



**Progress Updates on the SMR Program in the
United States and Future Plans**

IAEA TWG-SMR

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Nuclear Reactor Deployment

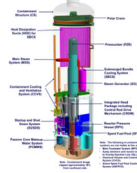
The U.S. Advanced Reactor Landscape is Very Promising

- Many companies and research institutions are working to develop innovative U.S. nuclear reactor designs to meet future energy needs
 - Near-term deployment: Light water-cooled Small Modular Reactors (SMR) (e.g. NuScale)
 - Mid- to long-term deployment: Sodium-, gas-, lead-, molten salt-cooled designs
 - Microreactors

Advanced Light Water Reactors



GE-Hitachi
BWRX-300



SMR LLC
SMR-160



NuScale Power
SMR

Microreactors

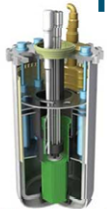


Oklo, Inc
Aurora

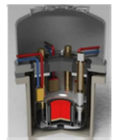


Westinghouse Nuclear
eVinci

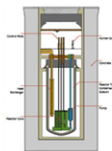
Fast Reactors



GE Hitachi
PRISM



TerraPower
TWR

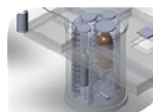


Advanced Reactor
Concepts LLC
ARC-100

Gas Reactors



X-Energy
Xe-100

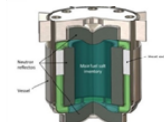


Framatome
SC-HTGR

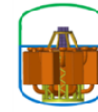
Molten Salt Reactors



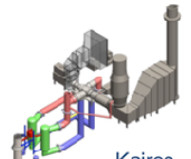
Terrestrial Energy
USA IMSR



TerraPower
MCFR



Elysium USA
MCSFR



Kairos
Power
UCB PB-
FHR

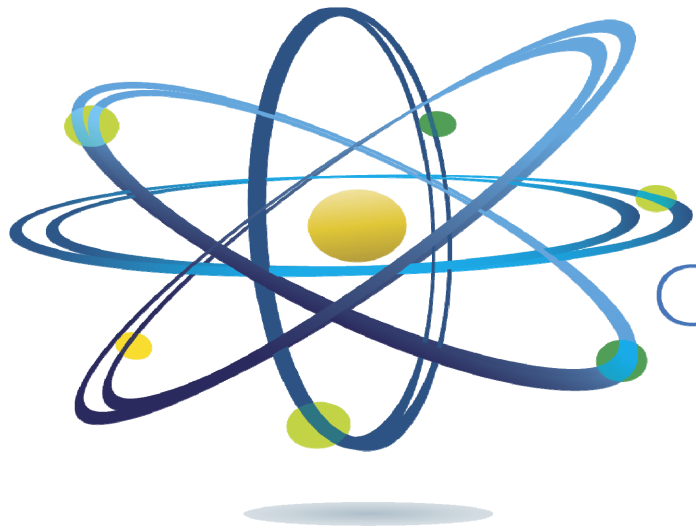
DOE Funding Programs for Reactor Development and Demonstrations

- Advanced SMR Research and Development (R&D) Program (Initiated in 2019)
 - Domestic development of light water SMRs
 - Fiscal year (FY) 2019 - \$100 million (M)
 - FY 2020 - \$100 M
- DOE Advanced Reactor Demonstration Program (ARDP) (New in 2020)
 - Demonstrate multiple advanced reactor designs at various stages of technological maturity
 - Construction of two demonstration reactors within five to seven years following award
 - Solicitation underway; selections to be announced in Fall 2020
 - FY 2020 - \$230 M
- Advanced Reactor Technologies (ART) Program
 - Domestic development of advanced non-light water reactor designs
 - FY 2020 - \$55 M
- NuScale development activities are currently supported through the Advanced SMR R&D program

U.S. SMR Program Updates

- Tennessee Valley Authority successfully obtained an Early Site Permit from the Nuclear Regulatory Commission for their Clinch River Site in December 2019
- NuScale Power received design approval from the Nuclear Regulatory Commission staff in August 2020, putting the technology on track to be fully certified by August 2021
- DOE is negotiating a cost-shared award with Utah Associated Municipal Power Systems (UAMPS) for the deployment of a 12-module NuScale small modular reactor at the Idaho National Laboratory, subject to the availability of appropriations
 - With the development of the cost-shared award, DOE will not plan to pursue the development of a Joint Use Modular Plant or Power Purchase Agreement at this time.

Questions?



Clean. **Reliable. Nuclear.**