



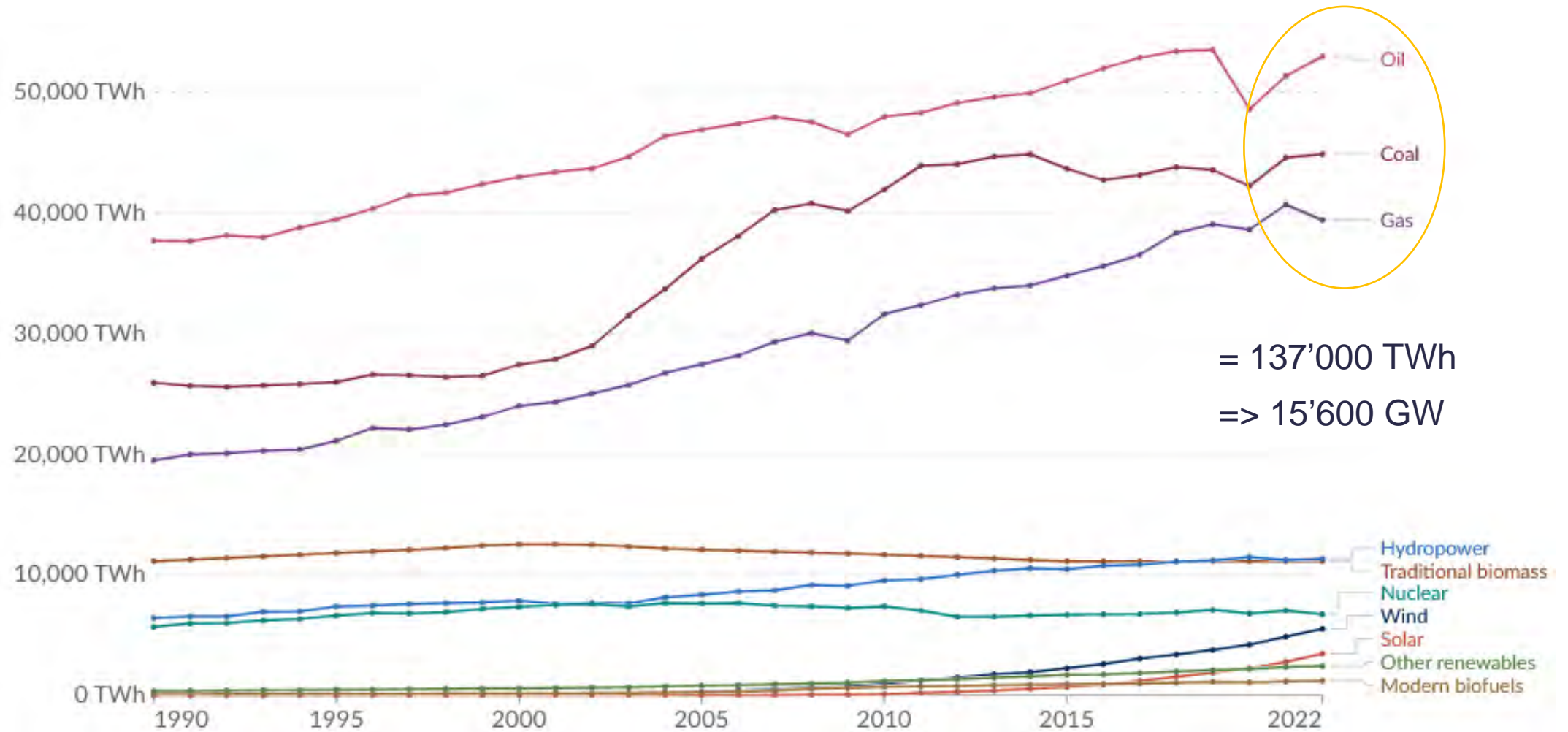
TRANSMUTEX

Next Gen Nuclear – a Swiss Project

June 12th, 2024

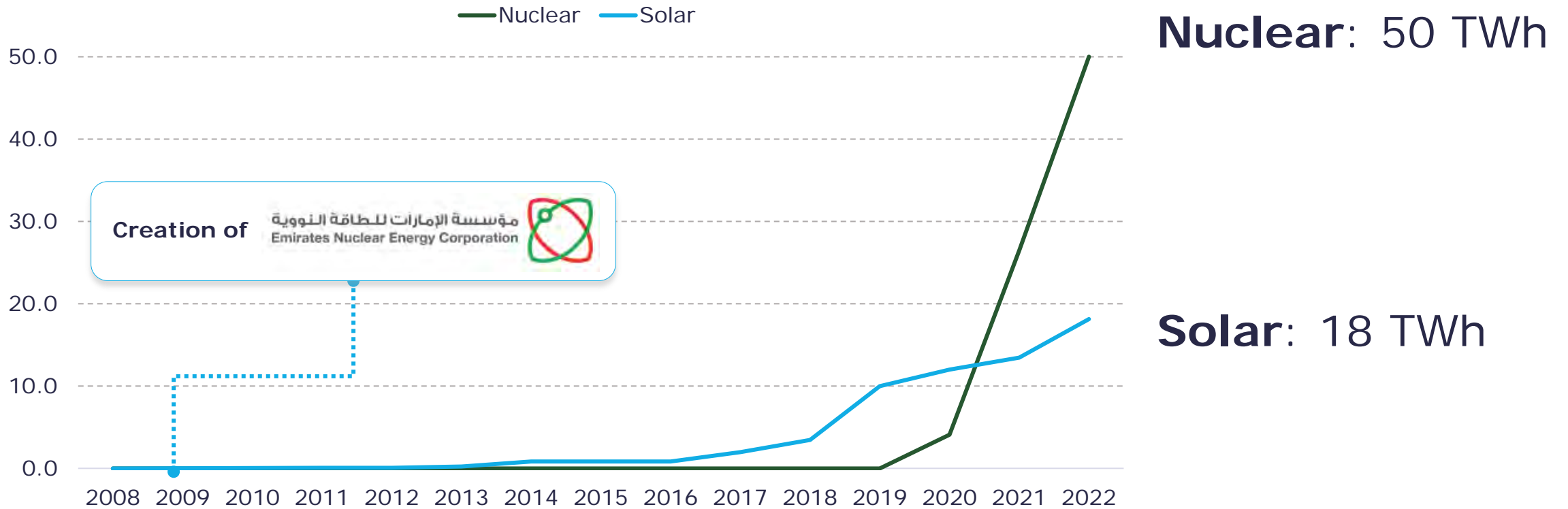
Jean-Christophe de Mestral, Director

2022 World energy consumption, by source



<https://ourworldindata.org/grapher/primary-sub-energy-source>

Even in sunny UAE, Nuclear scales faster than solar



[1] Solar: Primary energy consumption from solar (ourworldindata.org)

[2] Nuclear: Primary energy consumption from nuclear (ourworldindata.org)

Generation IV nuclear

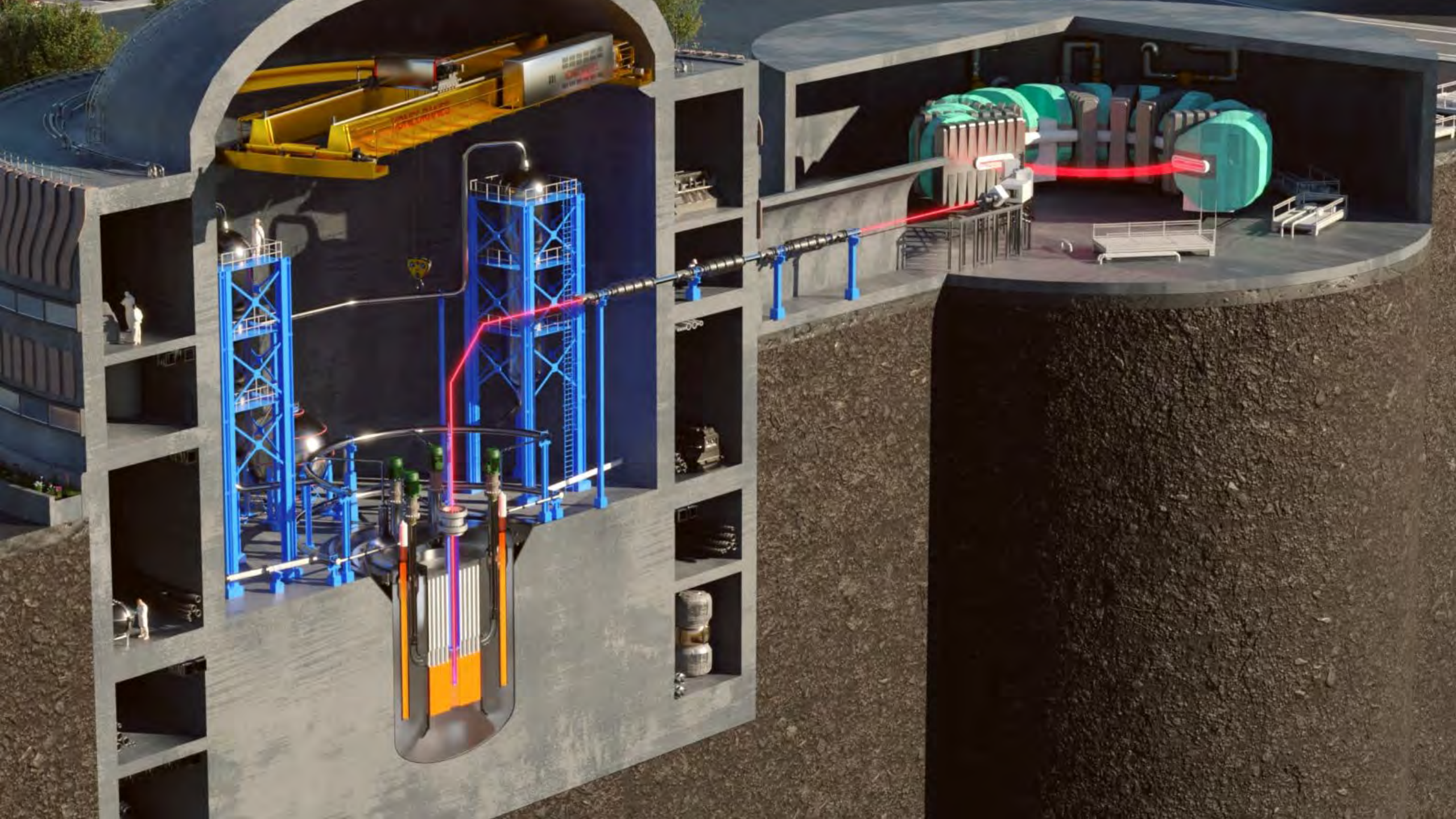


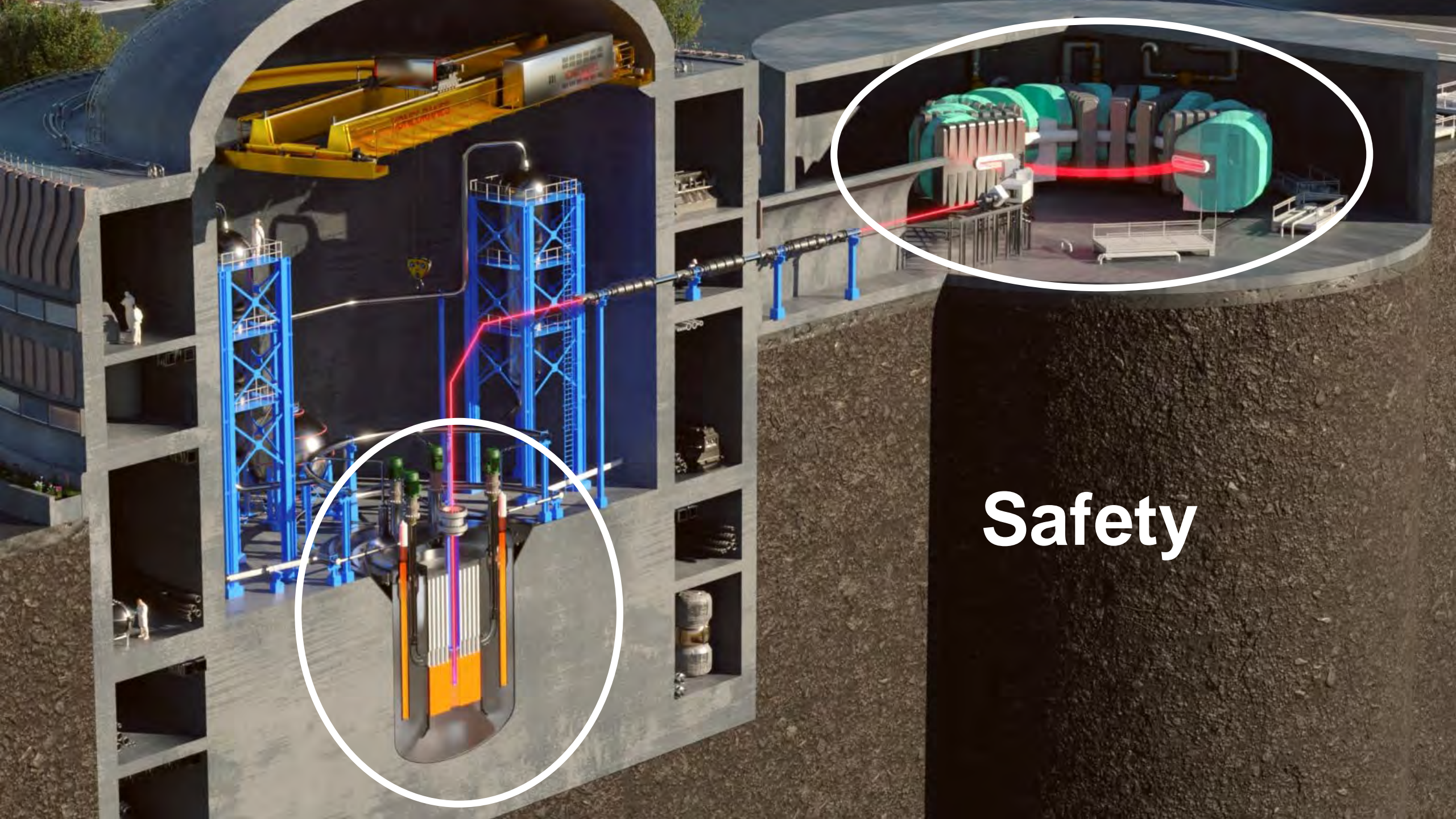
Safety

Waste

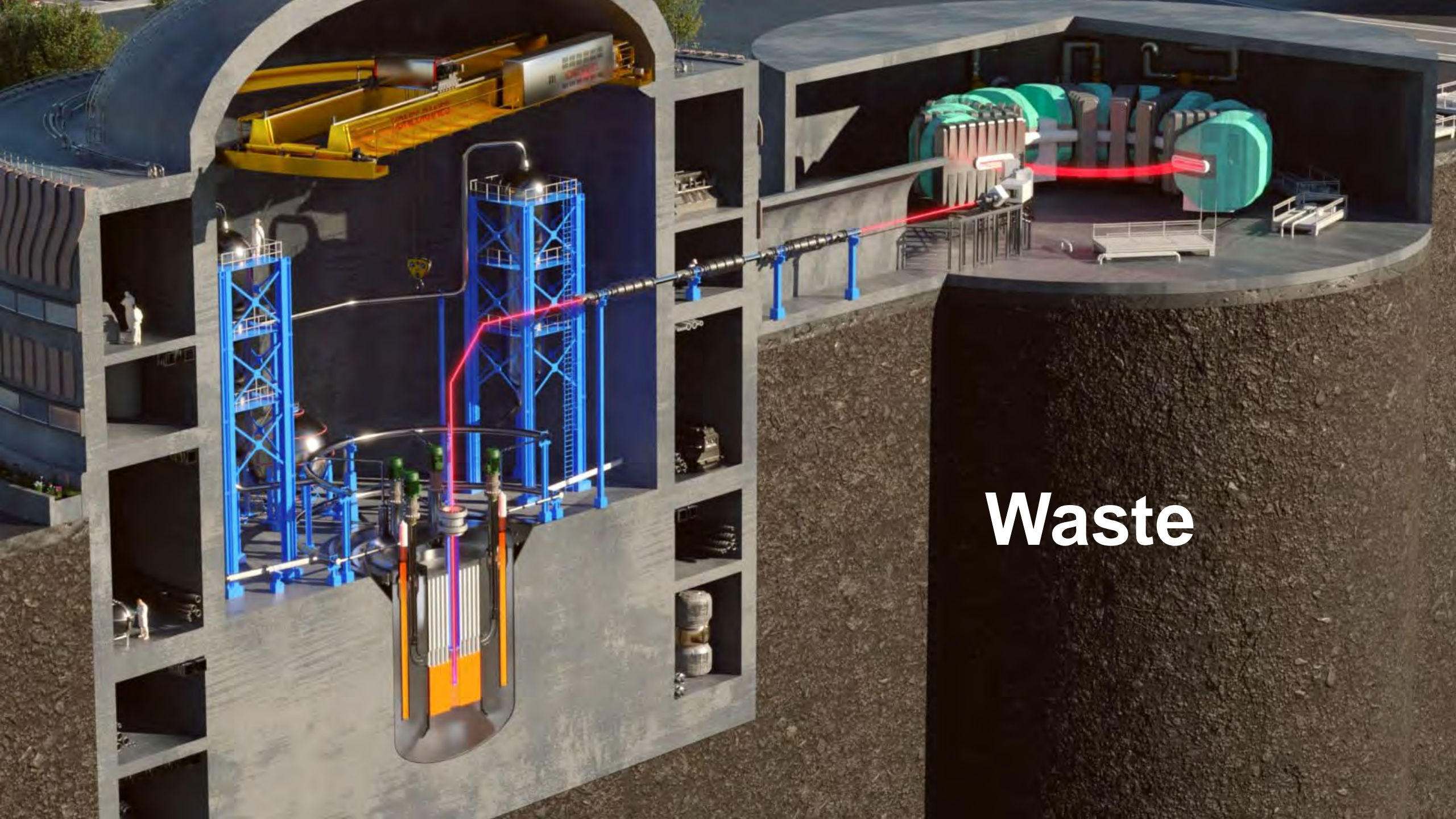
Proliferation

Economics





Safety



Waste



Armenia, Bulgaria, Canada, Croatia, Czech Republic, Finland, France, Ghana, Hungary, Jamaica, Japan, Korea, Moldova, Mongolia, Morocco, Netherlands, Poland, Romania, Slovakia, Slovenia, Sweden, Ukraine, United Arab Emirates, United States, United Kingdom.

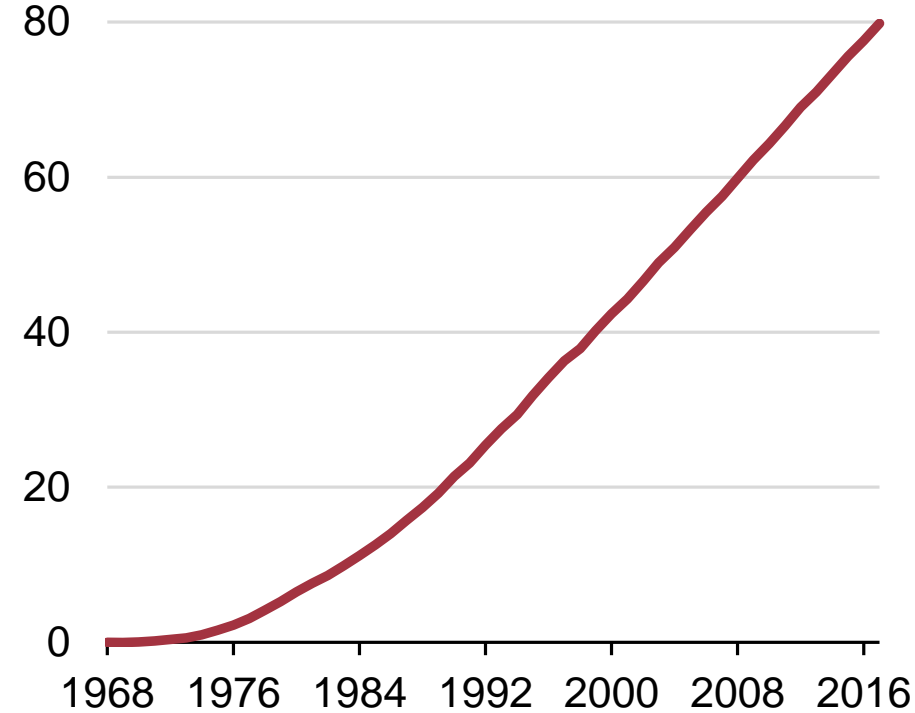
Nuclear waste: the USA case

Spent nuclear fuel discharged and stored at U.S. commercial nuclear reactors (1968–2017)



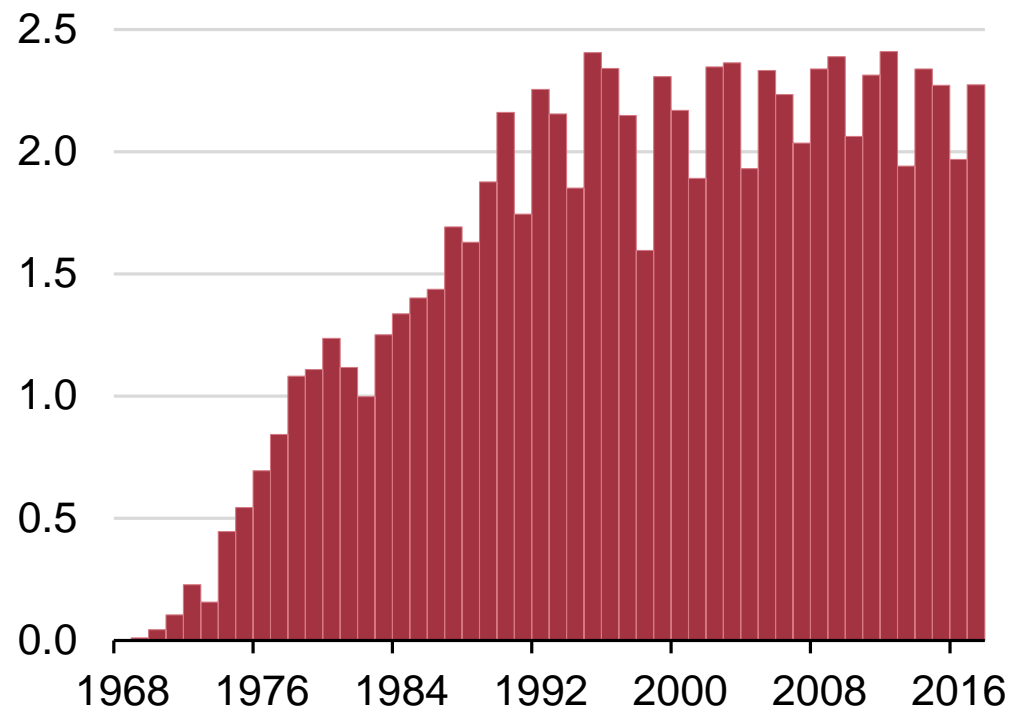
cumulative

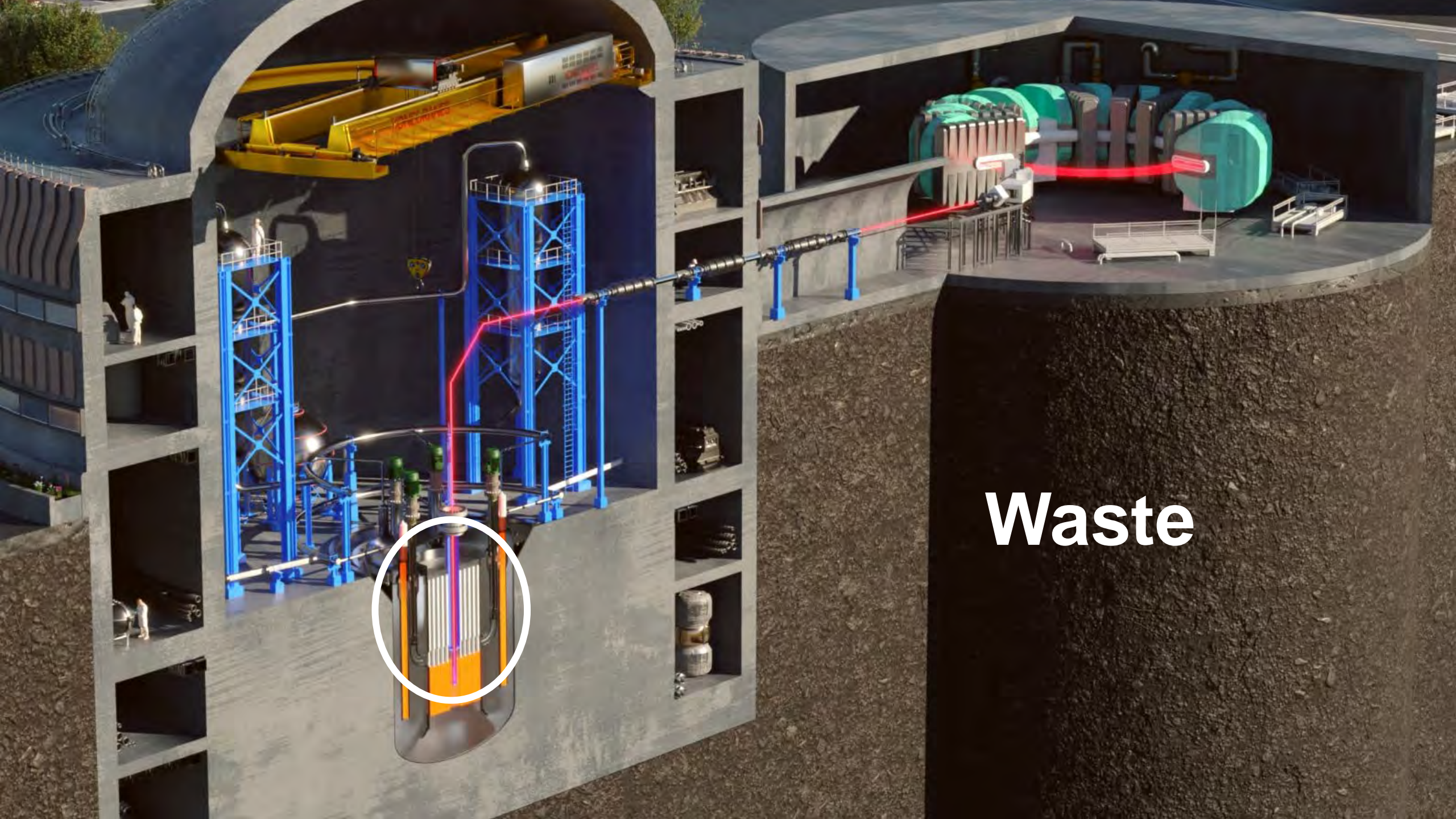
thousand metric tons uranium



annual

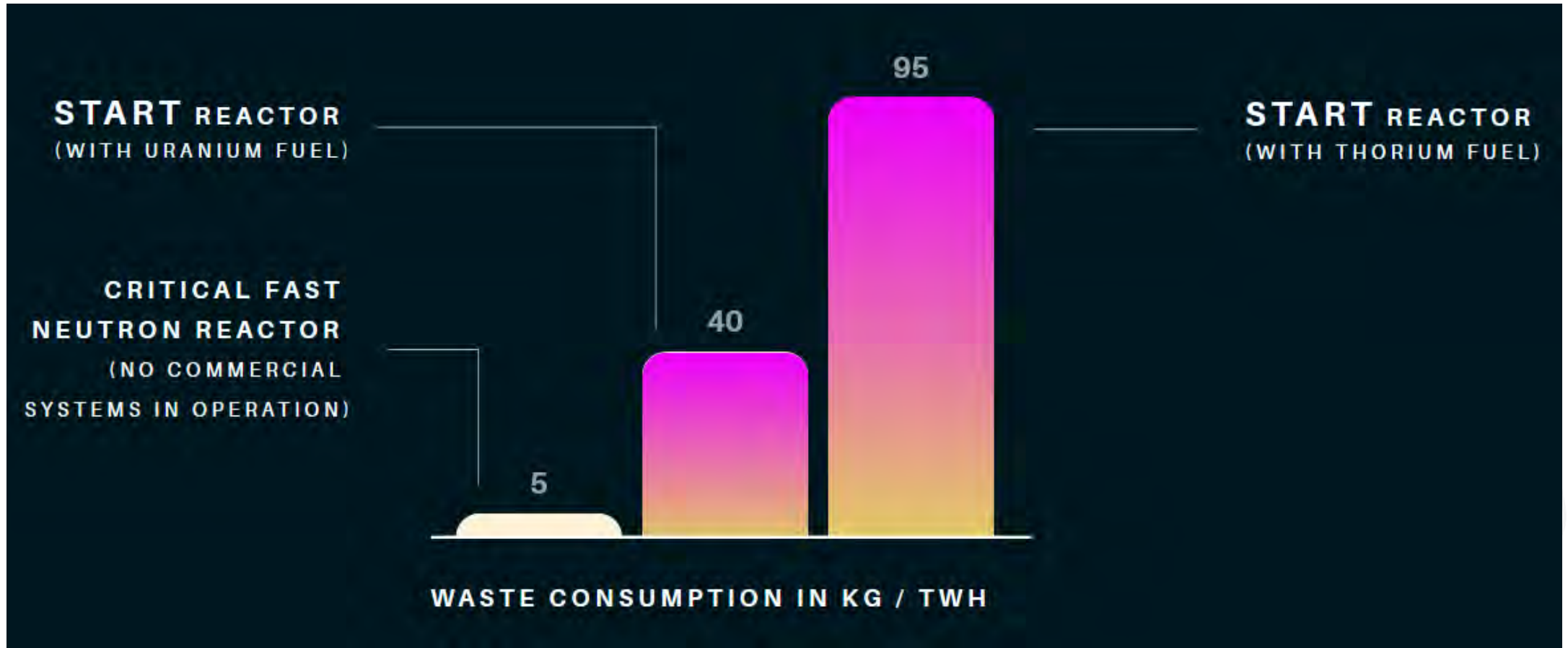
thousand metric tons uranium

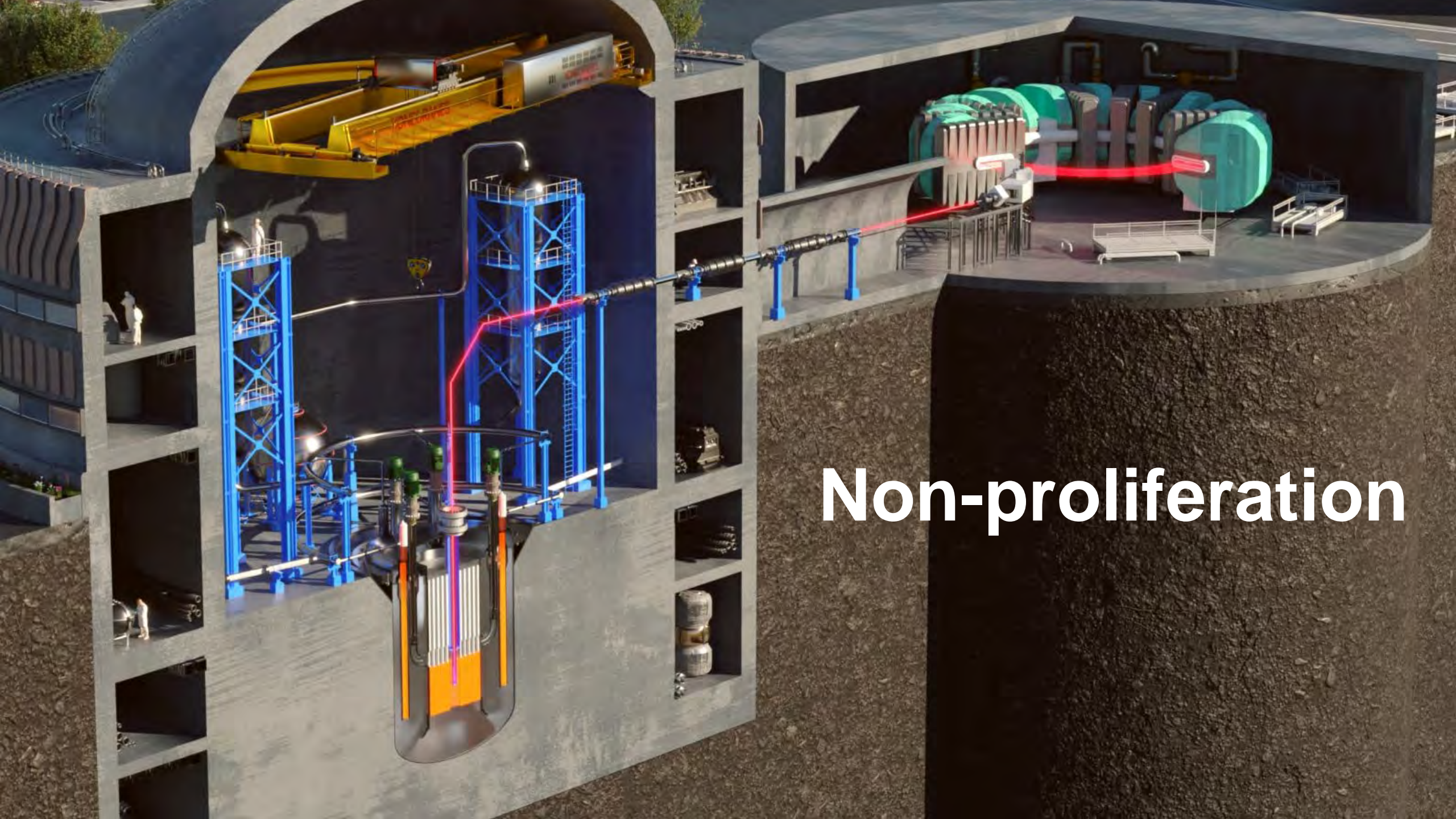




Waste

Transmutation capabilities





Non-proliferation

Pyroprocessing



Photos: Argonne National Laboratory

The scientific basis

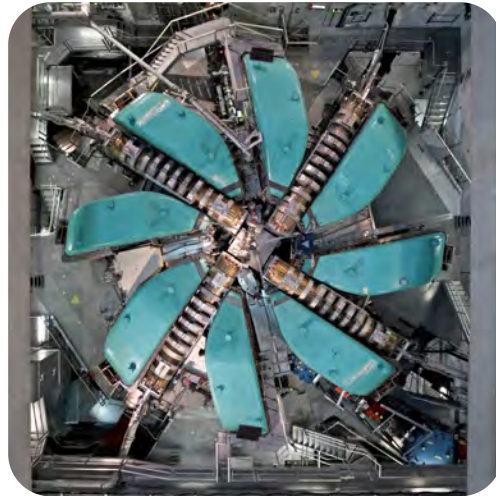
ADS
PROOF OF CONCEPT



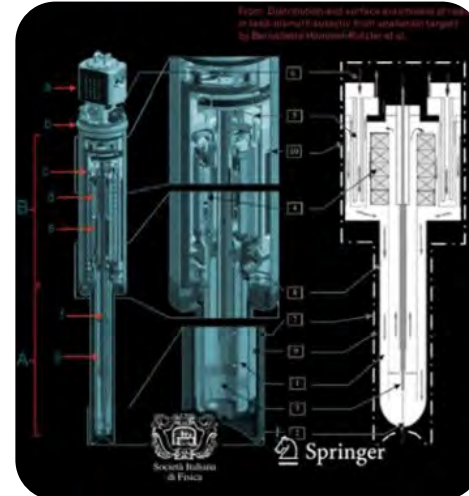
TRANSMUTATION OF
LONG-LIVED WASTE



HIGH-POWER
CYCLOTRON
(30+ YR OPERATION)



HIGH-POWER
SPALLATION TARGET
(6+ MO OPERATION)



MOLTEN LEAD REACTOR
(80,000 HRS OPERATION)

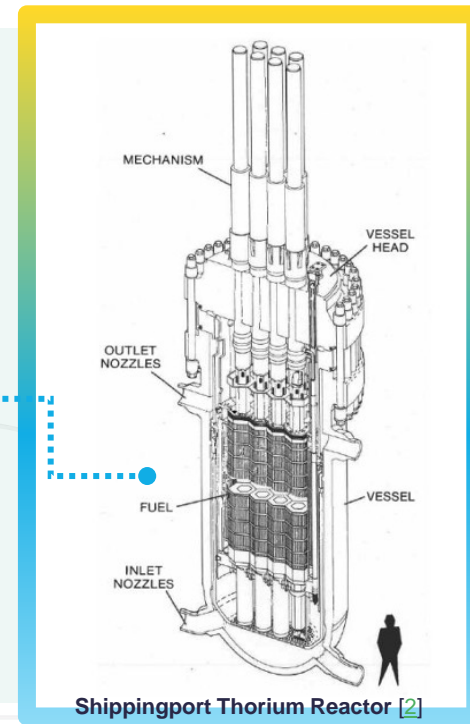


Thorium use in a PWR demonstrated



“Such a breeder would have the advantage of utilizing the established technology of light water reactors and make available for power production about 50 percent of the energy potentially available in abundant **thorium** reserves. **This would provide the nation's total energy requirements for several centuries.**” DOE - 1986

Shippingport, USA



Transmutex worldwide top tier collaborations



We are backed by top tier global VCs

\$35M
Funding

75% VC funds, 25% private individuals

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Union Square Ventures
New York City, USA

HCVC

Alexis Houssou
Hardware Club
Paris, France

At One Ventures

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