



SMR

Rolls-Royce SMR

Clean, Affordable Energy For All

Mike Crawforth – Business Development Manager

Michael.Crawforth@Rolls-Royce-SMR.com





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Global Data Centre Market

Power Constrained Growth

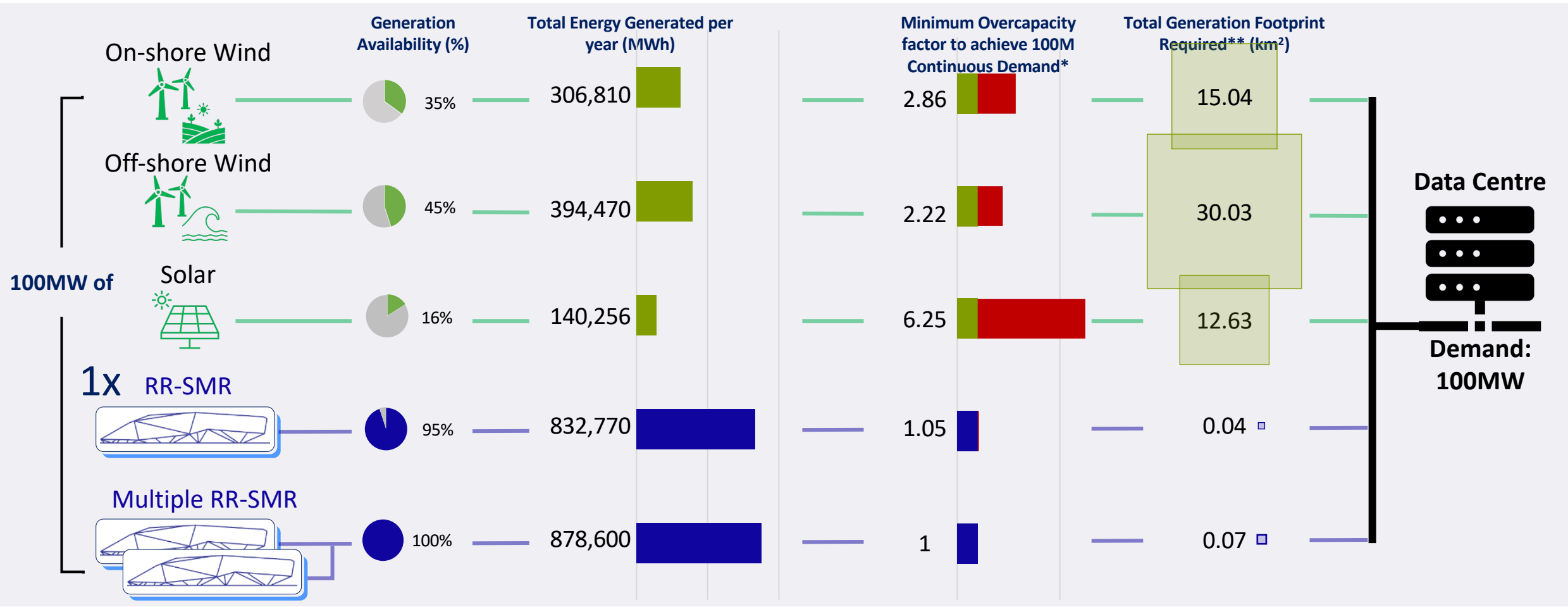
- Datacentre demand is:
 - **Large** - data accounts for ~2% of all electricity used in the US.
 - **Constant** – 24/7 load profile, 99.999% reliability
 - **Growing** - average CAGR over 20%, without AI impact. The US market alone is predicted to reach 35GW by 2030
- Northern Virginia has over 2GW in data demand
 - **34%** of the power for these facilities **comes from nuclear power**
- A global shortage in power availability is restricting new developments, impeding growth including AI roll out
- Long term PPA's into 100MW's is sufficient to stimulate SMR projects driving mutual cost assurance





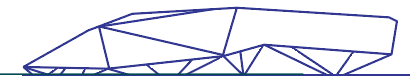
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Clean Energy Generation Comparisons



*Sufficient Storage is used to ensure demand during low/no generation periods. Where 2x RR-SMR won't require any.

**Power density (MW/km²): On-shore wind – 19, Off-shore wind – 7.4, Solar – 49.5, 1x RR-SMR – 2765, 2x RR-SMR – 1383

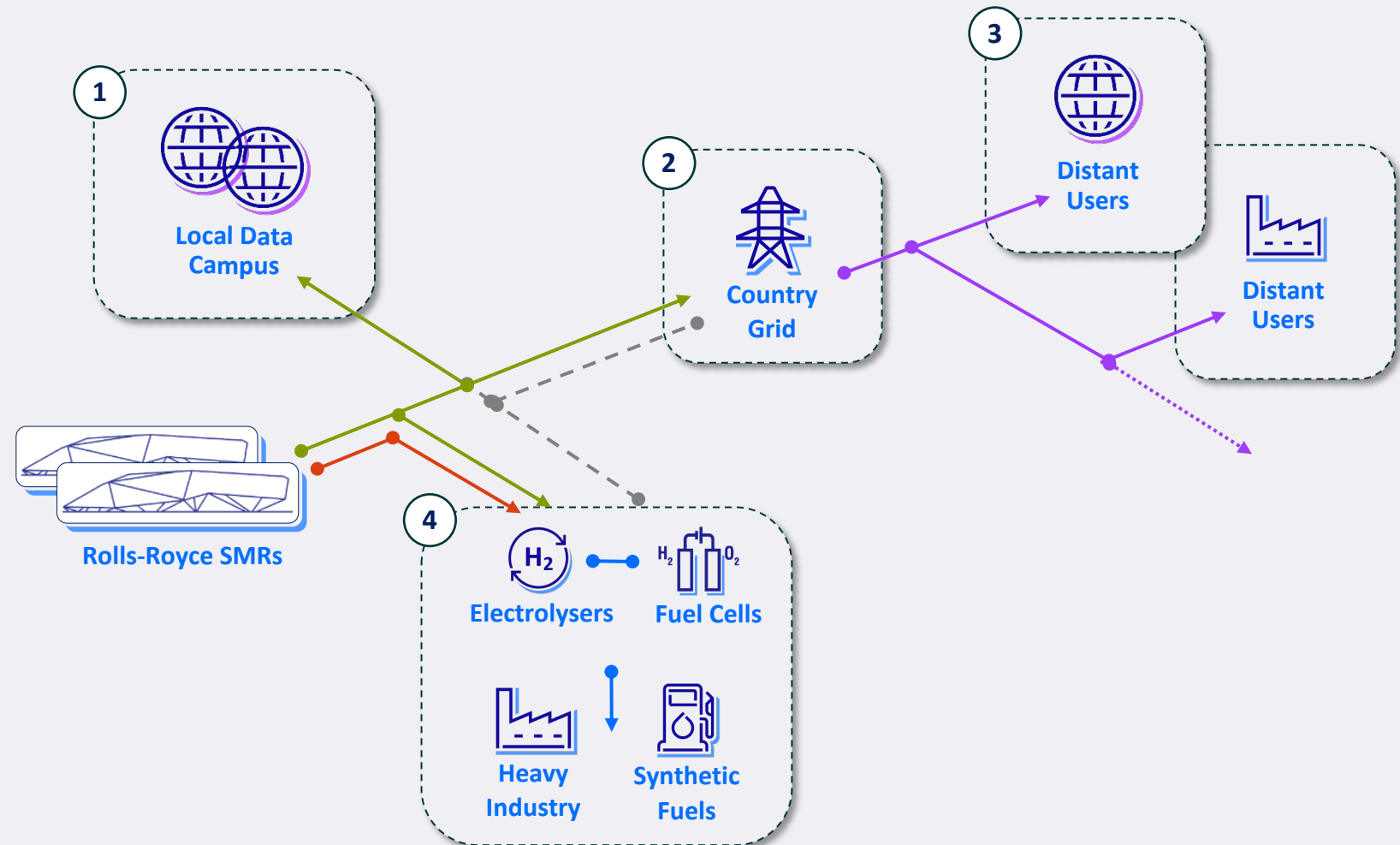


The SMR solution supports a wide range of offtake opportunities



A solution for any demand at any distance:

1. **Local Users** – Power commensurate to demand without grid charges through private wire PPA.
2. **Country Grid** – Transmits power to distributed users through a sleeved PPA agreement.
3. **Distant Users** – Power commensurate to demand, without uncertainty in market rates or carbon intensity. Includes a grid overhead charge*
4. **Hydrogen Ecosystem** – Co-location of data clusters with an SMR enabled hydrogen ecosystem enables cost effective use of hydrogen as a backup power source supporting further decarbonisation



*Grid overhead charge is country and location specific



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Rolls-Royce SMR - Digital Thread

Digital Thread



Integrated Digital Design



Connected Supply Chain



Digital Manufacturing



Digital Construction and Assembly



Digital Optimised Power Generation



Data Driven End-of Life Decommissioning

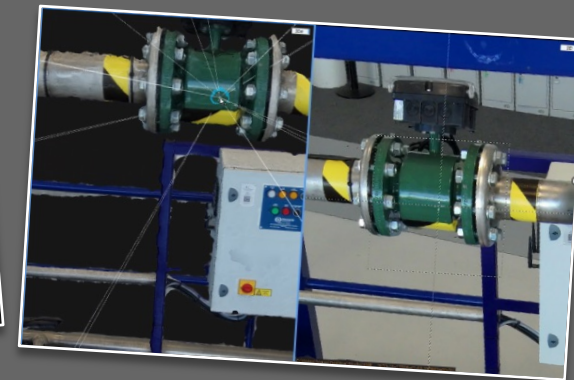


We are creating a digital thread through design, supply chain, manufacture, testing and power generation



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Technology companies are supporting the realisation of digital value in the nuclear eco-system



Collaboration with digital partners on the next generation of industrial integrated solutions

Implementing the right data sources across the power plant design to drive value creation

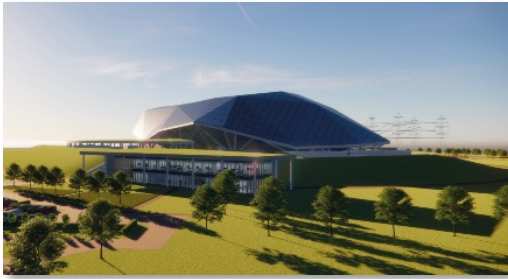
Integrating diverse data across the value chain in a way that supports future AI Systems

Technology has revolutionised the office environment, it's time to revolutionise our industry



SMR

Driving Data to a Sustainable Future



Nuclear is an ideal power source for datacentres & data is an ideal offtake for nuclear power



Price

- Providing energy price security for decades
- Co-location to remove costly grid fees



Power Availability

- SMR's can provide the local power to realise new hyper-scale and future giga-scale projects
- Multiple SMRs provide 100% power availability no storage required
- Inertial generation providing smooth conditioned power



Clean Energy

- Provides carbon security for decades. Nuclear has the lowest lifecycle carbon emissions of any energy source

