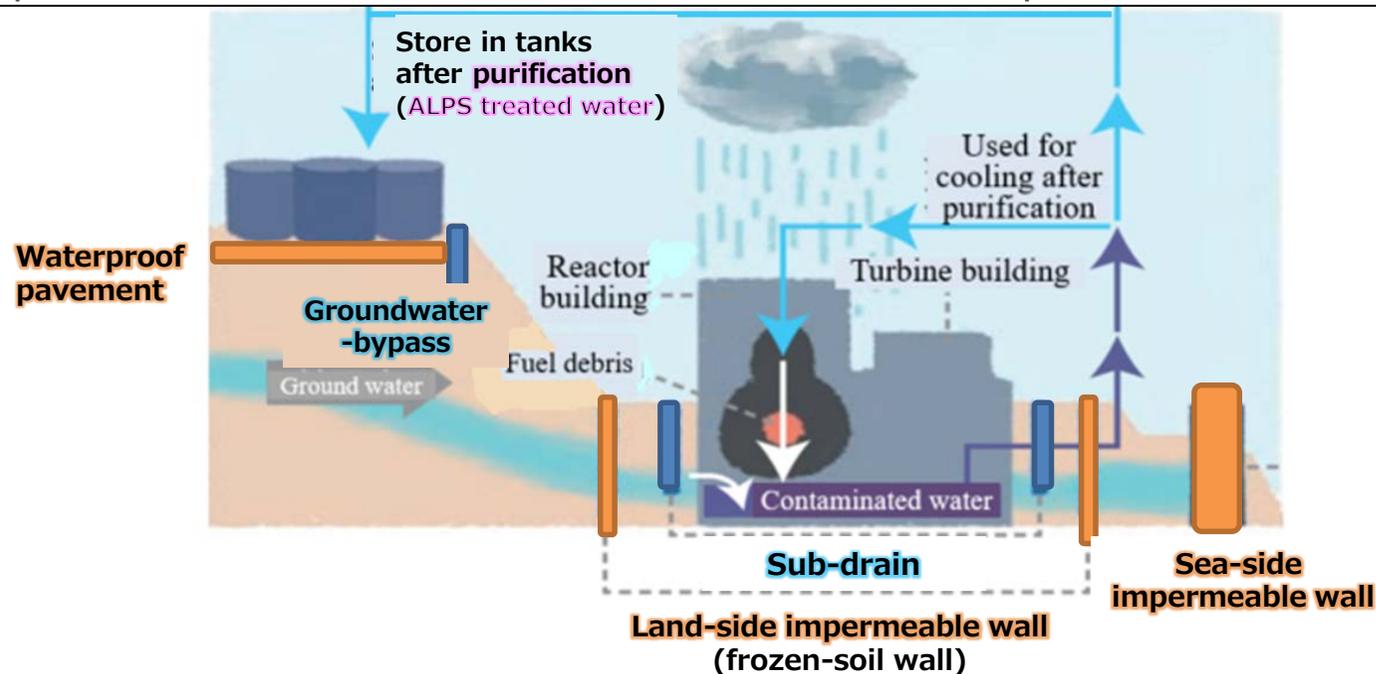


# 1. Overview of Water Management

## - Multilayered Countermeasures and "ALPS treated water" -

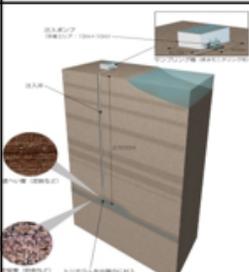
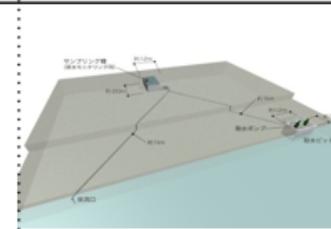
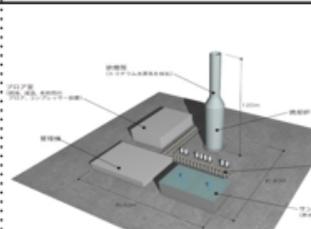
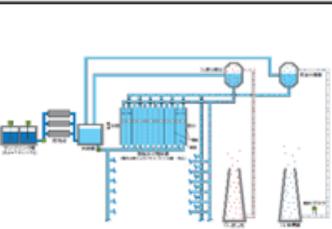
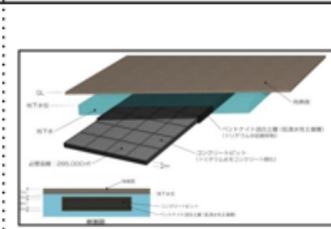
- ◇ Contaminated water is generated by groundwater and rainwater which are flowing inside the unit 1 to Unit 4 buildings of the NPS.
- ◇ Comprehensive set of countermeasures have taken by the TEPCO and GOJ:
  - ✓ To reduce the rate of arising contaminated water; 490 m<sup>3</sup>/day (FY2015)  
→ **170 m<sup>3</sup>/day (FY2018)**
  - ✓ To prevent the leakage of contaminated water from the buildings;  
→ Water level inside the buildings has been maintained at levels lower than groundwater outside
  - ✓ To purify the contaminated water from the buildings (→ "ALPS treated water")
  - ✓ To safely store the "ALPS treated water" which was purified by several purification equipment to remove most of the radionuclides except Tritium



## 2. ALPS treated water issue – Discussion at Task Force and subcommittee –

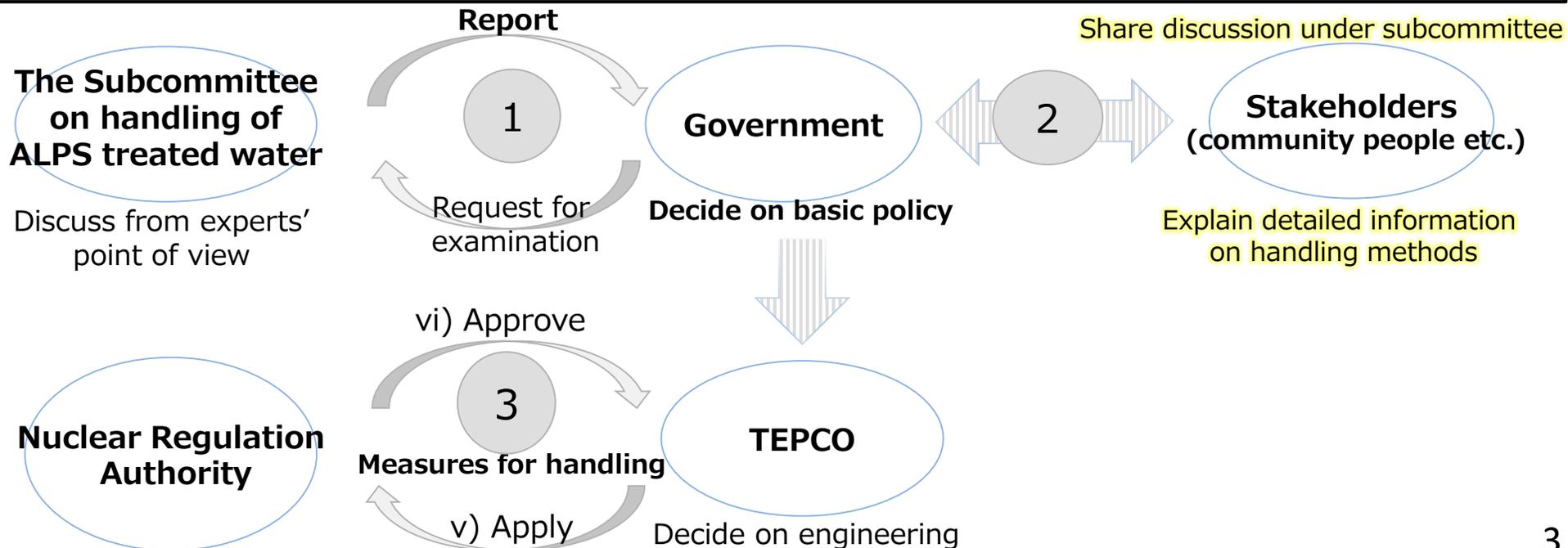
- METI's "**The Tritiated Water Task Force (2013-2016)**" assessed the regulatory feasibility, technical feasibility (including monitoring to ensure safety), period and cost of 5 final treatment methods below.
  - ✓ All cases are examined on the premise that there is no scientific impact on the human habitant.
  - ✓ Verification project showed that the separation technology for tritium cannot yet put into use.
- The issue of handling ALPS treated water has been discussed in "**The Subcommittee on Handling ALPS Treated Water (2016-)**", considering reputational impact of the disposal as well as ensuring scientific safety.
- **All the measures, throughout their implementation, are subject to the approval of Nuclear Regulatory Authority in accordance with the Reactor Regulation Act.**

Table. Results of assessment of Tritiated water task force

Method of disposal	(1) geosphere injection	(2) Discharge to the sea	(3) vapor release	(4) hydrogen release	(5) underground burial
Image					
Regulatory feasibility	It is necessary to formulate new regulations and standards related to disposal concentration	Feasible (Precedent exists)	Feasible	Feasible	New standards might require to be formulated. (Similar examples exist)
Technical feasibility	Proper stratum is necessary	Feasible (Precedent exists)	Feasible (Precedent exists)	Research and development is necessary for pre-treatment and scale expansion	Feasible

## 2. ALPS treated water issue –The Subcommittee on Handling ALPS Treated Water–

- **“The Subcommittee on Handling ALPS Treated Water (2016-)”**
  - Under “ the Inter-Ministerial Council for Contaminated Water and Decommissioning Issues”
  - The subcommittee will deliberate the report on handling of ALPS treated water, in a comprehensive way including social aspects such as countermeasures against negative reputation.
  - Discussion has been continuing to discuss seven issues raised at the public hearing (Aug.2018).
    - 1) treatment of radionuclides other than tritium, 2) biological effects of tritium,
    - 3) environmental monitoring, 4) measures for negative reputation, 5) continuation of storage,
    - 6) disposal method, 7) consensus building
- **After receiving report of subcommittee and having stakeholder discussion, GOJ will decide basic policy**



### 3. Issues on the 13<sup>th</sup> Subcommittee (August 9, 2019)

- Report from TEPCO
  - Tank construction capacity: 1.37 million m<sup>3</sup> by the end of 2020
    - Time to reach its full capacity (forecast): around summer of 2022
  - TEPCO will further examine its plan, considering limitation of site use as well as the tanks and other facilities which will be needed for decommissioning .
- The subcommittee will continuously discuss on the handling of ALPS treated water including continuation of storage.

