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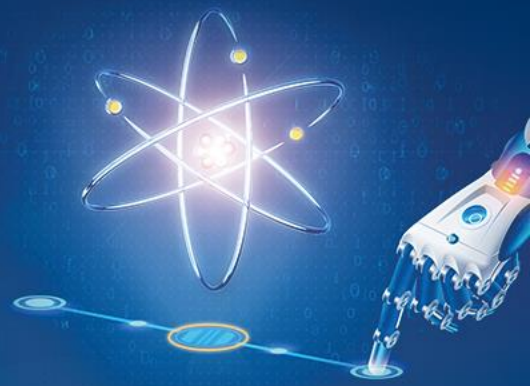

Nuclear SMR for assets decarbonization

Perspectives for a potential user on uncertainties, opportunities, and obstacles

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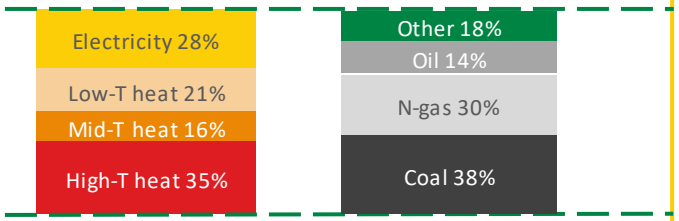
Industrial Energy use is ~30%

Of which:

- 72% is heat demand (86.5 EJ)
  - 37% < 400ºC (44.5 EJ)
  - 35% > 400ºC (42 EJ)
- 82% supplied by fossil fuels



Low- and Mid-T industrial heat:
12.000 TWh = 1400 GW
(assuming 24/7 continuous operation)

*Sources: IEA World Energy Statistics 2021

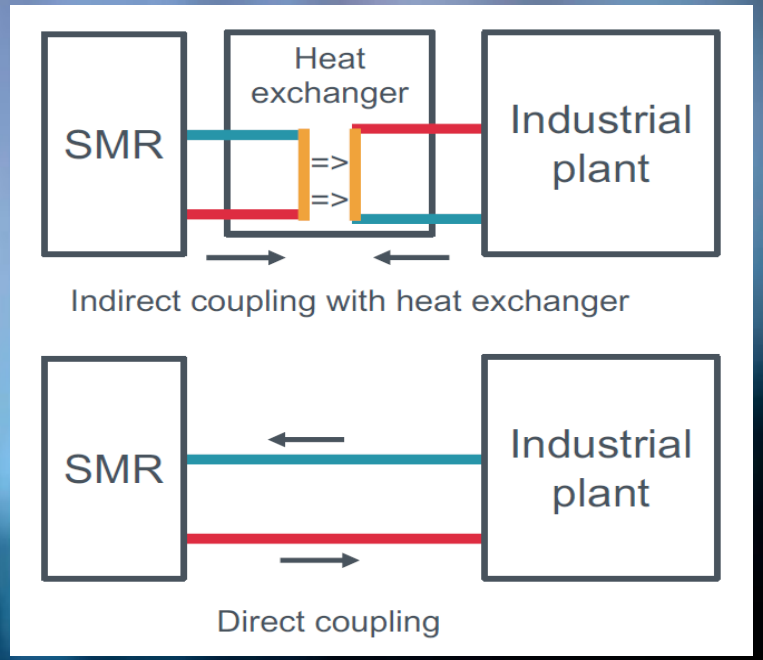
Multiple complimentary tools to decarbonize industrial assets

- Assets have multiple options to reduce Scope 1 & 2 emissions: direct electrification, H_2 firing, Carbon Capture & Sequestration (CCS)
  - Finite capital and limited window of opportunity to be in sync with turnarounds
- In regions with limited access to renewables or far from CCS opportunities, nuclear Small Modular Reactors (SMRs) could provide a credible pathway to decarbonization
- Understanding how to integrate nuclear reactors into existing facilities is key to develop new markets outside baseload electricity

Steam from nuclear as a heat carrier in manufacturing applications

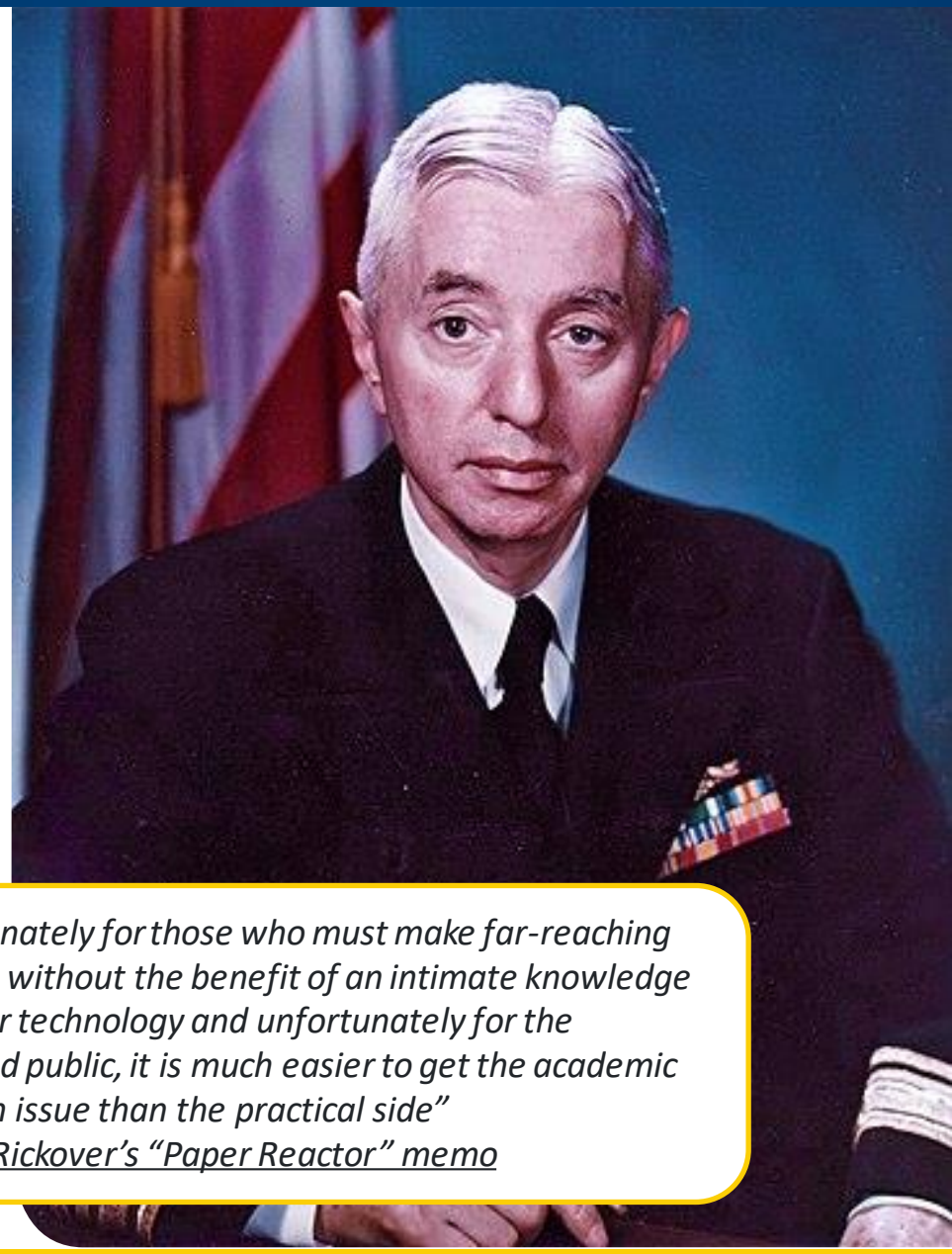
- Replacement of gas-fired boilers with steam from nuclear plants could deliver significant decarbonization in existing assets
- Work needed to design and de-risk an integration system that could
  - Fully decouple nuclear facility from the users
  - Efficiently respond to variable heat loads
  - Operate in tandem with gas generation and renewable storage
  - Potentially deliver auxiliary services (co-generation mode)
- For brownfield deployments, the SMR should provide services comparable to a package boiler or a co-generation unit: keep it simple and reliable

Archetype mix for a refinery-chemical manufacturing asset	
	Duty (MW)
Electricity	150
Heat in furnaces (>300°C)	1250
Low Pressure Steam (3barg-12barg)	100
High Pressure steam (45barg to 90 barg)	400



Reactor Technology Selection for application beyond baseload electricity market

- A potential new user in the O&G and chemical industry has to assess and select a reactor with very limited proven data, in particular for technologies other than PWR, BWR
- The industry needs evaluation tools to minimize risks for first movers and allow quality decision
- Reactor manufacturability and supply chain assessment are key to build confidence on scalability of the SMR solution



"Unfortunately for those who must make far-reaching decisions without the benefit of an intimate knowledge of reactor technology and unfortunately for the interested public, it is much easier to get the academic side of an issue than the practical side"
Admiral Rickover's "Paper Reactor" memo

Remote locations deployment and the availability challenge

- Isolated locations both on-shore and off-shore could offer deployment opportunities for micro and small reactors

- Reaching 99+% of availability require careful integration with other power generation and storage technologies

- The market may not have today a reactor that fits most of the O&G requirements
  - Size in MW – either too small or too big…
  - Load following capabilities – fluctuation in power demand
  - Black Start capabilities – when far from the grid
  - Weight and dimension - transportation and “real estate” constraints

Non-Technical hurdles for a first mover

- The cost and schedule for regulatory approval is a major obstacle for potential first movers. There is not real incentive to deploy micro or small reactors for de-risking novel applications: “regulatory agencies do not charge per MW installed…”

- Rules for exclusion zone: need for clear boundaries between the nuclear facility and non-nuclear users and clarity in responsibility between industrial users, operators, and owners.

- Define regulations, safety standards and nuclear liability covering application outside large baseload power generation: key for insurability and public trust