Interreg North Sea

Co-funded by the European Union

LIHYP

Uniting Stakeholders to build a regional hydrogen economy in the North Sea Region!

Hydrogen retrofitted Nomad Car

🟦 Context & Vision

The French pilot is based on a hydrogen retrofitted coach operating between Rouen and Évreux.

• Objective: compare hydrogen and electric autonomy, assess operational scalability, and build a roadmap for regional deployment.

• Normandy is already France's largest hydrogen user, with an advanced station network initiated by the EAS-HyMob project (2016).

• The high-capacity Évreux station was a key enabler of this retrofit pilot.

🧭 ***Innovation – Mobility – Hydrogen – Retrofit – Sustainability***

🟥 Technical Overview: How the Retrofit Works

🔧 Vehicle & Powertrain

- Base vehicle: IVECO Crossway (2011)
- Retrofit integrator: IBFH2
- Regulatory basis: French Retrofit Decree (March 13, 2020)
- Electric motor: DANA TM4 – 350 kW
- Fuel cell: Ballard 80kW
- Battery pack: CATL 105kWh

✅ Complete replacement of the powertrain, wiring harnesses, and electronic systems.

- H_2 cylinder capacity = 3.6 kg x 10
- Specific H_2 consumption7 kg / 100 km

🟧 The Feasibility Study

•Mapping of existing coach fleet, routes & depot infrastructure

•Technology choice analysis (focus on H_2)

•Costing & infrastructure planning (refuelling nodes, network)

•Action plan & financial roadmap

👉 A **strategic blueprint** for decarbonizing Normandy's coach fleet.

🟫 Expected Outcomes

✅ Operational hydrogen demonstrator

✅ Proven technical & operational feasibility

✅ Boosting the hydrogen vehicle retrofit sector through regulatory harmonisation

✅ Strategic roadmap for regional fleet conversion

✅ Strong contribution to Normandy's decarbonization goals

CIRCOÉ CONSEIL & INNOVATION EN LOGISTIQUE — RÉGION NORMANDIE — IDIT — transdev NORMANDIE

www.interregnorthsea.eu/lihyp