

What to do now for more renewables

SC C2

PS1-3 Question 1.4

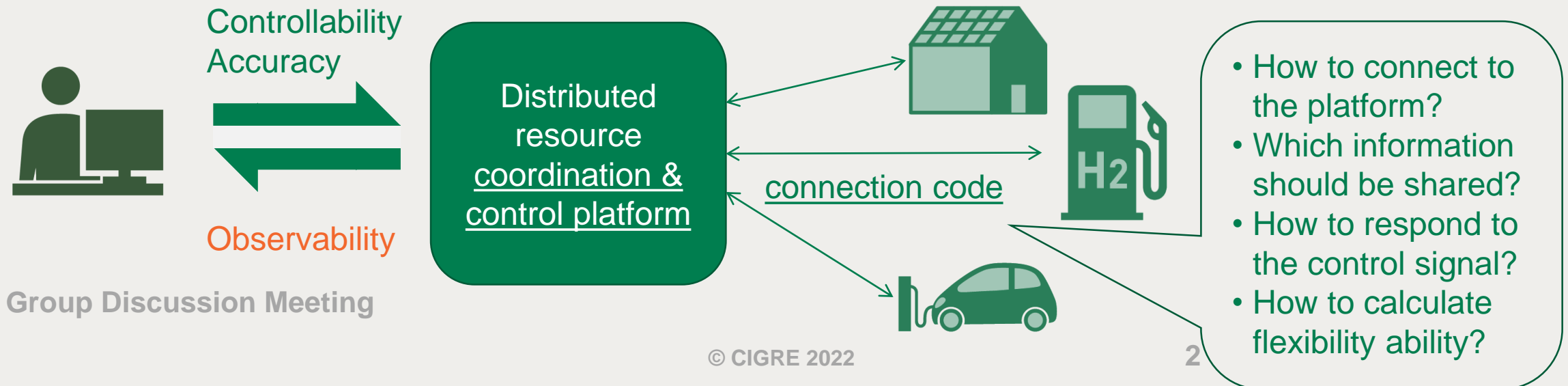
With the global aim to continue to transition renewables, what should be the visibility requirements to fully enable us to manage the grid when we get there?

Hiroshi YOSHIDA (Japan)



Summary

- In Japan, the collateral for demand side control response relies only on financial penalty, today.
- For further interconnection and utilization of renewable energy, further utilization of resources on the demand side is required.
- So that grid operators can reliably use demand-side resources as reserve or regulation power, developing the control platform for demand-side resources or the connection codes for data linking with demand-side resources is urgently needed.



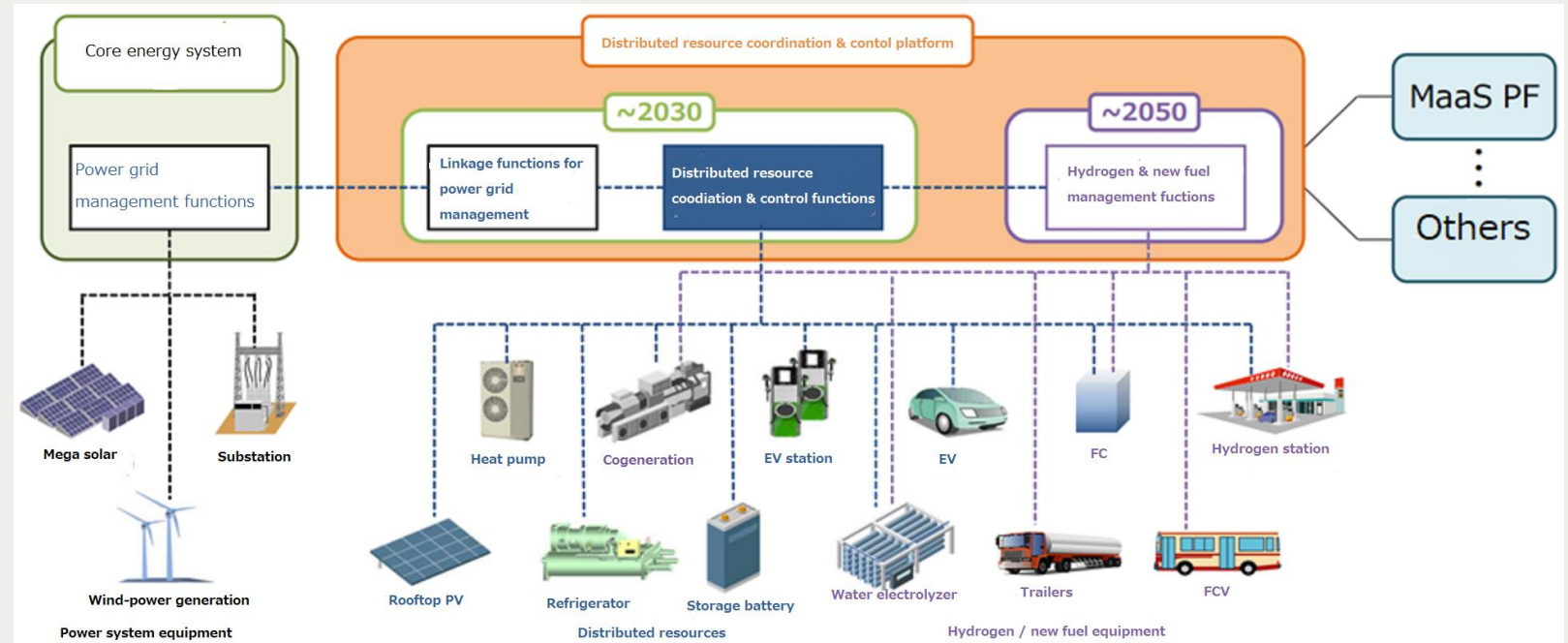
Current command and monitoring method for DR

- In Japan today, connection between the grid operator and the resource aggregator is established with system, but each resource is not linked to the centralized system.
 - No mechanism for grasping a truly response available amount of each resource in real time.
 - No mechanism for grasping what kind of resources with response characteristic are available at dispatching timing.
- For these reason, operation staff is forced to adjust supply and demand without conviction whether the demand is really responded correctly.



(Ref.) Proposals from industry-academia collaboration research(1)

- For a wide range of issues in the era of mass introduction of renewable energy, not only in the electric power sector but also in various private business areas or even in behavior change required by people is also researched and proposed*.
- In that, the overview of the distributed resource coordination and control platform is shown as below.



* Proposal
"Toward Realizing Energy Systems to Support Society 5.0"
<http://www.ht-lab.ducr.u-tokyo.ac.jp/wp-content/uploads/2021/08/5be73332995d0248479a4abd0b0037a8.pdf>

(Ref.) Proposals from industry-academia collaboration research(2)

- As stated in a new Strategic Energy Plan, it is important to change energy consumption to electricity-derived to achieve carbon neutrality.
- Before the 2030s, when electrification progresses, it is necessary to prepare for the situation where demand-side control is indispensable by stipulating a connection code and incorporating it into the platform.

