



ETIP SNET Regional Workshop #17 for Nordic and Baltic Region in Vaasa, March 21, 2023



NewSETS / (ERA-Net SES Joint Call 2019 MICall19)
Juhani Riikonen, Flexens Oy Ab



Introduction and overview



Focus on energy storage: in-depth market analyses, feasibility studies and demonstrations

Most activities around thermal energy storage by **Polar Night Energy** and underground pumped hydro storage by **SENS**

Analyses & basic research by **LUT University & Flexens Oy Ab (also PM)**

06/2021 – 05/2024

Main public outcomes: a wide range of publications from easy-to-read white papers to high-level scientific journal papers

<https://www.newsets.eu/>

Introduction and overview

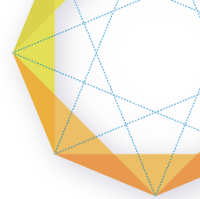


Next upcoming publications :

- Paper in review: Energy storage co-operation and cannibalisation in high RES system.
 - Case Åland
- Conference presence: thermal energy storage and electricity markets.
 - Context of Finland

March 21, 2023

HLUC relevance

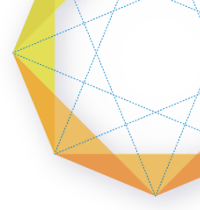


project / program	HLUC 1	HLUC 2	HLUC 3	HLUC 4	HLUC 5	HLUC 6	HLUC 7	HLUC 8	HLUC 9	other
NewSETS (ERA-Net SET Joint Call 2019 MICall19)	●●●		●●	●●●						

- extremely relevant
- highly relevant
- relevant to some degree
- n/a – don't know

March 21, 2023

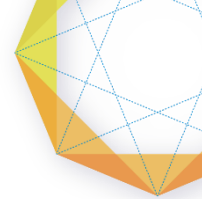
Key findings



from project / program	finding(s)	relevant for HLUC(s) / PPC(s)
NewSETS (ERA-Net SET Joint Call 2019 MICall19)	<ul style="list-style-type: none">• HtTES efficient alternative for sector coupling• Clear need for storage in high RES systems• Cannibalisation of energy storage types	PPC1.1 (also 1.2)

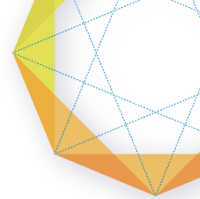
March 21, 2023

Open questions



project / program	open RDI questions / topics	relevant for HLUC(s) no.
NewSETS (ERA-Net SET Joint Call 2019 MICall19)	<ul style="list-style-type: none">• How to minimise storage cannibalisation while maximising benefits of storage?• Replicability of Baltic/Nordic results to different markets• Key regulatory barriers for (thermal) storage	HLUC 1

Proposals and recommendations for ETIP SNET IP / RM 2025+



from project / program	proposal(s) / recommendation(s)	relevant for HLUC(s) / PPC(s)
NewSETS (ERA-Net SET Joint Call 2019 MIPCall19)	<ul style="list-style-type: none"> • Will cannibalisation cause stagnations in storage implementation? • Sector integration elec-heat should be included (not only elec-gas) 	HLUC1
NewSETS (ERA-Net SET Joint Call 2019 MIPCall19)	<ul style="list-style-type: none"> • Communication of the material, and significance ETIP SNET to scientific community (and industry) 	all
NewSETS (ERA-Net SET Joint Call 2019 MIPCall19)	<ul style="list-style-type: none"> • <i>PPC 2.5: Develop a Digital Twin of the European Electricity Grid (IP 2025+):</i> How to avoid overlaps with / benefit from the work already done? 	HLUC 2 / PPC2.5

March 21, 2023