Industrial policy dimensions of REPowerEU: The case of scaling-up of heat pump manufacturing

EHPA Online Seminar “Ambition requires action: Is REPowerEU realistic?”
Steering and Advisory Group (SAG)

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Jacek Truszczyński and Şerban Scrieciu
European Commission
Directorate General for Internal Market, Industry, Entrepreneurship and SMEs (DG GROW)
Unit I3: Green and Circular Economy
REPowerEU

REPowerEU Plan Communication, Annexes and Staff working paper
EU Save Energy Communication
EU Solar Strategy Communication
EU External Energy Engagement Communication
Recommendation on speeding up permit-granting procedures for renewable energy projects and facilitating Power Purchase Agreements
Amendment to RRF Regulation and Guidance

Outside the package but adopted on the same day:
Electricity Market Design Communication
RePowerEU with Clean Energy

Cumulative investment needs by 2027 in addition to realising Fit-for-55 objectives.

- €210 billion by 2027
- €29 billion in the power grid by 2030 to enable greater electricity use
- €10 billion investments to import sufficient LNG and pipeline gas by 2030
- €1.5-2 billion for security of oil supply
- €37 billion to increase biomethane production by 2030
- €113 billion for renewables (€86bn) and key hydrogen infrastructure (€27bn) by 2030
- €56 billion for energy efficiency and heat pumps by 2030
- €41 billion for adapting industry to use less fossil fuels by 2030

Energy efficiency and heat pumps investment needs
REPowerEU: Smart Investment

**REPowerEU chapter** in revised recovery and resilience plans

Synergies and complementarities with *cohesion policy*

New call under *Connecting Europe Facility*

**Enhanced transfer possibility** of cohesion policy and EAFRD to RRF

**Innovation Fund**
1) accelerating the deployment,
2) dedicated REPower windows
3) new tool of C(C)fD
RePowerEU and Heat Pump deployment

❖ The European Union should aim at **doubling the current deployment rate of individual heat pumps**, resulting in a cumulative 10 million units over the next 5 years.

❖ Member States can accelerate the **deployment and integration of large-scale heat pumps** [...] by modernising district heating systems, promoting clean communal heating, and exploiting industrial heat.

❖ For heat pumps, **a doubling of the deployment rate should be matched by a fast ramp up of the production of the necessary equipment**, including, where necessary through facilitated access to finance.
RePowerEU and Heat Pump production

- While the EU is a global leader in heat pump technologies, the heat pumps market has seen increasing imports from Asia over the last years.

Two main objectives:
  - Strengthen the supply chain for heat pumps (alongside solar and wind and other low-carbon technologies).
  - Render the supply chain for heat pumps more sustainable, and strengthen circular economy models.
EU Policy for European Heat Pump manufacturing

- Supporting efforts from Member States to pool their resources via potential **Important Projects of Common European Interest** (IPCEI) focused on breakthrough technologies and innovation along the heat pump value chain.

- Improving **access to finance** for innovative heat pump manufacturing in Europe via the **Innovation Fund**.

- Supporting research and innovation, including through **Horizon Europe** to reduce materials consumption, enhance recyclability of clean energy equipment and substitute critical raw materials.

- Acting on the **dependency on critical raw materials** and components for the energy transition (via specific legislative measures and via the European Raw Materials Alliance).

- Mobilising private investment via InvestEU programme and the European Investment Bank.
EU Policy for European Heat Pump manufacturing

- Enhance the regulatory framework by revisiting the energy labelling and eco-design requirements for heat pumps
- Encouraging stakeholders in heat pump production to establish a large-scale skills partnership under the Pact for Skills (e.g. reskilling gas boiler installers in heat pumps).

In addition, the Commission invites the Parliament and Member States to consider other improvements to the Fit for 55 package that they are currently negotiating:

- Increasing the ambition of the national energy savings obligation
- Introducing obligations to reduce energy consumption, stop fossil fuel subsidies, and promote renewable energy technologies in transport and industry
- Strengthening the implementation of energy audit results
- Extend buildings Minimum Energy Performance Standards
- Strengthen national energy requirements of new buildings
- Tighten national heating system requirements for existing buildings
- Introduce national bans for boilers based on fossil fuels in existing and new buildings
- Advance the end of Member States subsidies for fossil fuel-based boilers from 2027 to 2025
The Recovery and Resilience Facility (RRF) is at the heart of the REPowerEU implementation – a REPowerEU chapter is added to Recovery and Resilience Plans (RRPs) and the 2022 European Semester Cycle will have country-specific REPowerEU recommendations.

Member States can use the remaining RRF loans (around 225 billion euros) and new RRF grants funded by the auctioning of ETS allowances (currently held in the Market Stability Reserve, worth around 20 billion euros) for, amongst others:

- boosting energy efficiency in buildings, and decarbonising industry;
- accelerated requalification of the workforce towards green skills;
- boosting value chains for the production of key materials and technologies linked to the green transition;

Funds can be reallocated to RRF from other EU funds (e.g. Cohesion Policy Fund, European Agricultural Fund for Rural Development)
The Innovation Fund and Heat Pump production

❖ Doubling 2022 funding to 3 billion euros

Thematic window under the 3rd large scale call on innovative clean tech manufacturing:

❖ Accelerate deployment in accordance with Fit for 55, REPowerEU
❖ Develop resilient supply chains, establish industrial capacity and technology leadership, aim for open strategic autonomy
❖ Develop future-proof growth and jobs in the EU
❖ Address dependence on critical materials (substituting, reducing, recycling...)
❖ Dedicated window for EU production facilities for innovative clean tech (and components thereof) including for heat pumps

For complete information see Innovation Fund website
Thank you

GROW-l3@ec.europa.eu
Disruptive increase of heat pump production capacity

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Andreas Scholz
Head of Business Unit Heat Pumps, DATA AHEAD AG
T: +49 911 131 312 68
M: +49 160 518 414 9
ascholz@dataahead.de
Focus

- Energy Costs
- Refrigerant
- Manufacturing
- Heat Pump
- Legal
- Material Supply
- Installation
Innovative production technology for higher throughput
Heat pump industry

Challenges
Heat pump industry

At a threshold
Heat pump production

Major bottlenecks

1. Test times
Heat pump production

Major bottlenecks

2. Soldering
Heat pump production

Major bottlenecks

3. Manufacturing staff
Optimizing and scaling heat pump production

Best production method

- Island production
- Line production
- Continuous Flow production

Reduced cycle times

360 Seconds
R&D meets production
Heat pump industry

Potential
Heat pump industry

Outlook: Shared Modules
Thank you.