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Next-generation nuclear technology

An overview for the National Academies Study on Reactor Commercialization

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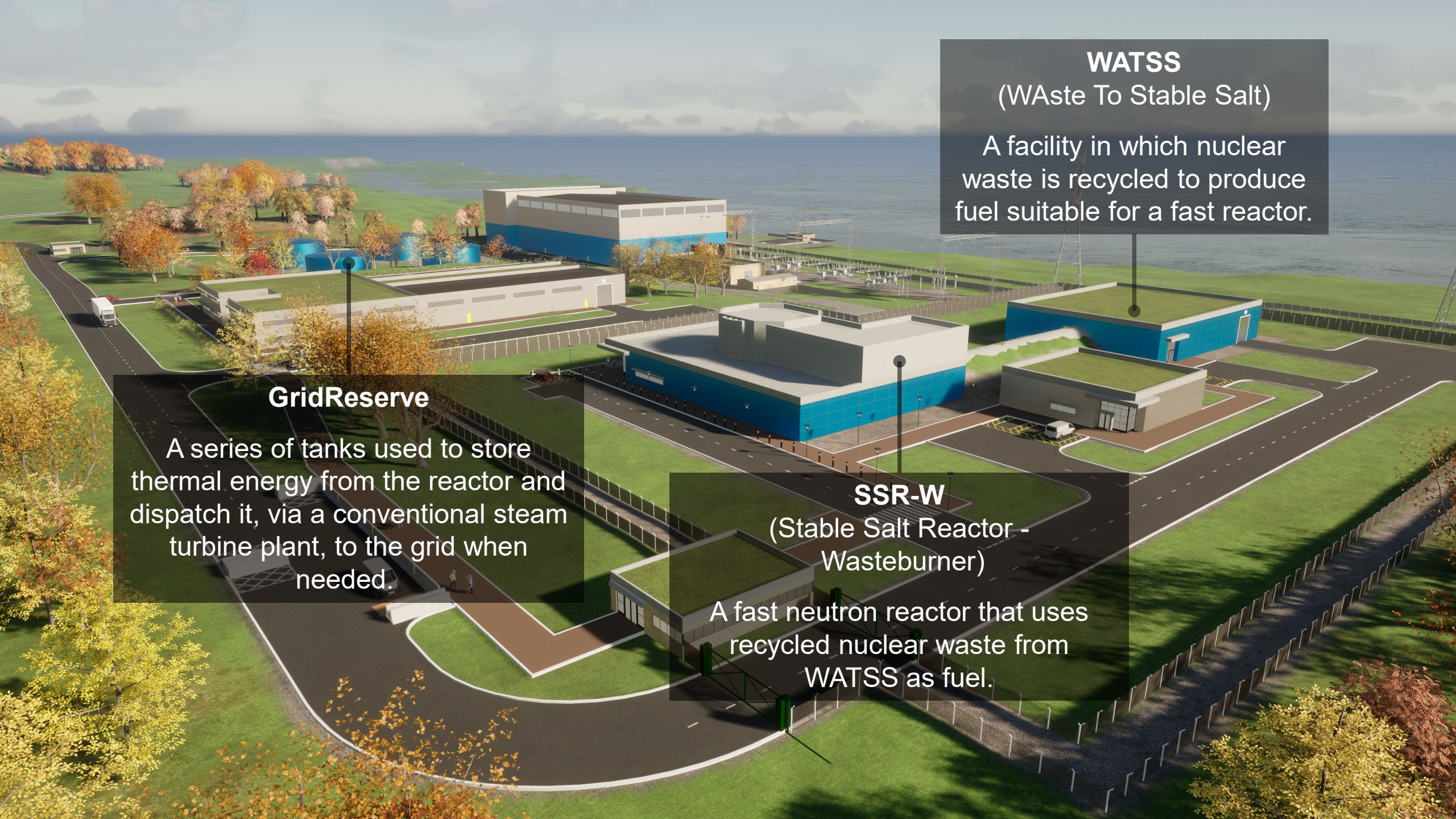

WATSS
(WAste To Stable Salt)
A facility in which nuclear waste is recycled to produce fuel suitable for a fast reactor.
GridReserve
A series of tanks used to store thermal energy from the reactor and dispatch it, via a conventional steam turbine plant, to the grid when needed.
SSR-W
(Stable Salt Reactor - Wasteburner)
A fast neutron reactor that uses recycled nuclear waste from WATSS as fuel.

Moltex progress

2014

- Company founded and master patent granted

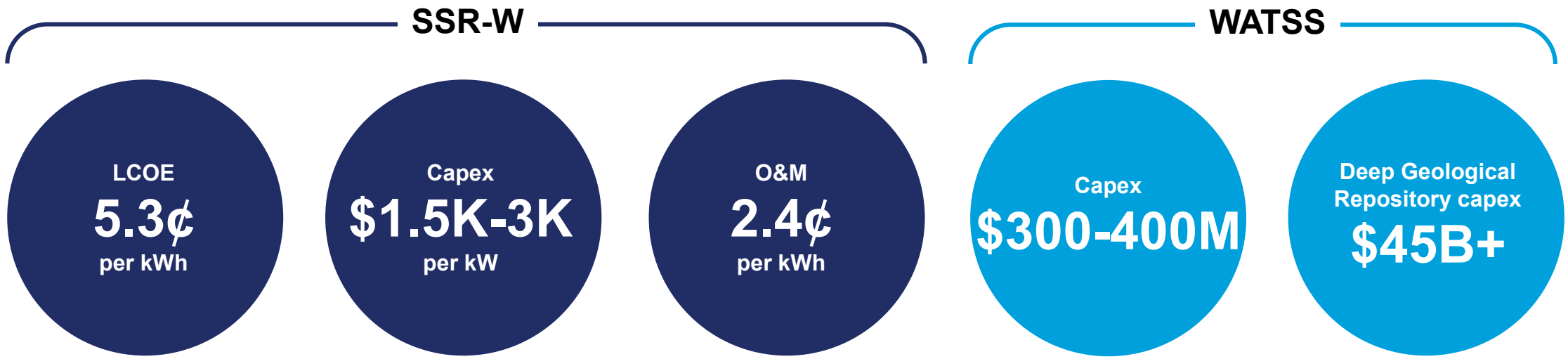
2018

- Established office in New Brunswick, Canada following selection by NB Power
- Point Lepreau site chosen for WATSS and SSR-W demonstration facilities

2019-2021

- Expanded team to focus on design, R&D, supply chain and stakeholder engagement
- Major investments from established nuclear companies, private investors, governments
- Completed CNSC Vendor Design Review Phase 1
- Expanded collaboration with various US labs, particularly Argonne National Laboratory

Ultra competitive economics



- Business case for waste reduction and low cost electricity are distinct and compelling
- WATSS economics varies with capacity and location but has big margins

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Stakeholder buy-in

- Combined ~U$50m (C$63m) from NB Power, Ontario Power Generation, Canadian Nuclear Laboratories and Canadian federal government
- U$6.7 million from the US Department of Energy Advanced Research Projects Agency – Energy (two projects)
- More from private companies, strategic investors and crowdfunding campaign

Technical Deployment strategy

WATSS

- Hot cell work at pin/bundle scale.
- Pilot plant with uranium/SimFuel.
- Commercial demonstration facility.

SSR-W

- Multiple large scale inactive rigs.
- Derated commercial demonstration with extended material testing as part of license conditions.

Site of first reactor

Commercial Deployment strategy

- NB Power provides PPA.
- Two consortia will be established to finance the build for WATSS and SSR-W, led by NB Power.
- These players will ideally include future customers both in Canada and the US.
- Design costs until initial license application will be financed by Moltex; Detailed design and pre-construction costs will be project financed.
- EPC will be brought on before 2024.
- DOE would be an ideal partner for WATSS.

Site of first reactor

Market opportunity

Moltex plans

2022-2025

- Recruitment and workforce planning
- Supply chain capability assessments and development
- Indigenous engagement and partnerships
- Engineering design of SSR-W and WATSS, and VDR Phase 2
- Large experiments at universities and research centres
- Other key stakeholder partnerships (government, industry, academia, etc.)
- NB Power pre-project support
- Fundraising
- US expansion and customer acquisition

Thank you

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