phase, during which the initial capital expenditure (investment) is made and the value is mostly generated by local suppliers (indirect impact);
 - 2) the operating phase, during which the nuclear power plant starts generating and selling electricity, contributing to the economy through its operations (direct impact).



Limitations

- » This assessment focuses mostly on direct effects that are largely based on forecasts compiled on the company-level, while omitting indirect impacts on GDP, government tax revenues, jobs, and labour income, with the exception of indirect impact of direct suppliers in the construction phase.
- » More specifically, as opposed to economic impact assessments based on input-output tables, this assessment does not take into account the indirect impacts arising from the activities of the firms providing inputs to Fermi's suppliers (i.e., the suppliers of Fermi's suppliers).
- » Additionally, this assessment does not account for any induced impacts which are the result of consumer spending by employees of the businesses (i.e., the suppliers of Fermi and the suppliers of Fermi's suppliers) stimulated by the expenditures.
- » Consequently, the actual total impact on the economy could be even larger than estimated within the scope of work of this economic impact assessment.

Economic footprint of GE Hitachi BWRX-300 SMR deployment

Impact channels

A. Construction impact (Phase I)

B. Operating impact (Phase II)

Impact modelling

Direct impacts

Labour income generated directly

Operational impact of the power generating company

Indirect impacts

The economic impact of the directly supplying sectors

Impact modelling outputs

Direct and indirect impact on the local economy:

GDP (€)
Employment (FTE)
Labour Income (€)
Tax revenue (€)

GDP (€)
Employment (FTE)
Labour Income (€)
Tax revenue (€)



Economic impact analysis of GE Hitachi BWRX- 300 SMRs

Impact on GDP (1 of 3)

Construction phase (1 of 2) – indirect impact

In the construction phase, Fermi Energia will invest €2.0B to construct a nuclear power plant with two modular reactors. Fermi Energia has provided (see Appendix 1) a breakdown of the initial investment by industries used as inputs as well as the local share of expenditures (i.e., share of purchases made using Estonian suppliers). As Fermi Energia has provided a high estimate and a low estimate for the local share, we have reported the impact amount as a range, accordingly.

The investment breakdown by local industries has been matched to a dataset of Estonian industries' financial statistics (EM001 (2020) by Statistics Estonia)*. Each industry's turnover and value added amounts have been adjusted by inflation into 2021 euros. Local expenditures were added as increases to each industry's turnover.

Assuming a constant ratio between each industry's turnover and value added, the expenditures by local industries have been converted into turnovers by industries, which are subsequently converted into **value added estimates**.

No taxes on products have been included to reach the GDP level as the value added taxes will be generated by the final consumers in the operating phase. Also, we have not assessed excise duties generated by the suppliers of Fermi Energia, if any.

Indirect impact on GDP in 2021 euros = **€183M – €324M for the whole construction period** (0.60% - 1.06% of the 2021 nominal GDP which was €30,588M)

*The input-output table was used for statistics on the "Public administration and defence; compulsory social security" industry due to data availability



M – million
B – billion

Impact on GDP (2 of 3)

Construction phase (2 of 2) – direct impact

Fermi Energia has also provided a forecasted income statement for the construction phase (see Appendix 2). During the construction phase, Fermi Energia does not earn revenues, while different costs incur (locally in Estonia) such as personnel costs (50% of which are expected to be capitalised), other operational costs, and general development costs (which are expected to be capitalised) related to design, land purchases, and licensing.

Although Fermi Energia has a direct positive impact on the GDP through the **labour income generated** over the period, it is fully offset by the **negative net operating surplus** as Fermi operates at a loss during the construction phase, which reduces the value added by Fermi.

All in all, the total **direct impact on GDP is insignificant** (close to zero).



Impact on GDP (3 of 3)

Operating phase – direct impact

For the operating phase, only the direct impact has been estimated, based on the forecasted income statement for the operating phase (see Appendix 3) provided by Fermi Energia.

The total direct impact on GDP is made up of Fermi Energia's **compensation of employees** (i.e., the wages and salaries generated together with payroll taxes), **consumption of fixed capital** (i.e., the €2.0B investment and ca €69M of other capitalised costs during construction phase are amortised over the 60 years of the nuclear power plant's economic useful life during which the asset generates value added*), **net operating surplus** (i.e., the profits generated for distribution between Fermi Energia's debtors and shareholders), and **taxes less subsidies on products and production** (i.e., the value added tax generated annually in Estonia).

According to the forecasts provided, Fermi Energia does not anticipate receiving any subsidies. The taxes on products and production generated annually (VAT) is estimated based on annual revenues and the share of local final consumers – Fermi Energia's estimate is that ca 42% of the VAT on electricity sales will remain in Estonia (as many local electricity consumers export their production).

Direct impact on GDP in 2021 euros = **€266M for each operating year** (0.87% of the 2021 nominal GDP which was €30,588M)

*Please note that the amortisation does not include any amortisation of maintenance CAPEX which is done during the operating phase (amortisation of the assets which are estimated to be replaced after the first 20 years)

*M – million
B – billion*



Impact on Jobs and Labour Income (1 of 3)

Construction phase (1 of 2) – direct impact

The number of jobs generated directly by Fermi Energia over the construction phase can be seen in Appendix 2. In this assessment, the number of jobs created is measured in person years, while each person year is equivalent to one full-time equivalent job sustained for one year.

Direct impact on the number of jobs (in person years) = **1,616 over the construction period** (in 2020, there were a total of 471,989 FTEs, however, the number of jobs in person years is not directly comparable as Fermi Energia employs 1,616 employees over a multi-year period).

The respective labour income generated by Fermi Energia has been estimated as a total for the whole construction period based on the forecasted personnel costs (together with payroll taxes).

Direct impact on labour income generated = **€104M over a multi-year period** (2021 total labour income was €10,835M).

The payroll taxes are calculated with the assumption that a 20% income tax rate and a 33.8% social tax rate are applicable on the gross wages.



M - million

Impact on Jobs and Labour Income (2 of 3)

Construction phase (2 of 2) – indirect impact

In the construction phase, the indirect impact on jobs and labour income is estimated similarly to the indirect impact on GDP. The investment breakdown by local industries has been matched to a dataset of Estonian industries' financial statistics (EM001 by Statistics Estonia)*. Each industry's turnover and personnel costs have been adjusted by inflation into 2021 euros. Local expenditures are established as increases to each industry's turnover.

Assuming a constant ratio between each industry's turnover and number of FTEs, as well as a constant ratio between turnover and personnel costs, the expenditures by local industries have been converted into turnovers by industries, which are subsequently converted into **additional jobs estimates in person years** and into **additional labour income** generated.

Indirect impact on the number of jobs (in person years) = **5,552 – 9,777 over the construction period** (in 2020, there were a total of 471,989 FTEs, however, the number of jobs in person years is not directly comparable as this employment is created over a multi-year period).

Indirect impact on labour income generated = **€132M – €234M over a multi-year period** (2021 total labour income was €10,835M).

*The input-output table was used for statistics on the "Public administration and defence; compulsory social security" industry due to data availability

M - million



Impact on Jobs and Labour Income (3 of 3)

Operating phase – direct impact

According to the forecasts provided, Fermi Energia will directly employ 195 FTEs each year over the operating phase.

Direct impact on the number of jobs (in person years) = **11,700 over the operating period** (in 2020, there were a total of 471,989 FTEs, however, the number of jobs in person years is not directly comparable as Fermi Energia employs 11,700 employees over a 60-year period).

The respective labour income generated by Fermi Energia has been estimated as a total for the whole operating period based on the forecasted personnel costs (together with payroll taxes).

Direct impact on labour income generated = **€751M over a 60-year period** (2021 total labour income was €10,835M).



M - million



Impact on Tax Revenue (1 of 2)

Construction phase – direct impact

For the construction phase, the impact on government tax revenues has been estimated based on the forecasts provided by Fermi Energia (see Appendix 2).

As Fermi Energia only makes purchases and incurs payroll costs in the construction phase, it is assumed that the company has a neutral effect on the value added taxes as Fermi Energia is not the final consumer generating the value added tax, and can instead receive a VAT refund. The VAT impact on government tax revenues is carried on until it is paid by the final consumer in the operating phase.

Fermi Energia does not expect to receive any subsidies during the construction or operating phase. Also, as the company is loss-making in the construction phase, no income tax can be generated by dividend pay-outs.

The only impact on government tax revenues in the construction phase is through payroll taxes (income tax and social tax) on wages and salaries of Fermi Energia's employees.

Direct impact on government tax revenues in 2021 euros = **€42M for the whole construction period** (2021 state budget tax revenue was €9,263M)



M - million



Impact on Tax Revenue (2 of 2)

Operating phase – direct impact

The impact on government tax revenues in the operating phase has been estimated based on the forecasts provided by Fermi Energia (see Appendix 3).

The first component of the impact on tax revenues is the payroll taxes (income tax and social tax) on wages and salaries of Fermi Energia's employees.

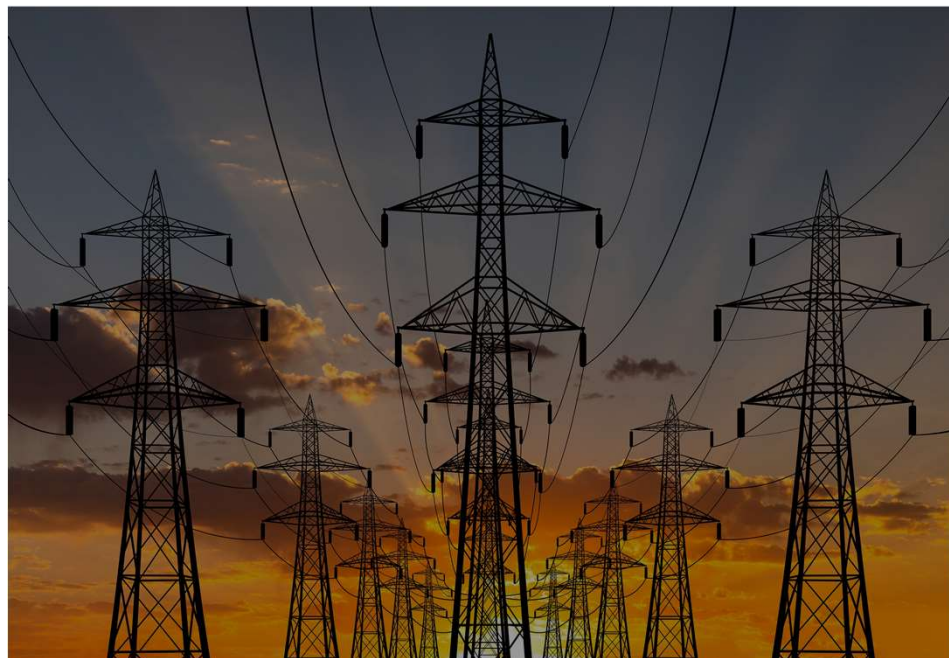
The second component of the impact is the income tax applicable on dividend payouts. Fermi Energia has estimated the annual gross distributable profit amount for the operating phase. A conservative tax rate of 14% (applicable for regularly payable dividends) has been assumed, while the impact on government tax revenues would be slightly larger if the effective tax rate is above 14%.

The third component of the impact is the value added tax generated by the annual sales of electricity to final consumers in Estonia. Fermi Energia estimates that 70% of the electricity will be sold to local customers, while many of the local electricity consumers would be companies exporting their production to final consumers in other countries. Fermi Energia's estimate is that ca 42% of the VAT on electricity sales will remain in Estonia.

Although excise duties also apply to the network operator regarding electricity sales, it is assumed that the electricity generated by Fermi Energia would not add to the current network capacity or government tax revenue, while the effect is also indirect.

Direct impact on government tax revenues in 2021 euros = **€35M for each operating year** (2021 state budget tax revenue was €9,263M)

M - million





Appendices



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