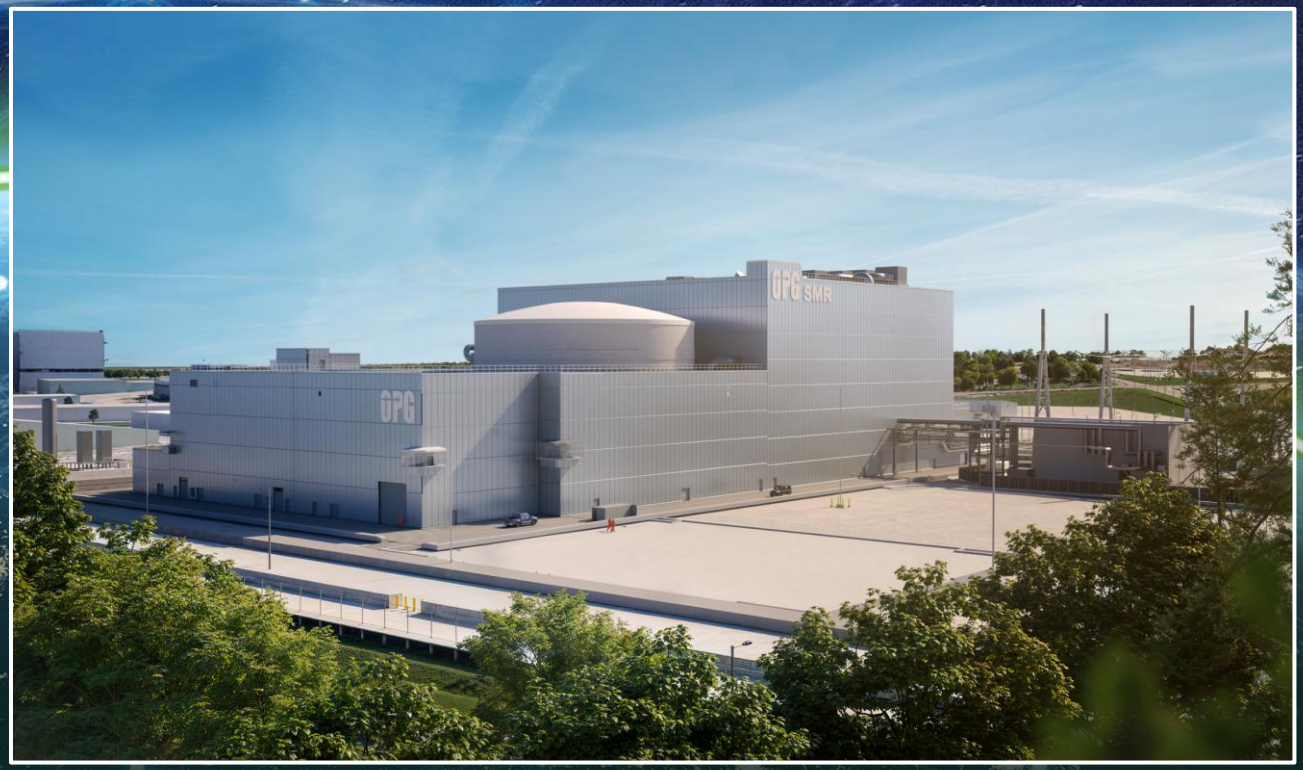
Building an *SMR in Canada*



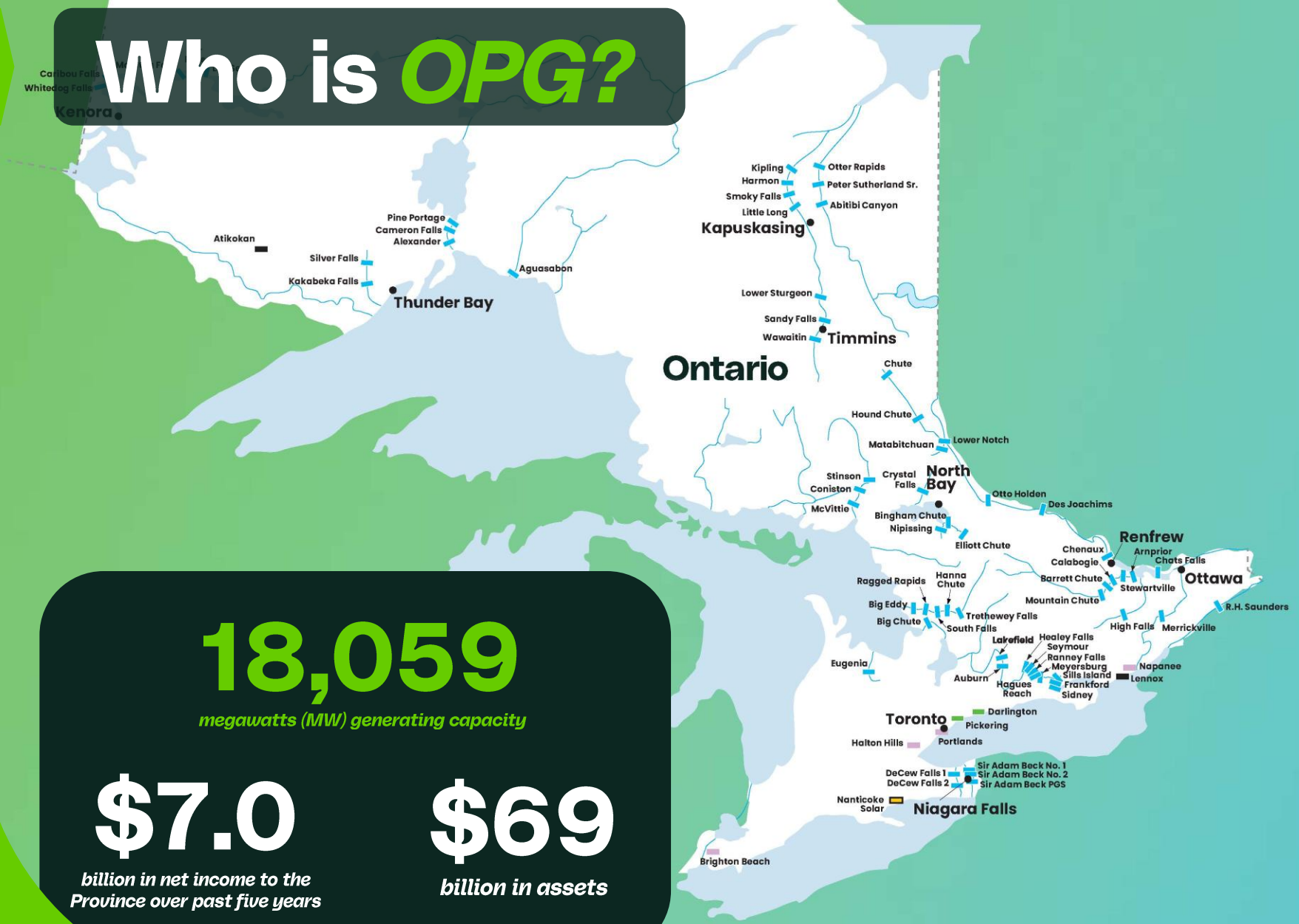
Jos Dlening

Vice President – New Nuclear Growth

Fermi Energia Annual Conference

Wednesday, February 11, 2026 – Tallinn, Estonia

Who is OPG?



18,059

megawatts (MW) generating capacity

$7.0

billion in net income to the Province over past five years

$69

billion in assets

2
Nuclear Generating Stations

66
Hydroelectric Generating Stations

2
Thermal Stations

4
Atura Power Combined-Cycle Generating Stations

1
Solar Facility

Darlington New Nuclear Roadmap

BIG things start **small**.

2024

CNSC Confirms OPG's Technology Selection Against EA

October 2024: CNSC Public Hearing Part 1 for Licence to Construct

2025

Licence to Construct Issued

January 2025: CNSC Public Hearing Part 2 for Licence to Construct

Unit 1 Construction Begins

2028

Licence to Operate Issued

2028: CNSC Public Hearing for Licence to Operate

2030

Unit 1 Commercially Available

2034

2035

Subject to regulatory approvals, construction and commercial operations of Units 2-4

All dates are estimated based on current project schedules

ONTARIO POWER GENERATION

How to deploy nuclear at scale?

OPG's Lessons Learned

1. Walk before you run
2. Focus on project execution
3. A fleet approach

Darlington New Nuclear Site

OPG's Nuclear *Growth*

Walk before we run

Pickering Refurbishment Project

Leverage Darlington experience:

- *Project Planning*
- *Project Execution*
- *Vendor Partners*

2024+

Darlington Refurbish-ment Project (DRP)

- Build capacity & expertise
- Gather lessons learned
- Increase vendor capacity

2007-2026

2019-2036

Darlington New Nuclear Project (SMRs)

- Gen-III+ technology development
- Leverage lessons learned on project delivery from DRP
- Develop new-build nuclear project expertise

2023+

Large Nuclear Development

- Leverage operating & regulatory experience
- Utilize new nuclear project experience

Ontario, pan-Canadian, and international SMRs

- Further SMR development
- Deployment partnerships
- Grow SMR supply chain

Gen-IV SMR Development

- Decarbonize industry & remote communities

OPG

Dates reflect start of internal planning and engineering through to completion of construction/commissioning

A Focus on Project Execution

SMRs are not the thing of the future, but the thing of the present

Project description

Deployment of the G7s **first SMR**

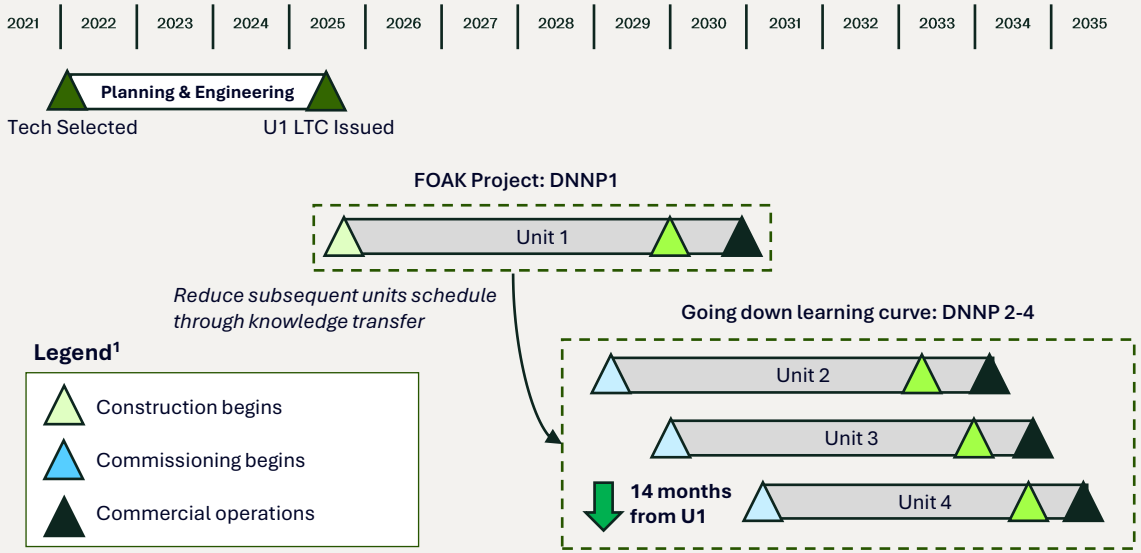
Planned operation of **four BWRX-300s** by **mid 2030s**

Provide power for up to **1.2 million homes** in Ontario

Utilizing an **Integrated Project Delivery** model to foster collaboration and mutual commitment to project success

Owner, Plant Operator	ONTARIO POWER GENERATION	Architect Engineer	AtkinsRéalis
Reactor Technology Provider	GE VERNOVA HITACHI	Construction Lead	Aecon Kiewit NUCLEAR PARTNERS

Project Timeline

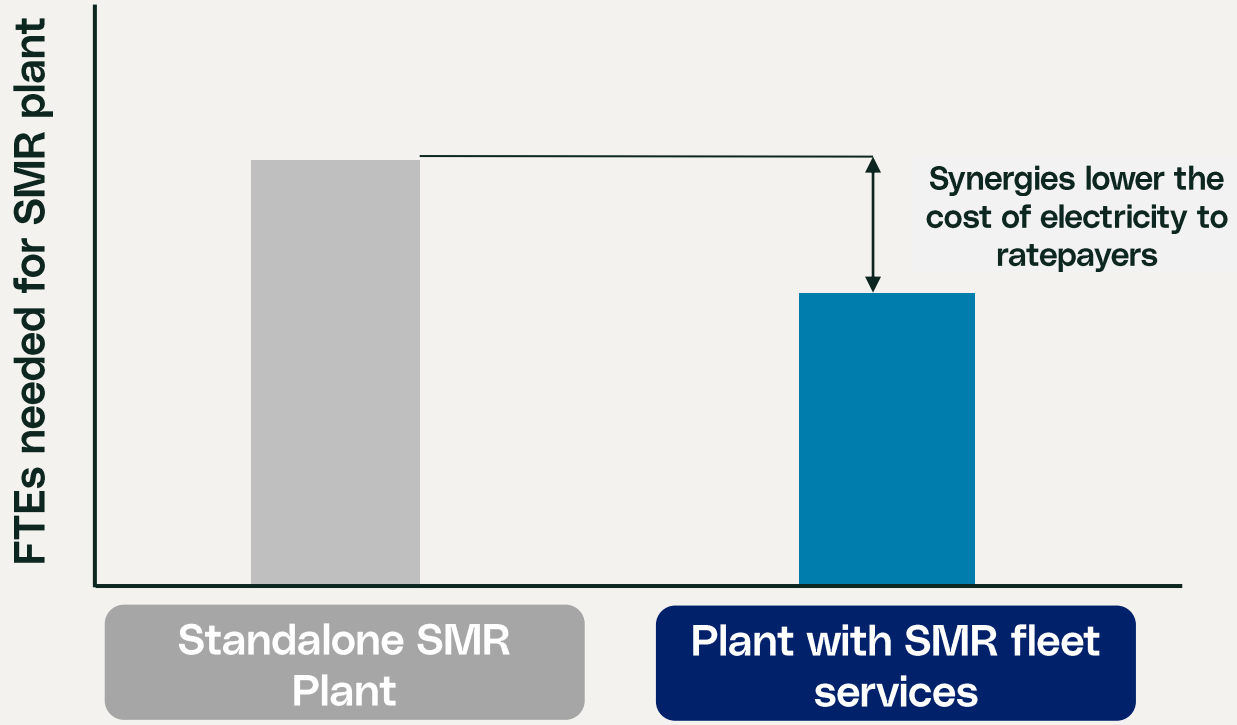


Strategic approach to schedule sequencing

Take DNNP1 to an advanced stage in construction → Transfer knowledge to DNNP 2-4 → Reduce timelines for DNNP 2-4

A Fleet Approach

Broader fleets can unlock additional economies of scale



Cost savings are obtained through:

- Centralized operations reducing headcount
- Joint procurement leading to reduced supply costs
- Nth-of-a-kind project and shared learnings

Operating an SMR that is a part of a larger fleet leads to cost savings over its lifecycle

OPG's Lessons Learned Program

OPG has a programmatic approach to pushing down the cost curve through a detailed lessons learned program

Lessons Learned Approach

Lessons learned are **identified**

Lessons learned are **classified**

Lessons learned are **verified and documented**

Type	Description	Examples
Strategic lesson	Finding impacts the **structural set-up of how the project is executed**	Updated the DNNP 2-4 WBS[1] based on communication inefficiencies identified during the FOAK project
Programmatic lesson	Finding impacts how **one program within the project is executed**	Restructured the schedule and critical path items for the off-shore borehole permitting process after delays in FOAK project
Tactical lesson	Finding impacts **how the work is tactically executed**	Developed execution methods for SMR shaft construction if cobble layers are identified during shaft excavation

1 Work Breakdown Structure – Project breakdown into smaller deliverables, products, and corresponding interface requirements

International Partnerships

Why Europe?

- Strong democracy and rule of law
- Strong government commitments to nuclear development
- High future electricity demand
- Geopolitical alignment
- Strong domestic partners (developers, investors)

OPG | Electrifying life