YGN: Intro to Nuclear New Build

24 July 2018
U-Battery Single Unit

Key to Layout
1. Turbine Generator
2. Heat Exchanger
3. Reactor
4. Maintenance Floor
5. Fuel Cartridge Store
6. Fuel Store Ventilation
7. Fuel Handling Facility
8. Control Room
U-Battery Fuelling Route
Modular construction aspects

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Applications

Initial Strategic Markets

Remote Locations

Heavy Industry

Nuclear Backup

Specific Purposes
As part of the Feasibility Study under the Advanced Modular Reactor Programme, U-Battery Developments Ltd will deliver:

- a market analysis report that details the UK market, by industry, by number and size of heat demand; and
- analysis that considers the attitudes towards energy of energy managers at these companies.
Why Canada?

Opportunity
- 300+ remote communities
- Remote heavy industry & mining
- Carbon intensive & logistically challenging
- Need secure low-carbon embedded power
- Interest in early deployment at Chalk River Laboratories
- Application for early phase funding under Clean Growth Program

Demand
- U-Battery recommended to Natural Resources Canada and Ontario Energy Ministry
- Specific interest in micro-scale (2-20MW)
- Potential deployment, development & supply chain
- Interest in global potential for micro-nuclear
A recent CNL study found that the potential market for off-grid SMRs in Canada consists of over 600 power plants, with a total power demand of 35 GWe. Another important finding was that most of these power plants require an installed capacity of less than 5 MWe.

AMR programme & SMR Roadmap
Delivered Cost of Power

UK Levelised Cost Estimates for Projects Commissioning in 2025
Compared to Diesel Generation in Canadian Northern Territories
