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Energy and Climate High Level Group (HLG) meeting

Turin, December 3rd, 2025

Polito's Boardroom

Attendees:

Giovanni De Santi	HLG Chairman
Jean-Michel Glachant	HLG Co-Chairman
Stefano Corgnati	Polito's Rector
Elena Maria Baralis	Polito's Deputy Rector
Marta Carla Bottero	Polito's Deputy Rector office - relations with governing bodies
Leigh Hancher	HLG Member
Ronnie Belmans	HLG Member
Tim Schittekatte	HLG Member
Lucia Visconti Parisio	HLG Member
Georg Zachmann	HLG Member
Catharina Sikow-Magny (remote)	HLG Member
Elena Donnari	European Commission, DG Energy - Policy Officer
Maria Ferrara	President, Polito's Young Advisory Board
Chiara Casalino	FSP Initiative
Mara Baccolla	FSP Initiative
Matteo Bilardo	FSP Initiative

The meeting starts at 14:44 and ends at 18:39 (CET Time).

Document drafted by M. Bilardo (FSP Initiative)

Meeting executive summary

The Energy and Climate High-Level Group (HLG) at Politecnico di Torino met to review first-year progress and align the 2026 work programme, reaffirming its role as a strategic, independent technical advisory forum supporting the Rector's vision of strengthening Politecnico's policy-facing impact. The meeting confirmed achievements on visibility and outputs (website repository and published meeting takeaways) and framed priorities for the next cycle.

Substantive discussions focused on Europe's net-zero industrial pathway, based on the first HLG flagship report presented by Ronnie Belmans and co-authored with Jean-Michel Glachant, which emphasizes electrification as the core transition vector and highlights the "hard constraints" shaping feasible choices (power generation, grids, critical materials, and industrial competitiveness). The debate also stressed the risk of overly defensive "protect the legacy" approaches and noted distributional and implementation bottlenecks.

A "reality check" on Germany's hydrogen strategy reinforced that hydrogen is not a universal solution and should be targeted to applications where molecules are strictly needed. The Group then examined EU grid priorities, concluding that the main challenge is delivery (permitting, financing, and public acceptance) rather than planning alone.

Two new flagship reports were launched by HLG members as lead authors: Catharina Sikow-Magny (EU grids fit for a decarbonised future) and Lucia Visconti Parisio (long-term contracts – PPAs/CfDs/capacity mechanisms and market interactions), to be drafted by the leads and refined through peer feedback. The Group also aligned on HLG visibility at the EU–Italy Energy Days and discussed the 2026 Innovation Award (with broad support for considering Teresa Ribera, subject to input from absent members). The meeting closed with a shared intent to maintain momentum through timely flagship publications and more continuous exchanges between meetings to support the HLG's future work.

Key Takeaways

- **Electrification remains the primary transition pathway**, but it only works if generation, grids, and material supply chains scale in parallel.
- **Europe risks over-focusing on protecting legacy industries**, rather than enabling new competitive advantages and a faster structural transition.
- **Hydrogen should be treated as a targeted solution**, primarily for "molecule-needed" uses; Germany's experience shows high ambition can underdeliver without strict realism.
- **Grids are the critical bottleneck**, and the priority must shift from planning to implementation: permitting, financing, and public acceptance drive delivery.
- **Financing and cost allocation need new tools**, combining tariffs with EU and private instruments (e.g., guarantees/equity) and clearer cross-border cost sharing.
- **Two new HLG flagship reports were launched** (EU grids; long-term contracts), with an author-led drafting process and peer review to support publication and public outreach.

Meeting notes

HLG Year-1 progress update and public repository

HLG Chairman presented a concise overview of achievements since the HLG's launch, focusing on the establishment of a dedicated PoliTO webpage to host: (i) an introduction to the HLG, (ii) member profiles, (iii) short "takeaway" notes from meetings, and (iv) flagship reports. This repository was presented as a key vehicle to make the HLG's work traceable, accessible and outward-facing.

1st HLG Flagship report discussion: European Net Zero Industry and electrification

Ronnie Belmans presented updates and selected additions to the flagship report on the EU Net Zero Industry, framed around "hard constraints" for the energy system. Key messages emphasized: electrification of end-use as a cornerstone; the need for additional clean generation and materials; and the risk of attempting to preserve energy-intensive industrial structures without accounting for boundary conditions.

Key points raised in the presentation:

- Electrification as an efficiency strategy: shifting energy services to electricity can deliver substantially higher end-use efficiency than combustion-based vectors.
- Market dynamics: rapid Chinese scale-up in electric mobility is reshaping cost competitiveness; electrification appears to be winning in light vehicles and increasingly in heavy-duty segments.
- Material dependency: China's dominance in mining/refining highlights EU vulnerability; recycling and circularity were presented as essential EU levers.
- Conceptual clarification: "decarbonization" is not equivalent to "defossilization"; the objective is primarily to replace fossil carbon, not eliminate carbon as an element.
- Transition speed: historical analogies (coal phase-out experiences) were used to argue that delayed transitions risk higher long-term costs and weaker outcomes.

Discussion highlights:

- Security and sovereignty: participants debated which energy-intensive capacities are strategically necessary versus export-oriented; a distinction was drawn between "critical" domestic production and globally competitive exports based on high-cost clean molecules.
- New economic geography: discussion covered how the location of low-cost renewables could reshape industrial competitiveness within Europe and what this implies for regions with legacy industrial clusters.
- Demand-side adoption and equity: a recurring concern was that electrification requires simultaneous investment in networks and end-use assets, raising affordability and distributional questions.
- Grid constraints: curtailment and local bottlenecks were noted as practical barriers to scaling electrification at the pace implied by climate goals.

Case discussion: hydrogen policy in Germany

A second presentation by Ronnie Belmans reviewed Germany's hydrogen strategy evolution, contrasting early policy ambitions with evidence of slower-than-expected deployment. The discussion treated Germany as a policy "stress test" for hydrogen's role and the institutional capacity to deliver infrastructure at scale.

Key points discussed:

- Early narrative positioned hydrogen as a multi-purpose solution ("Swiss Army knife") for transport, heating, power balancing, and industry; subsequent assessments suggest a much narrower feasible role.
- Implementation gap: reported shortfalls between announced electrolyser targets and delivered capacity; slow progress on imports/terminals and uncertain demand aggregation.
- Sector realities: very limited adoption of hydrogen cars/buses; trial projects in rail and buildings were described as underperforming relative to expectations.
- Economic constraint: for many uses, converting high-quality electricity to hydrogen and back to electricity is structurally inefficient and costly; hydrogen is most defensible where the molecule is needed (e.g., certain industrial processes).
- Long-duration adequacy ("Dunkelflaute"): the group discussed whether alternative molecules (e.g., ammonia, methanol) or other approaches may serve rare, long-duration needs; creating a full hydrogen network for low utilization was judged potentially prohibitively expensive.

Noted questions and reflections:

- Technology uncertainty: how to decide when to "stop" a pathway if exponential learning might change cost curves (e.g., electrolyser cost reductions).
- Political economy: whether the hydrogen boom reflected optimism about innovation, lobbying influence, or legacy-asset protection (pipelines, ICE value chains).
- Communication and policy posture: concerns were voiced about "protecting" legacy sectors rather than designing a transition strategy that accelerates new comparative advantages.

Candidate 2nd flagship report: EU grids fit for a decarbonized future (ref. C. Sikow-Magny)

Katharina Sikow-Magny presented a draft analysis on whether EU grid policy and the TEN-E framework are fit for a decarbonized system. The presentation reviewed: the role of ten-year network development plans, projects of common interest (PCIs/PMIs), permitting and cost-allocation mechanisms, and the growing political prominence of grids as investment needs scale (transmission and distribution).

Core diagnosis and proposed directions:

- Investment needs are large and rising; distribution networks represent a significant share of required spending, alongside transmission and interconnectors.

- Implementation is the key risk: planning and modelling quality matters, but delays in permitting and construction are the dominant bottleneck.
- Simplification opportunities: streamline the PCI process and reduce procedural overheads so that analytical work and execution are not crowded out.
- Planning/data improvements: stronger and more consistent inputs from national energy and climate plans, including geographic assumptions for generation and load growth.
- Governance: reinforce effective regional cooperation and monitoring; in sensitive cross-border cases, high-level political facilitation may be decisive.
- Framework gaps: consider categories for digitalization, resilience and protection of existing grids (not only new build).
- Financing: strengthen Connecting Europe Facility where appropriate, but also mobilize private finance via guarantees or blended instruments; recognize limits of TSO balance sheets.

Discussion highlights:

- Political constraints on interconnectors: resistance by individual countries (e.g., concerns about transit or price convergence) can block projects irrespective of technical merit.
- Modelling and market design interaction: welfare assessments can be sensitive to assumptions about bidding zones and congestion representation; mis-specified market design risks mis-prioritizing investments.
- Public acceptance and costs: undergrounding and "hidden" routing can materially increase CAPEX; participants flagged a vicious circle where local opposition drives higher system costs, fueling broader societal backlash.
- Regionalization: participants noted that some regions show advanced cooperation on specific issues (e.g., North Sea offshore, Baltic synchronization), but no single region is uniformly "ahead" on all dimensions.
- The HLG Chairman invited Katharina to develop the presentation into a concise flagship report draft for circulation and potential publication and proposed a keynote presentation at EU-Italy Energy Days (January 2026).

EU-Italy Energy Days (29–30 January 2026) – overview

The HLG Chairman outlined the structure of EU-Italy Energy Days 2026: a first day with thematic roundtables (expert-level discussion) and a second day with institutional sessions and interviews. HLG contributions were planned to increase the visibility of HLG work, including a keynote presentation by Ronnie Belmans (Net Zero Industry report) and a keynote presentation by Katharina Sikow-Magny (grids). HLG members were invited to indicate preferred roundtable participation to support logistics and planning.

Candidate 3rd flagship report: long-term contracts in EU energy policy (ref. L. V. Parisio)

Lucia Visconti Parisio introduced a proposal to develop a flagship report on long-term contracts in EU energy policy, positioning long-term contracting as a family of instruments with distinct

purposes and design choices. The discussion emphasized the complexity of the topic and the need to clarify interactions with market design, transmission rights, and public support schemes.

Key discussion points:

- Different use cases: portfolio and trading instruments versus long-term contracting aimed at final consumers (often intermediated by retailers/utilities).
- Cross-border dimension: constraints on long-term transmission rights can hinder cross-border contracting and competition for large consumers.
- Interaction with grids and network tariffs: increasing transport costs and geographic differentiation may complicate the value proposition of energy-only long-term contracts.
- Role of the state: contracts for difference (CfDs) reduce counterparty risk and can be auctioned competitively but reintroduce the state into risk allocation and long-term price setting.
- Potential crowding-out: the group noted the need to assess whether CfDs/capacity mechanisms weaken incentives for private PPAs and merchant investment.
- Contract design and cost/income allocation: clear ex-ante rules for allocating CfD costs and recycling revenues (especially during crises) were seen as important for legitimacy.
- Practical tools: references were made to emerging model contract initiatives and guidelines; participants suggested mapping existing EU-level work to avoid duplication.

The group agreed on a collaborative drafting process: Lucia will prepare the first draft, circulate it for comments, and retain editorial ownership of the final text.

Outputs, drafting process and timelines

Two candidate flagship reports were endorsed in principle for drafting and potential publication on the HLG website: (i) EU grids/TEN-E (Katharina Sikow-Magny) and (ii) long-term contracts (Lucia Visconti Parisio). Drafts will be shared with HLG members for feedback; authors will decide how to incorporate comments.

Innovation Award – 2026 candidate

The Chairman proposed European Commission Executive Vice-President Teresa Ribera as candidate recipient of the 2026 Innovation Award. Participants broadly supported the proposal, citing: her mandate covering clean, just and competitive transitions; her role in implementing the Draghi report; and her experience in EU negotiations. One participant noted the importance of preparing the public intervention to ensure a strong keynote performance.

Future working methods, continuous engagement and closing remarks

A proposal was made to increase continuity between meetings by organizing lightweight, periodic exchanges among HLG members (e.g., short written prompts or small-group discussions), and potentially sharing selected discussions publicly (e.g., via LinkedIn) to

disseminate insights. The group expressed openness, with attention to practical implementation and member availability.

Additional guests expressed appreciation for being included and offered to contribute specific expertise (e.g., consumer engagement and acceptability). The Chairman thanked participants and the organizing team for logistical and substantive support, and reiterated the objective of strengthening the HLG's external presence through publications and high-level events.