

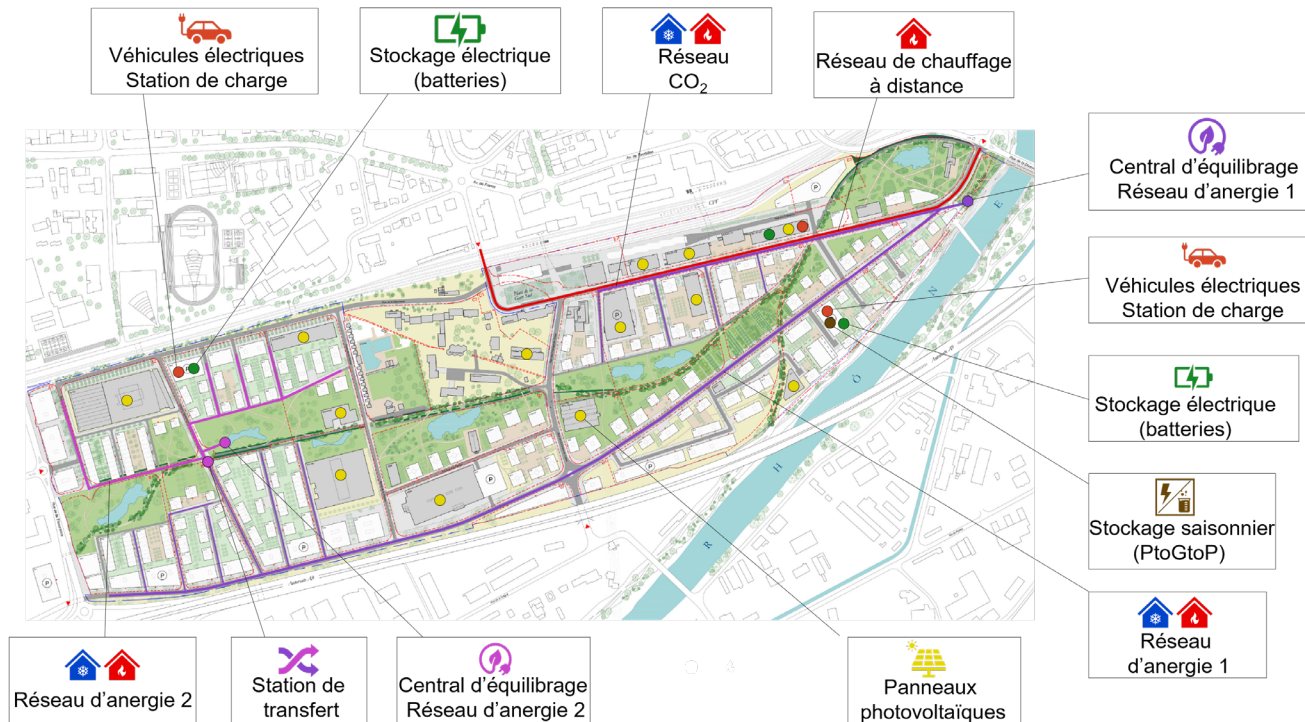
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you.

Satellite démonstrateur énergétique

Power-to-CH₄-to-Power
Seasonal storage of electricity

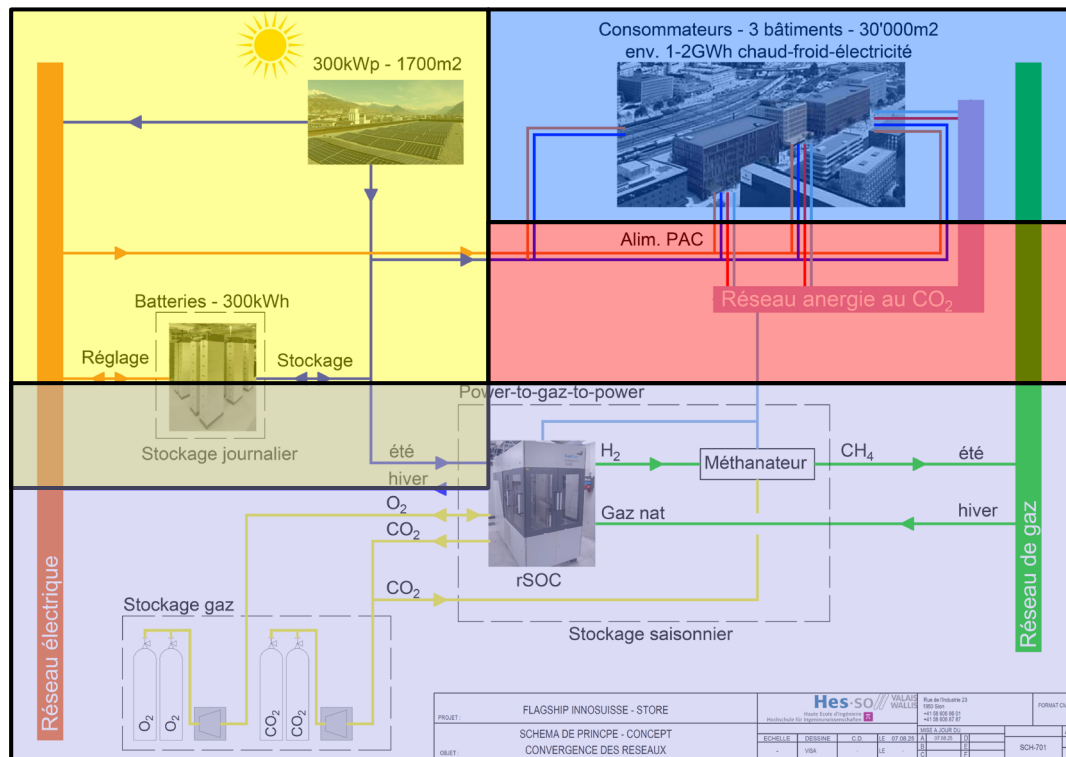


➤ Use case : Quartier des Ronquoz



Research Platform for Integrated Urban Energy Systems

Electricity production and daily storage



Energy consumers

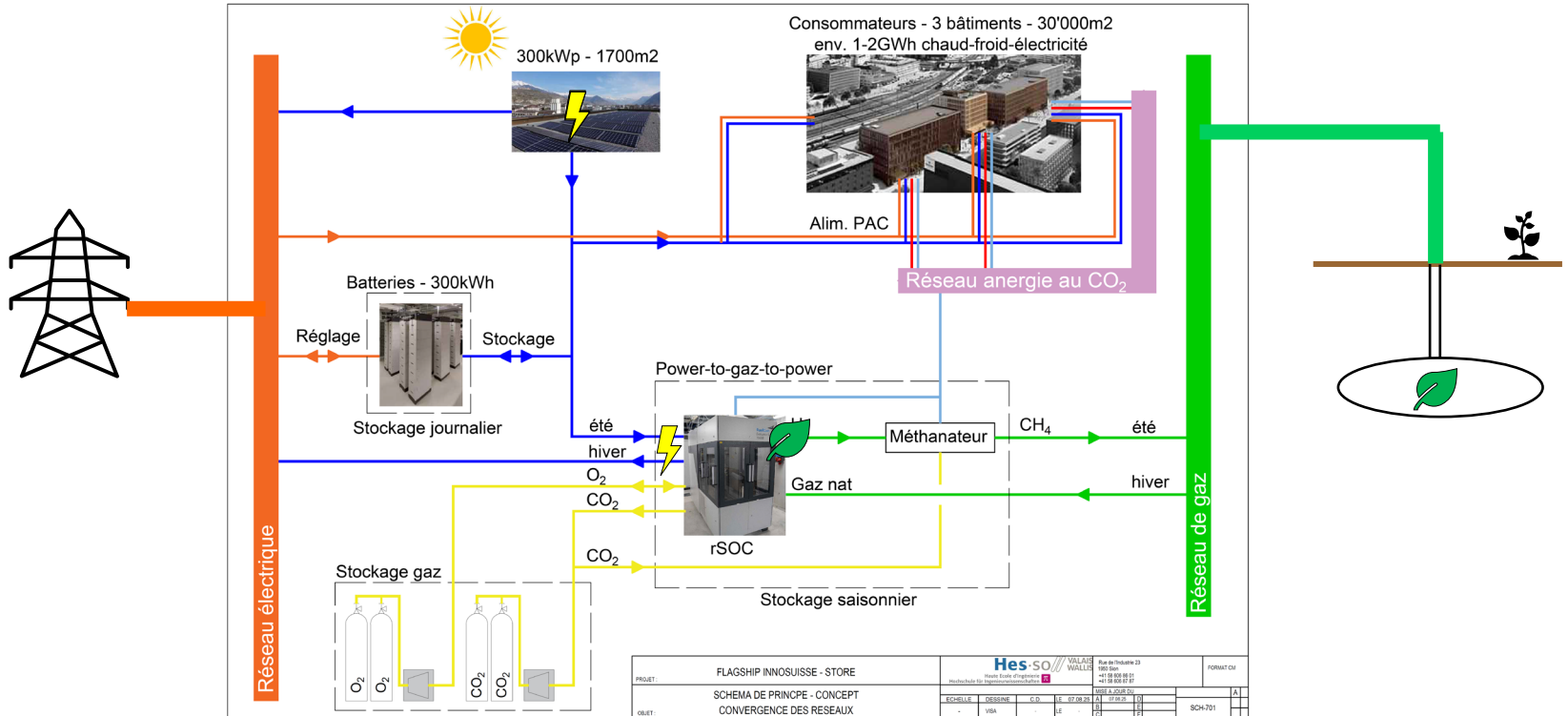
Thermal distribution networks

Electricity conversion and seasonal storage

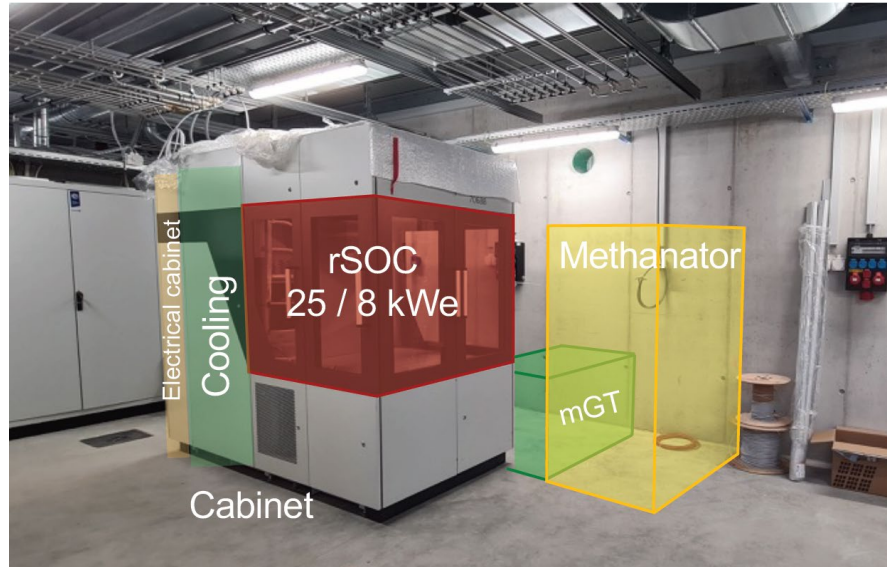
> Problem at a national level

	Export en été	Import en hiver	Bilan
Actuellement	6 TWh	3 TWh	+ 3TWh
Projection moyen terme	20 TWh	7 TWh	+ 13TWh

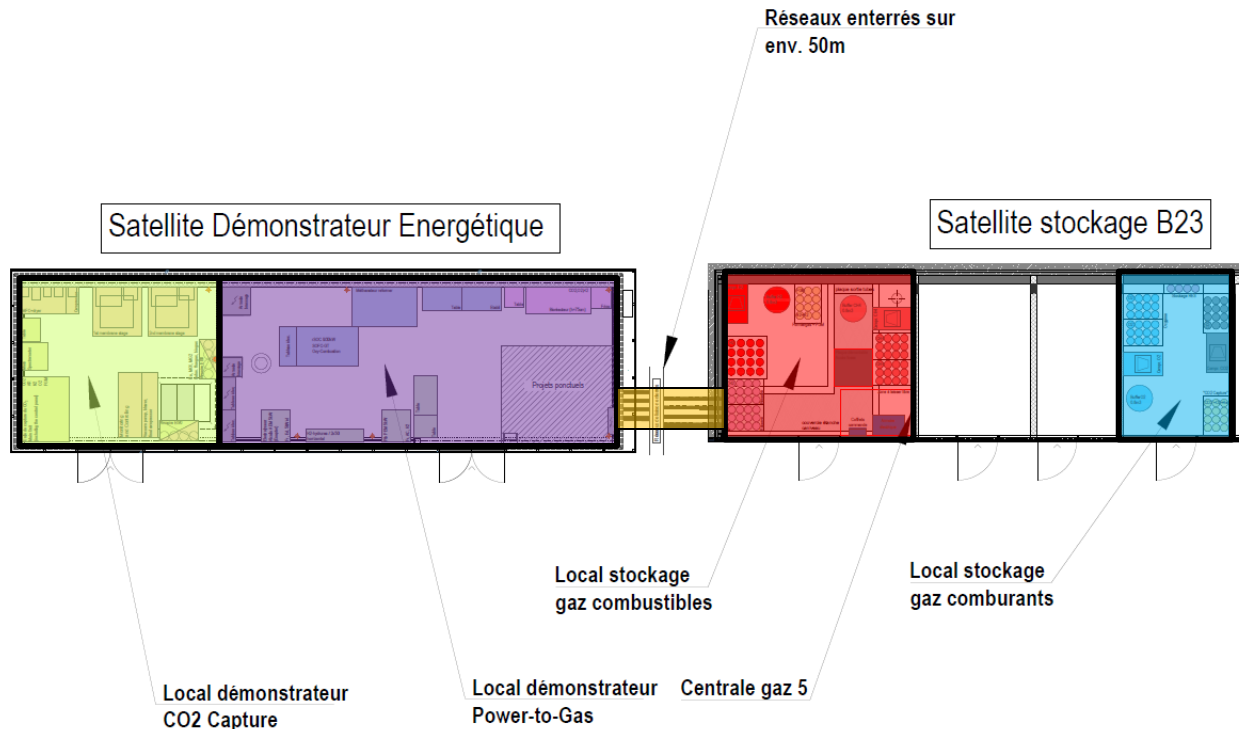
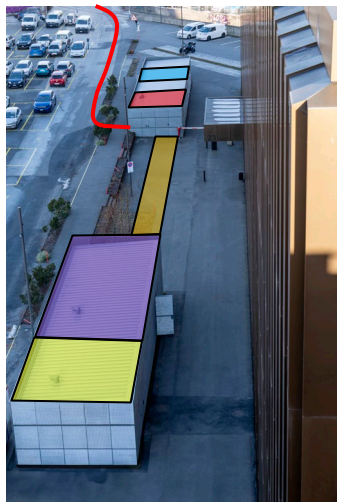
> PV production flows



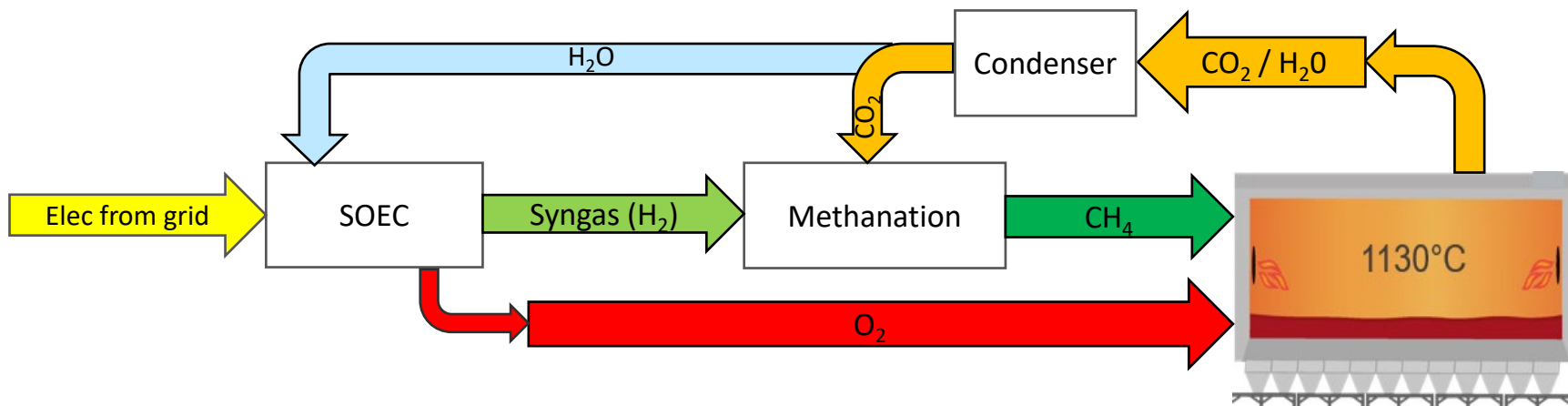
➤ Demonstrator – reversible Solid Oxyde Cell



> Démonstrateur – Ancillary infrastructure



> Another interesting use case: hard to abate emissions in industry (e.g. furnaces)



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HES-SO Valais-Wallis
Rue de l'Industrie 23
1950 Sion

hevs.ch



Merci pour votre attention.

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> Power-to-CH4-to-power

- Rendement:
 - SOE : env. 70%
 - SOFC: 60% électrique + 30% chaleur
 - Cycle complet: env. 42% électrique et 54% électrique + thermique
- CH4 – permet de capitaliser sur l'infrastructure gazière existante déjà couplée à un stockage européen important (1168TWh répartis sur 170 sites)
- Convergence des réseaux
- Augmentation de l'autonomie énergétique du pays