

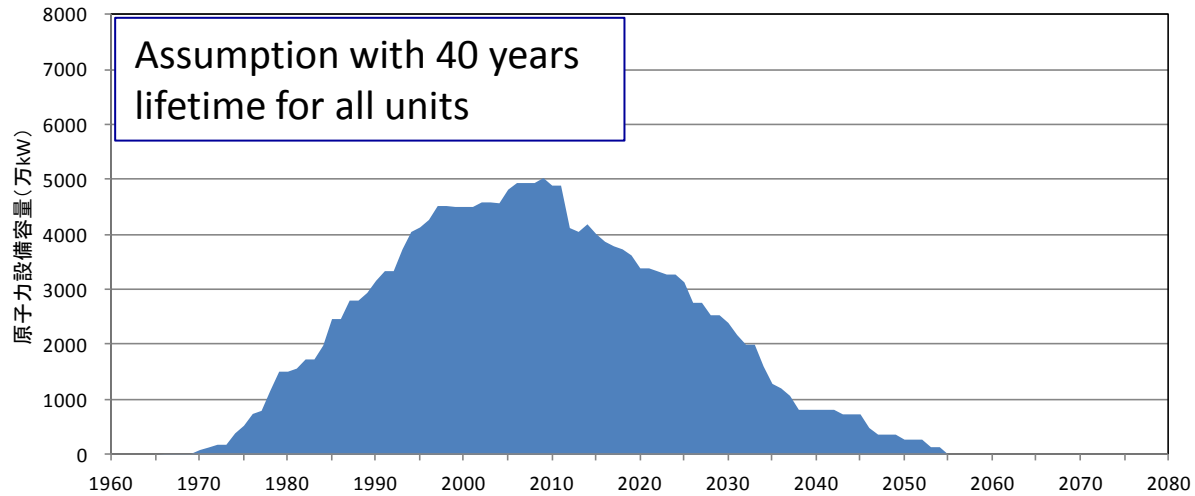
Prospects for the backend in Japan

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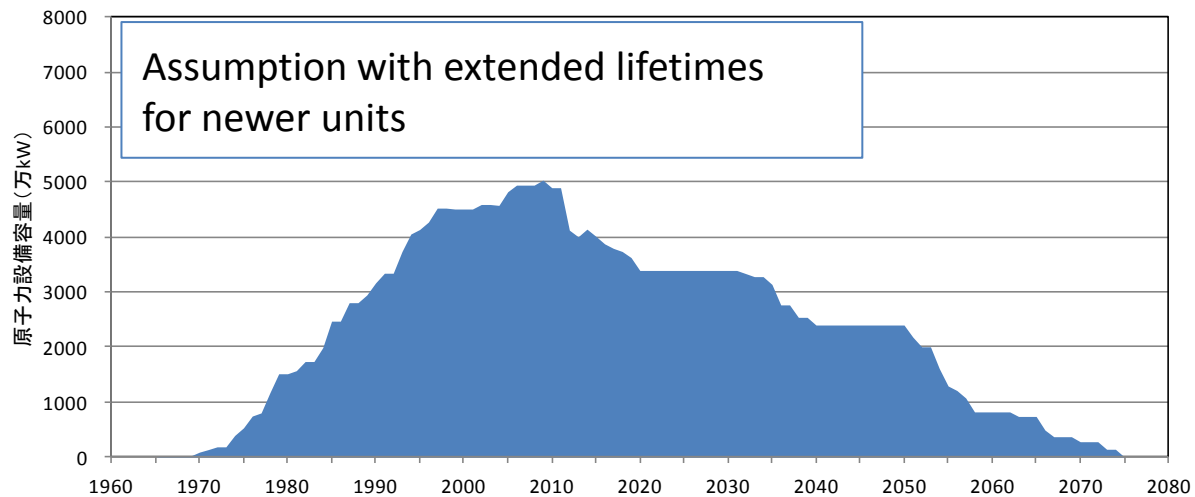
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Future nuclear power capacity in Japan (being discussed)

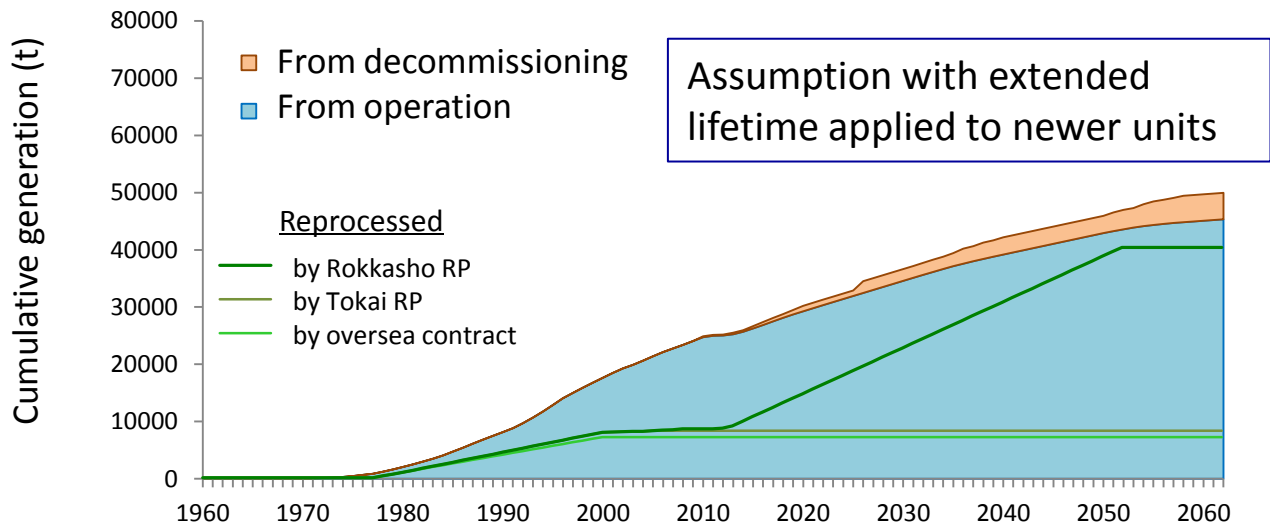
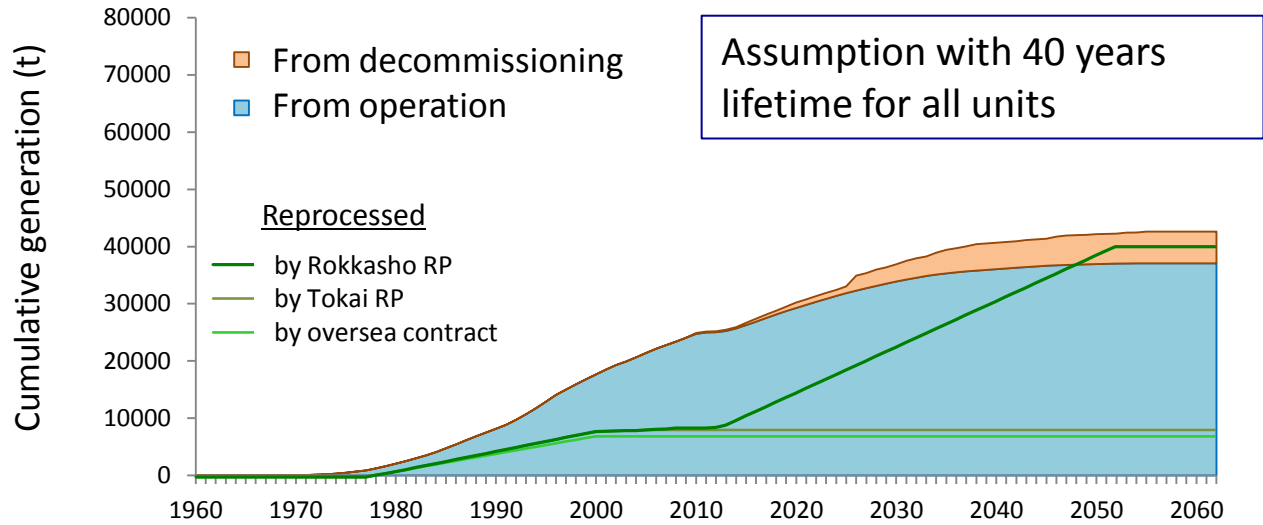
If the limitation of reactor lifetime to 40 years is entirely adopted



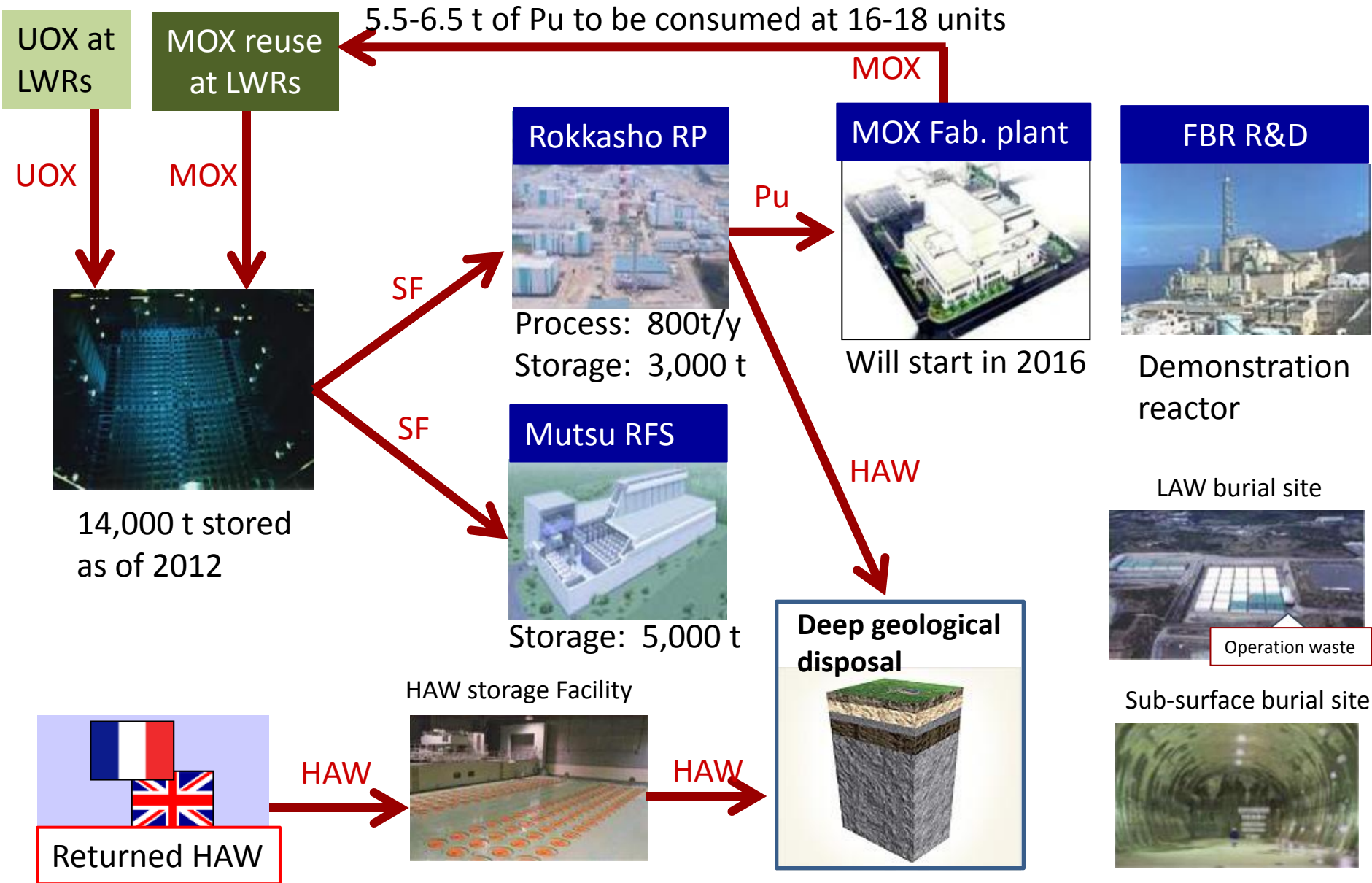
If reactor lifetime can be extended gradually



Spent nuclear fuels pile up



Nuclear fuel cycle activity in Japan



Controversy in the public acceptance of geological disposal

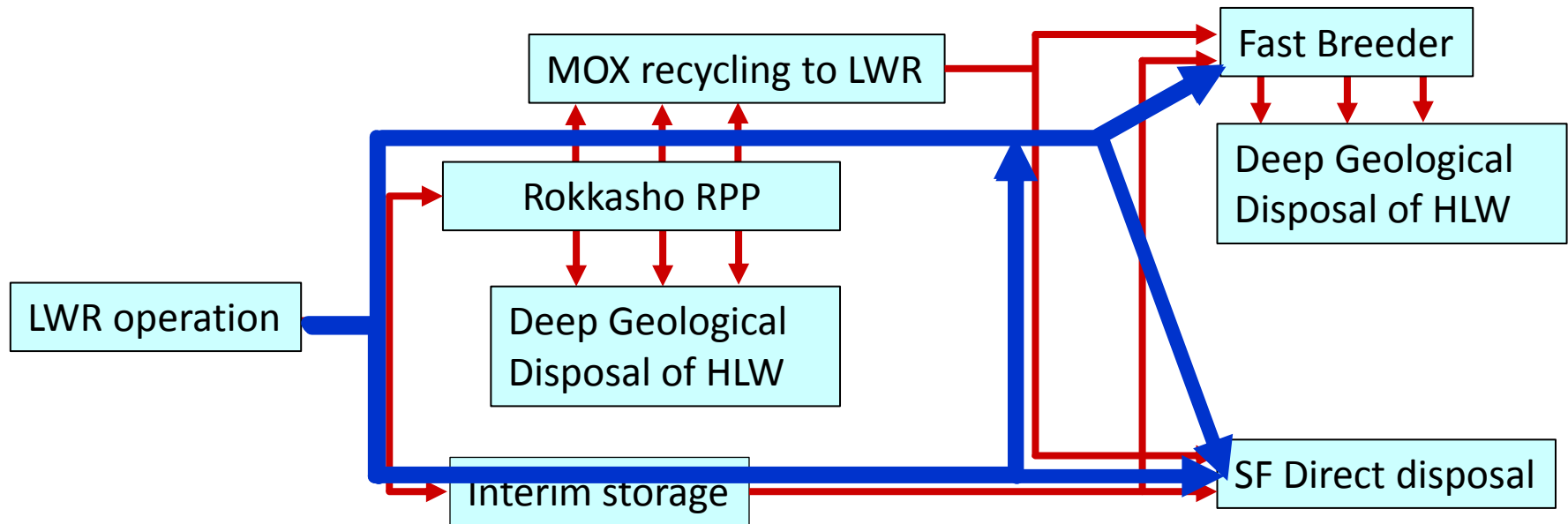
There has been little public perception of the deep geological disposal for the high-level radioactive wastes. In spite of the accumulation of dedicated scientific and industrial approaches to the implementation of geological disposal, this controversial issue is becoming more and more substantial. A new and different approach would be needed.

Science Council of Japan Reports on HLW disposal

- ◆ The Science Council of Japan proposed keeping the waste in "temporary safe storage" sites during a moratorium that could last hundreds of years while efforts are made to establish a safe way to dispose of the high-level radioactive wastes.
- ◆ The council compiled the proposal in response to a request by the Atomic Energy Commission to look into the current efforts to select a final repository for high-level radioactive waste — a situation that is currently in a stalemate.
- ◆ Based on current scientific knowledge, we cannot determine a geological formation that would be stable for hundreds of thousands of years. . . . And thus the best possible option is temporary storage.
- ◆ This does not mean postponing the problem irresponsibly to the future. It is to secure time to find ways to more appropriately handle the matter. During the moratorium period, the country should promote research on the stability of geological layers and improve the ability to store the waste more safely.

Fuel-cycle option study by AEC

- For fuel cycle policy, the “Rokkasho RP operation, followed by future selection” has been recommended by the Atomic Energy Commission.
- Re-investigation of the policy is expected to start this year.



Approach to the backend issue

1. Obtaining public understanding of deep geological disposal is essential for solving the past and future problems of nuclear power.
2. To find the candidate site, an improved social approach will be needed, including improved risk communication. Reform of the solicitation system will be necessary.
3. In order to respond to the public's worry, the incorporation of retrievability into the disposal concept should be taken into account.
4. The operation of the Rokkasho Reprocessing Plant, followed by the re-use of recovered Pu as MOX to LWRs, will provide a near and mid-term stabilization of subsequent nuclear power generation. However, this is subject to the ongoing discussion of nuclear policy making.
5. Development of fast reactor technology, such as transmutation and direct disposal, should be carried out to maintain future flexibility.