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WORKING PAPER

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MEETING DOCUMENT

From:	General Secretariat of the Council
To:	Working Party on Competitiveness and Growth (Industry)
Subject:	Working Party on Competitiveness and Growth (Industry) meeting on 6 November 2023 European Commission services presentation: Agenda item 4. : 2023 progress report on competitiveness of clean energy technologies

2023 Competitiveness Progress Report (CPR)

06 November 2023

The Competitiveness Progress Report (CPR)

Article 35 (m) of the Governance Regulation of the Energy Union and Climate Action.

[…] aims to monitor the EU clean energy sector's and net-zero technologies' competitiveness

Part 1: Macro-economic analysis

insights into the main drivers, opportunities and barriers of the competitiveness of the EU clean energy sector as whole

Energy and materials costs, value chain resilience, labour and skills shortages, innnovation and funding landscape

Part 2: Technology specific analysis

competitiveness of strategic energy technologies (NZIA)

Technology, value chain, market

CPR 2023 – State of play and challenges

- Clean energy technologies remain highly cost competitive.
  - Despite rising prices due to the peak in energy and material costs in 2022.
  - In 2022, the roll-out rate of wind and solar increased around 50% compared to 2021.

- The EU's clean energy manufacturing industry faces challenges
  - Even in sectors where the EU has a strong manufacturing base, EU market shares are falling.
  - Overall, the EU is dependent on imports from third countries.
  - Need to improve skills, ensure quality jobs and to turn innovation into industrial production.

CPR 2023 – Focus on value chains

- The EU is increasingly dependent on imports from third countries
  - Critical raw materials
  - Manufacturing

- Green Deal Industrial Plan, Net-Zero Industry Act, Critical Raw Materials Act
  - Lower dependence on imports of net-zero technologies, strenghten value chain resilience, build strong manufacturing base

- New projects and investment announcements
  - Key net-zero technologies: over 100 projects planned for building or expanding.

CPR 2023 – EU & China

- EU's dependency on China
  - Over 60% of the global manufacturing capacity for key value chain segments of batteries and solar are located in China.
  - Over 90% of capacity for the wafers and ingots required for solar PV is in China.
  - On solar thermal, wind energy and other technologies, the EU is a technology leader but faces competition from Asian players.
- Solar PV prices reached a record low in September 2023
  - Due to intense competition and oversupply of components
  - More difficult for EU manufacturers to produce profitably
- Wind turbine manufacturing
  - China's share in global production increased from 23% in 2017 to 50% in 2022
  - Over the same timeframe, the EU's share fell from 58% in 2017 to 30%

Innovative solutions and continuous technological advances could be key to support cost reduction and enhance competitiveness.

European Commission

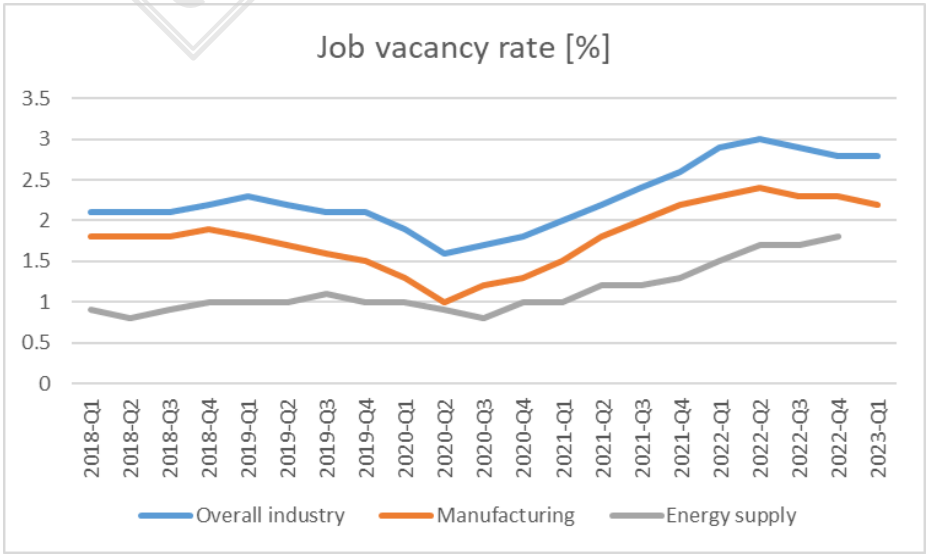
CPR 2023 – Human capital and skills

- Despite the positive trend in the employment rate, the skill gaps and shortages seen **since 2021 may curb the growth of the clean energy sector**.

➢ In 2023, **nearly 4 in 5** SMEs report it is generally difficult for them to find workers with the right skills

- **Gender imbalances** in the energy sector's workforce and in the energy-related research and innovation continue.

Job vacancy rate 2018 Q1-2023 Q1 in overall industry, manufacturing and energy supply sector [%]



Source: JRC based on Eurostat [jvs_q_nace2]

➢ 2023 European Year of Skills

➢ Green Deal Industrial Plan

➢ Net Zero Industry Act (Academies)

European Commission

Legend
- opportunity
- challenge

CPR 2023 – Solar PV

- **Key figures:**

➢ Global: 1 185 GWp installed capacity in 2022
➢ EU: cumulative installed capacity of 212 GWp. 2022 record year with 41 GWp installed (18% share)

- **The EU**

➢ One of the largest markets for PV
➢ Strong innovator especially in emerging PV technologies and applications.
➢ Several existing production facilities consider expanding to become giga-scale factories and have secured Innovation Fund funding in the last call
➢ Prices reached a record low in September 2023 due to intense competition and oversupply of components across the whole value chain
➢ Highly dependent on crucial components, raising cost of raw materials.

Key EU actions/initiative:

❑ May 2022: Solar Energy Strategy
❑ December 2022: European Solar Photovoltaic Industry Alliance
❑ Green Deal Industrial Plan
❑ Net-Zero Industry Act

Legend
- opportunity
- challenge

CPR 2023 – Wind

Key Figures

- EU: total cumulative installed capacity of 204 GW (189 GW onshore; 16 GW offshore) in 2022
- EU ranks second in terms of wind capacity
- Need to speed-up the roll-out of wind energy to achieve the REpowerEU targets (510 GW)

The EU

- Remains one of the strongest players in the market
- EU manufacturers accounted for 85% of the EU wind energy market
- EU wind energy sector's market share in the global market fell from 58% in 2017 to 30% in 2022
- 40% increase in the price of wind turbines over the last two years
- Dependence on raw materials & resources + their increasing prices, granting of permits.

Key EU actions/initiative:

- EU Funding (RFF, InvestEU, Innovation Fund)
- RePowerEU
- Green Deal Industrial Plan and NZIA
- **The Wind Power Action Plan**

CPR 2023 – Conclusions

Given the record energy prices, net-zero technologies have never been so competitive compared to fossil fuel and their market share has shot up

- While maintaining its efforts to bring energy prices down, the EU must also **simplify its regulatory framework**
- The EU should continue action to **reduce its dependency** on imports and effectively diversify its sourcing **of components and raw materials.**
- Ensuring **access to finance** to develop the domestic clean energy technology manufacturing capacity is key to developing value chains in the EU.
- The EU needs to deepen **international cooperation** and overcome the **shortage of skilled labour** in various clean energy technology segments.
- Increased efforts in the **coordinated use of the EU and national programmes** and **clear definition of national R&I targets** are instrumental to chart a successful R&I path

Towards a comprehensive monitoring exercise

- Assessing the state of play.
  - Granular, comprehensive, recent data.
    - Across **technologies**.
    - Throughout the **value chain.**
- Identify barriers and opportunities.
  - Data to assess the barriers that might exist in the EU: e.g. regulatory framework, skills.
  - Data to identify opportunities that could be exploited to foster the development of the net-zero industry in the EU: e.g.: competitive advantage, potential for scaling-up.
- Assess the impact of actions.
  - E.g.: Data to assess how the different regulatory frameworks or incentives allow to support the development of the net-zero industry.