



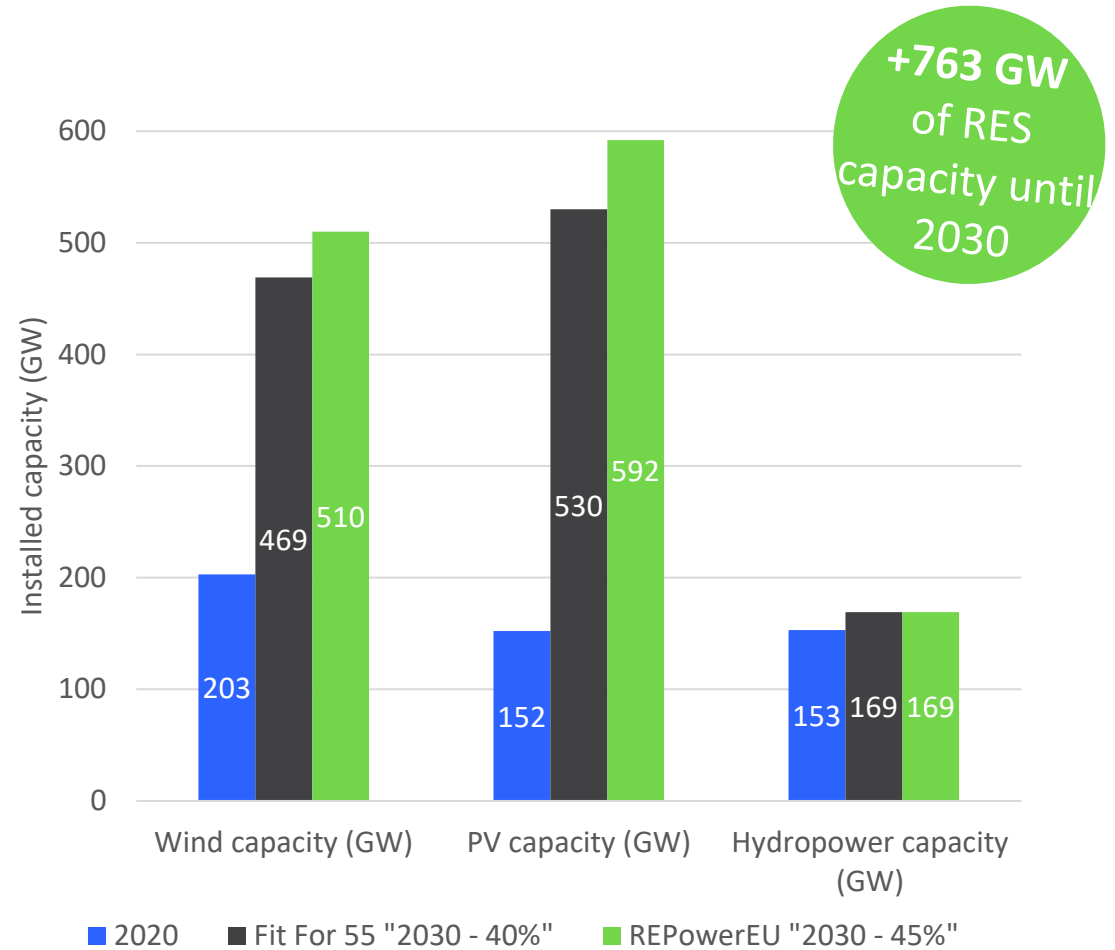
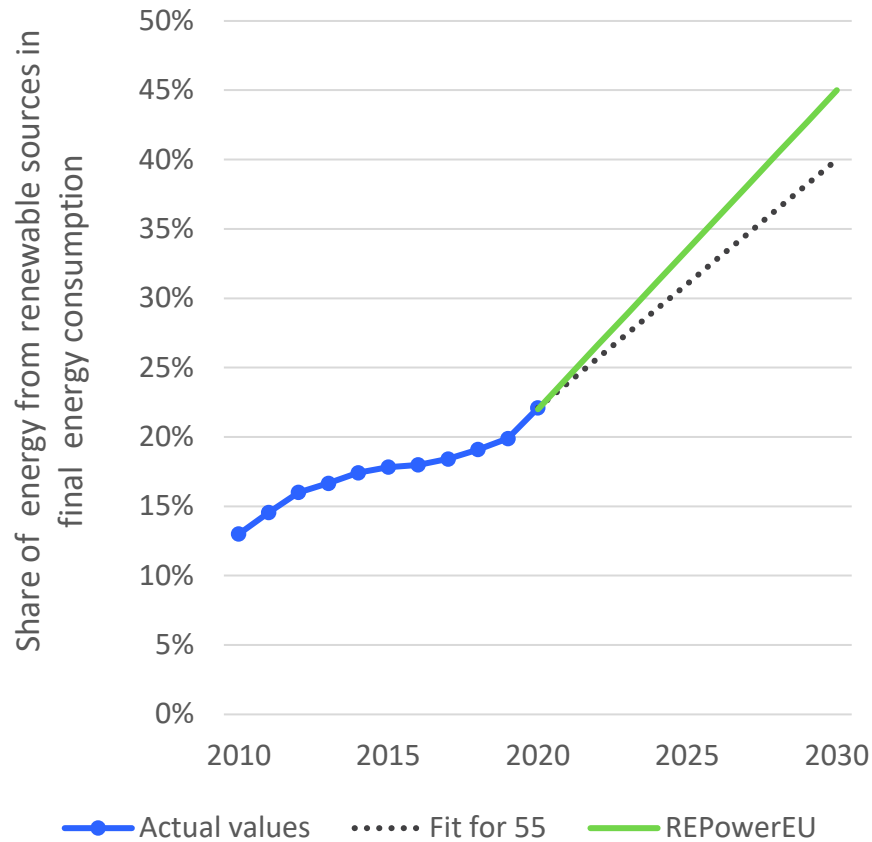
EU Hydropower balances targets for climate and environment

**2nd International Conference on Sustainability in Hydropower
Trondheim 13 June 2023**

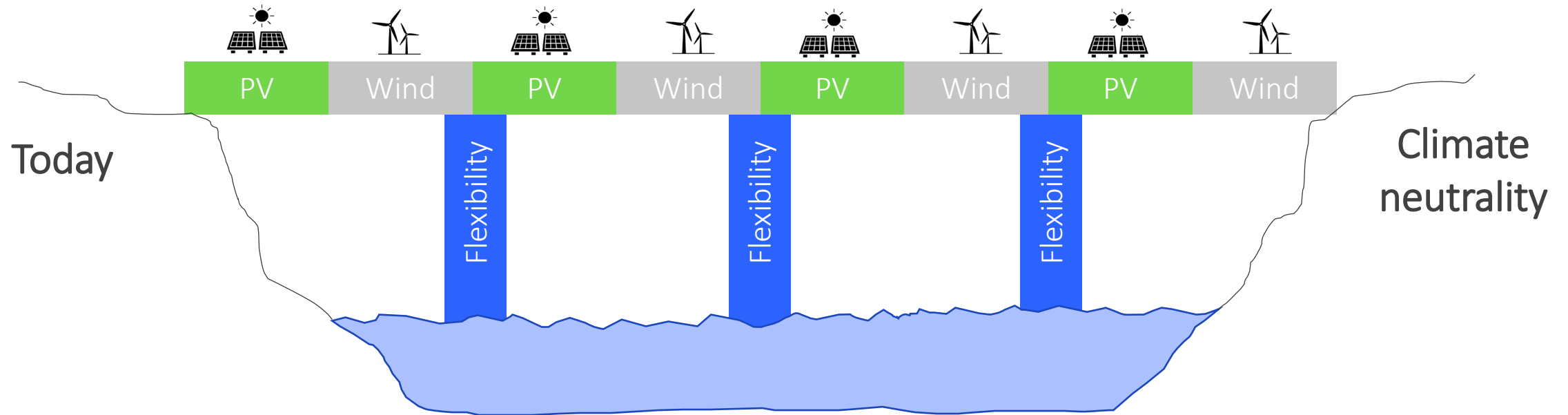
Anne C. Bolle

Generation&Environment Committee eurelectric
VP EU Affairs Statkraft

EU Renewable Energy Targets 2030



Flexibility is crucial to ensure security of supply

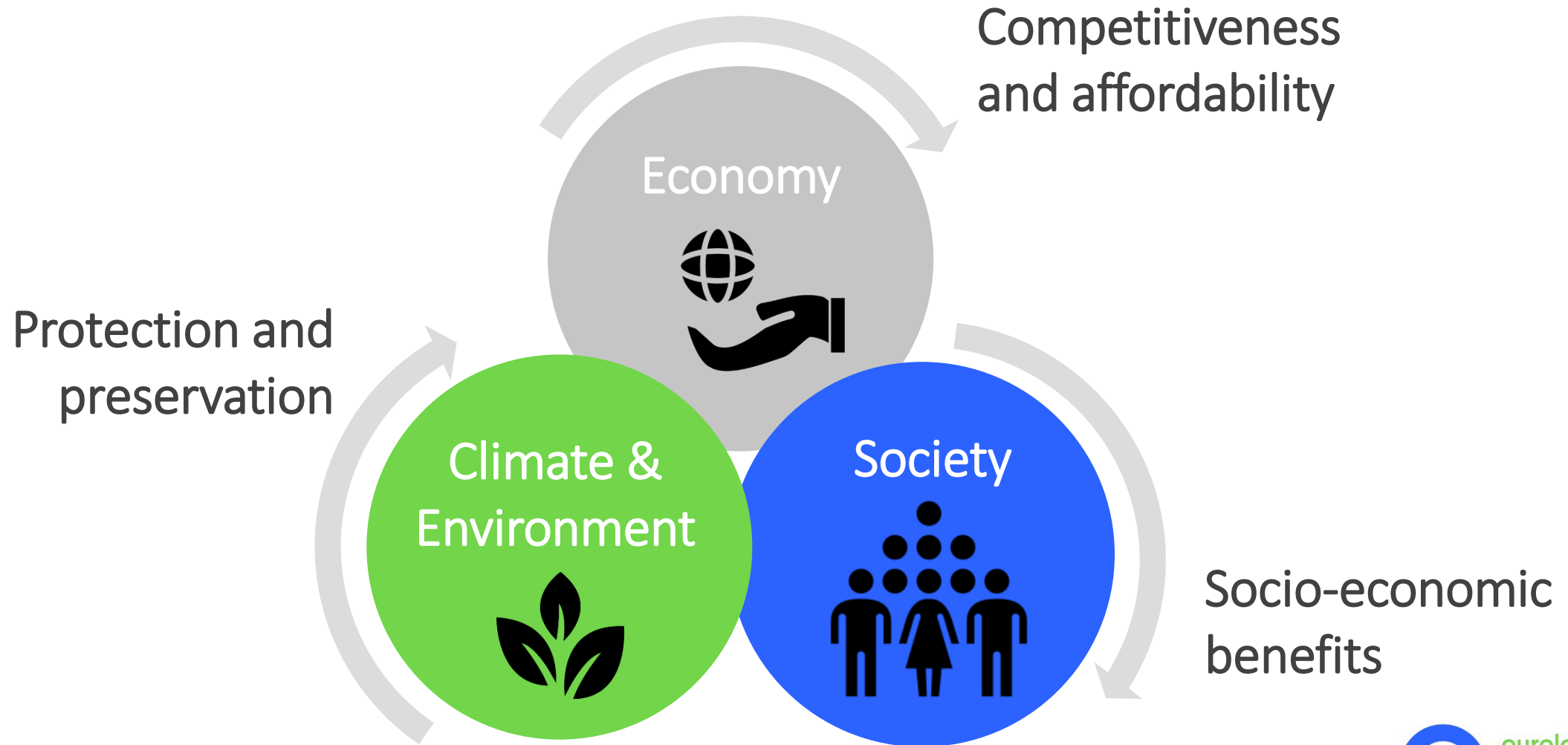


Hydropower provides flexibility across all time frames

	Real-time	Day/week	Month/year
Connection	Electricity grid		
Flexible consumption	Demand-side response		
Flexible generation	<i>Fossil fuel fired power plants (will be phased out)</i>		
	Reservoir hydropower		
	Run-of-river hydropower		
Electricity Storage*	<i>Hydrogen (not yet mature)</i>		
	Pumped storage hydropower		
	Batteries		

*Electricity storage facilities provide flexible consumption and generation

Hydropower is sustainable



Hydropower sector maintains biological diversity

Statkraft example: Gene banks

- Water ecosystems are subject to many pressures besides hydropower
- Norwegian salmon also affected by parasites and diseases, escaped fish from aquaculture, land use, roads, agriculture, etc.
- Statkraft in Norway operates a live gene bank for salmon to safeguard the biological diversity of salmonid strains



Hydropower sector compensates impact

Statkraft example: Favouring natural recruitment of fish as survival rates are higher

- e Careful operation
- e Habitat measures
- e Fish hatching and stocking only when necessary



Planting salmon roe

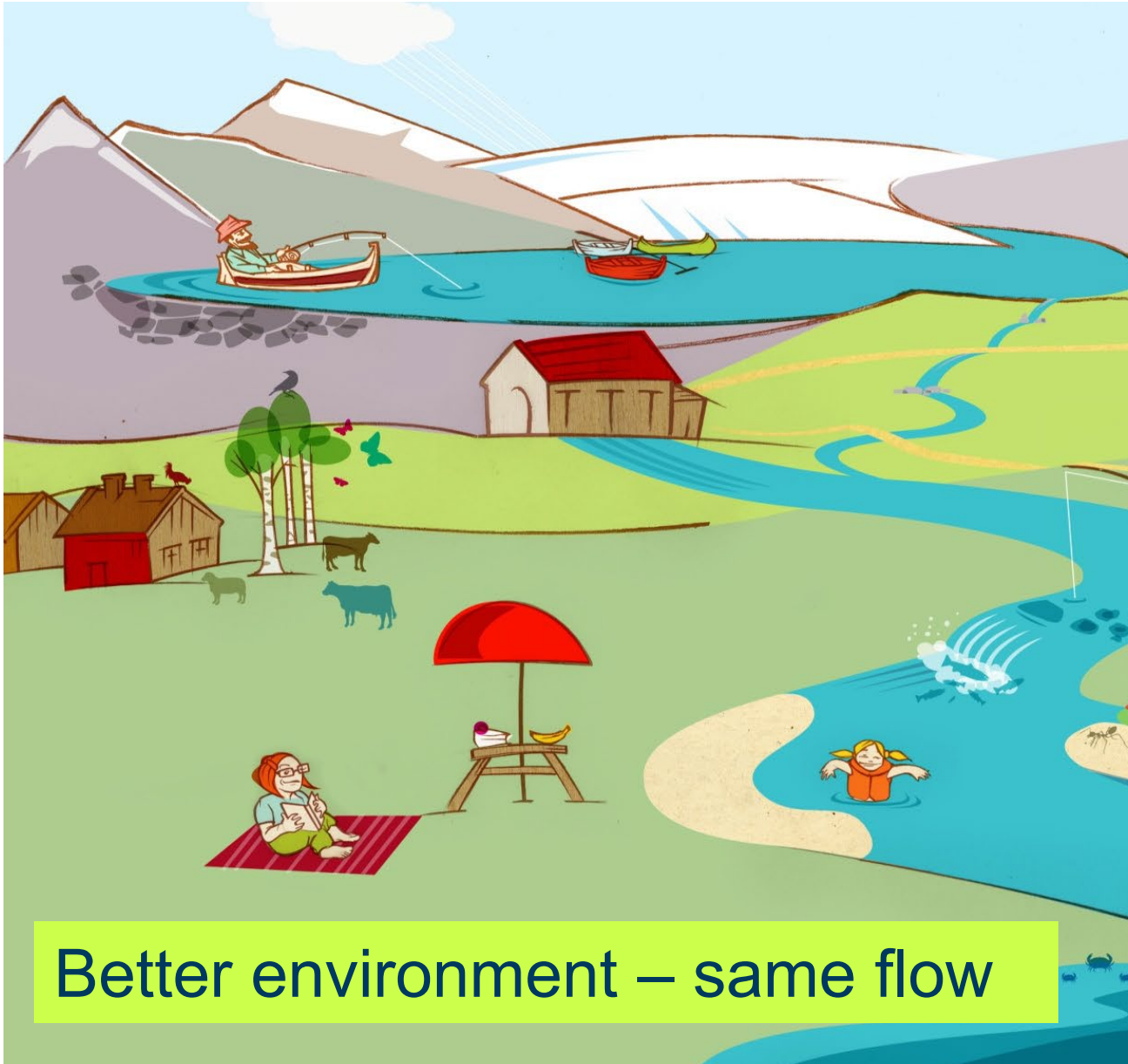


Hatchery



Acclimatization of smolts

Hydropower sector increases river continuity



Before



After

Better environment – same flow

EU legislation recognizes hydropower's crucial role in achieving Green Deal targets

Taxonomy Regulation (adopted 2020)

- ✓ Hydropower contributes significantly to climate change adaptation and mitigation

Nature Restoration Regulation (proposed 2022)

- ✓ Structures used for hydropower generation are excluded from the provisions to restore 25,000 km of free-flowing rivers






Renewable Energy Directive (adopted 2023)

- ✓ Hydropower is a renewable electricity source
- ✓ Hydropower is eligible for accelerated permitting procedures
- ✓ Hydropower is of overriding public interest

Electricity Market Design Review (proposed March 2023)

- ✓ Role of flexible generation and storage is emphasized

5 policy asks to meet 2030 needs

-  Acknowledge the efforts taken by the hydropower sector to mitigate climate change and improve biodiversity
-  Ensure a stable legislative environment to strengthen long-term visibility and investor confidence for these large capital investments
-  Include hydropower projects alongside wind and solar PV in streamlined permitting procedures
-  Value and remunerate the contribution of all flexibility and storage services to security of supply
-  Champion the multi-purpose benefits of hydropower beyond electricity generation

Thank you for your attention

Contact:

Anne C. BOLLE

VP EU Affairs Statkraft

anne.bolle@statkraft.com

Adrian LINDERMUTH

Advisor Hydropower & Social Sustainability eurelectric

alindermuth@eurelectric.org

