



INSTITUTE OF ENERGY AND FUEL
PROCESSING TECHNOLOGY

European Funds

**Environmental Protection and Energy
Conference (EPAE, 2025)**
Gliwice, 05.12.2025r.

From CO₂ to fuels of the future – CCTW+P2X project

Tadeusz Chwoła, Jarosław Zuwała



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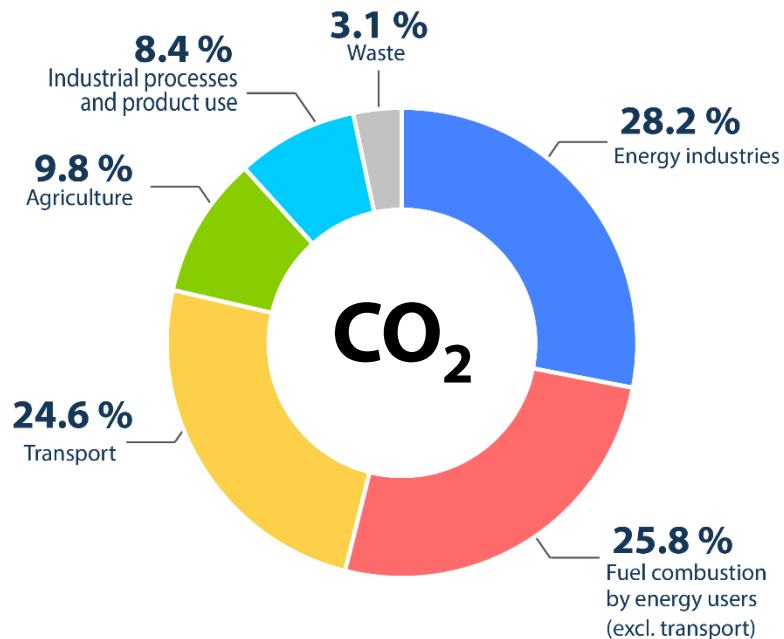


Republic
of Poland

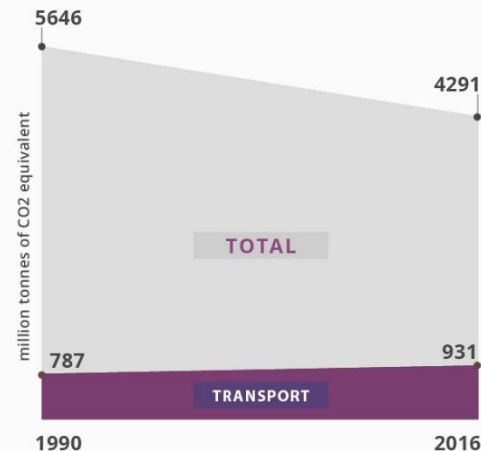
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Transport: large share of CO₂ emission (globally vs EU)



GREENHOUSE GAS EMISSIONS IN THE EU



94%
of the **transport**
greenhouse gas
emissions are
caused by
road transport

Marine and aviation - hard to electrify



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P2X **CCTW**
NEXT GEN FUELS

Clean Coal Technology Center: P2X (CCTC+P2X)

- **Priority 2. Innovation-Friendly Environment**
- **Action 2.4. Research Infrastructure of the Smart Economy**
- **Project value: 25,311,746.60 PLN (~ 6,000,000 EUR)**
- **Project completion date: 2029**



www.itpe.pl/cctwplusp2x/



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Program: Fundusze Europejskie dla Nowoczesnej
Gospodarki

Priorytet: II. Środowisko sprzyjające innowacjom

Działanie: Badawcza Infrastruktura Nowoczesnej
Gospodarki

Nabór: FENG.02.04-IP.04-001/24

Zakres: Ścieżka dla projektów z PMIB

STUDIUM WYKONALNOŚCI

Tytuł projektu:
"Centrum Czystych Technologii Węglowych: P2X (CCTW+P2X)"

Realizator:
Instytut Technologii Paliw i Energii



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AGENDA BADAWCZA

Tytuł projektu:
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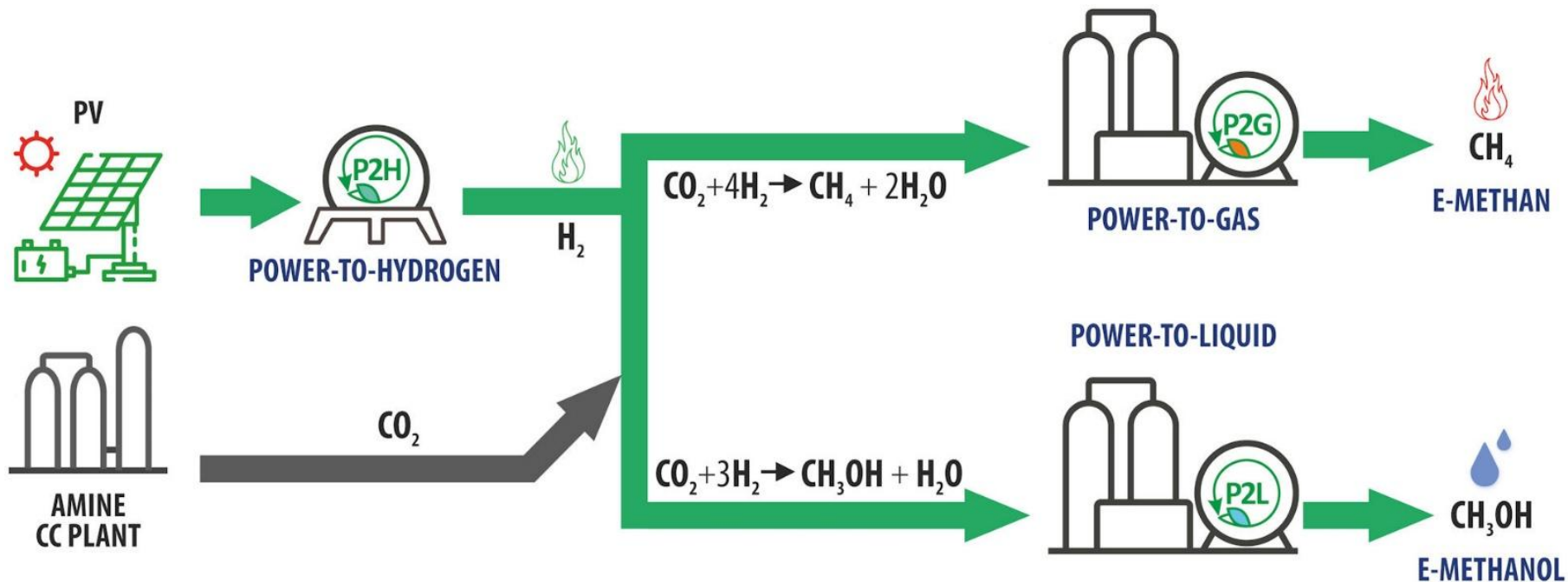


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Conceptual diagram of Power-to-X (P2X) technology



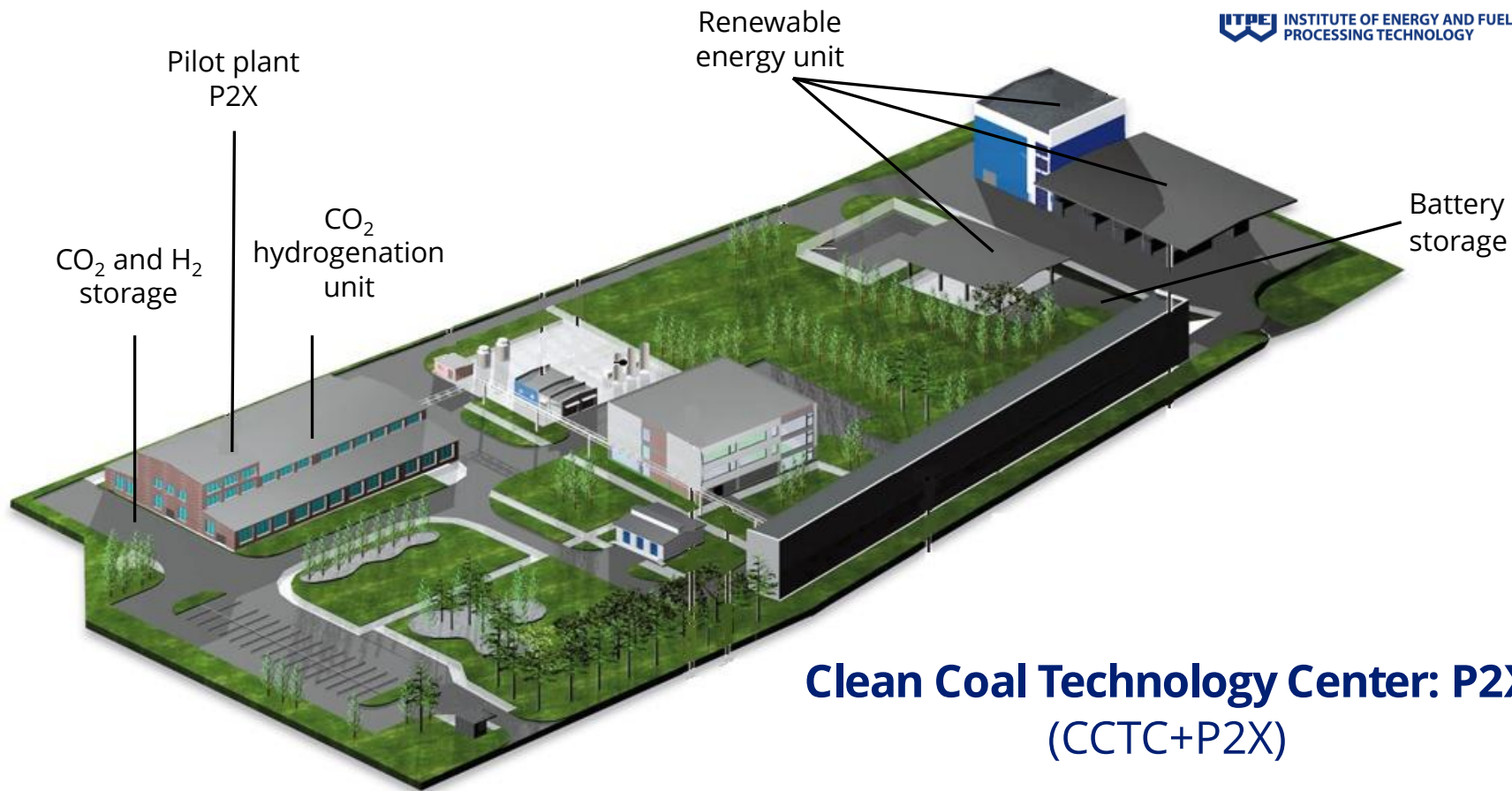
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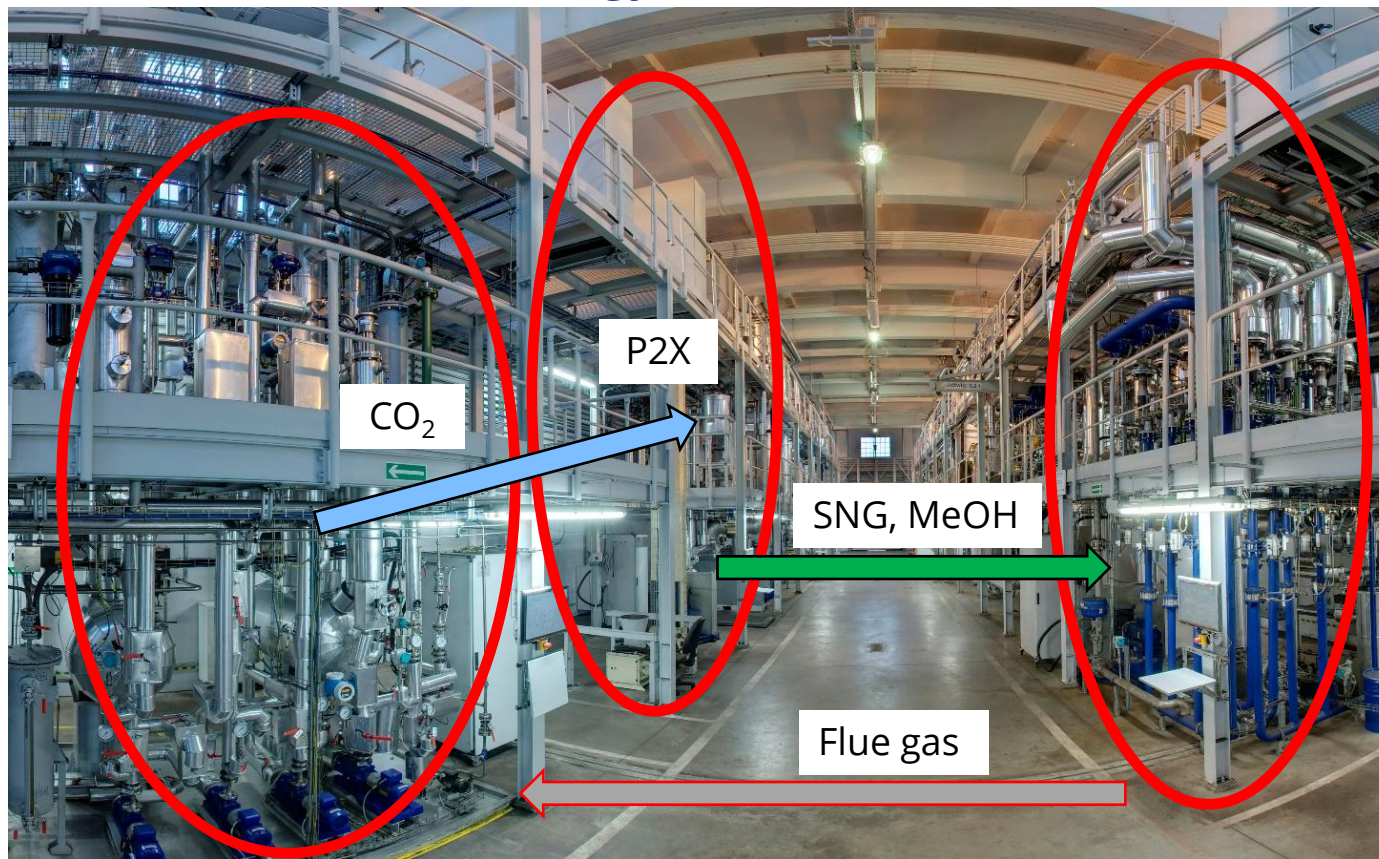


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PV unit -completed (2025)

- **340** PV panels (total area: **680 m²**),
- **149 kWp** installed capacity,
- **100 kWh** battery energy storage system,
- **>90%** self-consumption,
- grid connection in "zero export" mode
- **>62,000 kg CO₂** reduction per year
- energy used primarily for synthetic fuel synthesis systems



We are open for the
collaboration

P2XCTC
NEXT GEN FUELS



Terminator 3 photo source: NETFLIX.com



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