How to do green industrial policy?

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The scene for Green Industrial Policy

- **EU’s green ambitions**, e.g.:
  - **European Green Deal**: 55% emissions reduction by 2030 & climate neutrality by 2050
  - MFF 2021-2027: About €1000 billion – 30% to be devoted to climate
  - NextGenEU 2021-2024: €750 billion – 37% to be devoted to climate

- **EGD** implies big transformative changes for business and society at large, with winners and losers
- **Ensuring enough winners of the EGD is vital to keep the process going**: decarbonisation needs to be economically viable and socially supported
- Increasing attention on Industrial Policy component of EGD: **Green Industrial Policy**, but its concept remains unclear
- Provide a set of **principles and tools** for the development of a **GIP** and recommendations for GIP
Defining green industrial policy

- **GIP**: an *industrial policy where climate change mitigation becomes a binding constraint in the policy* objective

- **Key challenge** for GIP: *address both* classic market failures (IP) and the GHG emissions market failure (CP)

GIP needs to go beyond the general industrial policy toolkit, asking for a **GIP policy mix**, with at least coordination of CP & IP instruments, possible supplemented with dedicated GIP instruments.
A New Industrial Policy approach for a green industrial policy

New industrial policy acknowledges a broader **multidimensional** set of objectives (beyond competitiveness)

New industrial policy acknowledges both the need for intervention, rooted in market failures, and the **implementation difficulties** (government failures)

New industrial policy moves the debate away from the view of industrial policy as a mere set of tools to allocate resources, towards understanding it as a **process**.

1. **Information capacity** of bureaucrats and administrators to allocate correctly public resources on the market (particularly when picking winners)

2. **Risks of rent seeking** and “**capture**” (e.g. lobbying efforts to capture rents coming from public finances, notably in poor institutional quality settings)

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**New industrial policy**

- Government
- Academe
- Private Sector
- Civil Society

**Process of institutionalised and iterative collaboration and dialogue**

- Embeddedness
- Dynamic PPPs
- Competition
- Transparency
- Accountability
- Targets, Sticks, Carrots, Milestones
- Experimentation, learning
Insights from “new industrial policy” for CC policies

• Strong operational governance to address coordination among different types of stakeholders, different policy governance areas

• Flexible policy design, addressing the information problem with learning from monitoring & evaluation;

• Public private partnership, blended finance; willingness to co-finance from private sector to weed out rent-seeking

• Long-term commitment and accountability from parties involved through a balanced set of sticks and carrots

• Allow for policy experimentation, but with clear monitoring & evaluation plan, such that unsuccessful experiments are stopped/restructured in time

• Taking risk, not avoiding failure, by targeting particularly new to be developed eco-systems and markets, with stakeholders previously unconnected. Adapting dedicated processes and instruments to de-risk “new” projects (smart development banks, intermediate milestones…)

• Deploy a mix of policy instruments: carbon pricing, grants&co-financing, green regulation and standards, green public procurement…
A new industrial policy approach for GIP

✓ New industrial policy elevates the industrial policy discussion from strict economic goals to **broader societal goals**.

✓ Climate change is a big transformative change, requiring **public-private partnerships** and the involvement of **civil society**.

✓ **Urgency** is dictated by the climate crisis: need to take actions even when high uncertainty and risk of failure: process & experimentation; long-term commitment

✓ High risk for **implementation failures**: governance model is critical

✓ More **directionality**: support for green technologies:
  ✓ Green technologies have higher **knowledge externalities**
  ✓ Green technologies, often still early stage, face **higher risks, higher information and coordination failures**;
  ✓ Green technologies need a policy push to counter the **locking-in of fossil fuel** based technologies and their path-dependencies
    ✓ **Hidden support to fossil fuels**

✓ Climate change is a **global commons** problem: international coordination
Green industrial policy in practice

After looking into GIP in practice in Germany, the Netherlands, Denmark and the United States the following elements showed a strong importance in the success of the policy:

1. **Effective collaboration between all elements of society**
   - i.e. Citizens must accept policies, private sector must contribute with knowledge and expertise
   - ex. Dutch Klimaatakkoord, Danish cooperative ownership structure in wind industry, German public-private partnerships

2. **Long-term policy stability and predictability**
   - ex. Stable and sensible policy support helped Danish wind industry
     - Dutch policy inconsistency impacted the effectiveness of energy transition programmes
     - Progressively adapted targets for EE in buildings in Germany exemplifies predictable policy

3. **Not putting all eggs into one basket**
   - i.e. Need for a balanced set of instruments
     - Mixing demand pull – technology push
     - General and horizontal – specific and targeted instruments

4. **Clearly defining and understanding the relative importance of “green” and “industrial policy”**
   - ex. Germany’s solar panels experience is not a failure in terms of green goals and there is economic value added and jobs created in the servicing of solar panels
Green industrial policy in the EU

<table>
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<tr>
<th>Innovation and technology</th>
<th>Investments and deployment</th>
<th>Framework conditions</th>
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</thead>
<tbody>
<tr>
<td><strong>EU</strong></td>
<td><strong>EU budget and Next Generation EU; European Investment Bank; Single market rules (e.g. green public procurement)</strong></td>
<td>Coordination of national industrial policies (e.g. European Semester, RIS3, IPCEIs); Competition policy; Environmental standards; Climate policy (e.g. Targets, carbon price, renewable and energy efficiency targets, clean standards); Development policy; Monetary policy</td>
</tr>
<tr>
<td><strong>National</strong></td>
<td>Consistency of macroeconomic policies with industrial strategy; Climate targets; Environmental standards; Environmental taxation</td>
<td>Government investment programmes, incentives, subsidies, public procurement, clean energy standards</td>
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<tr>
<td><strong>Regional</strong></td>
<td>Smart specialisation strategies; Regional Investment budgets; Implementation of EU Cohesion policies</td>
<td>Regulations (such as buildings energy efficiency)</td>
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Multitude of policy initiatives on different geographical layers and competencies, need for coordination to ensure single market scale, a level playing field and avoid conflicting initiatives
European alliances aim at creating European integrated, cross-border, value chains in technologies that are considered as central for the future of the energy transition.

Examples: ‘European Battery Alliance’ and ‘European Clean Hydrogen Alliance’

They constitute a network of key industrial and innovation players (including SMEs), regional authorities, national authorities, the EC and the EIB.

Importantly, projects developed in this context are Important Projects of Common European Interest and are thus allowed to receive State aid.
EU Policy recommendations for a GIP

Further development of public-private partnerships (Alliances, IPCEIs, Missions..)

Selection and governance based on new green industrial policy principles cf supra

- Focus on mega-problems covering whole value chains of all relevant clean markets
- Iterative collaborations between a broad set of actors: institutions at regional, national, EU level with businesses from different parts of the value chains and citizens.
- Activate co-funding, access skills, knowledge and information
- Employing a balanced mix of


A Already-connected value chains that need to be scaled-up
B Very early-stage emerging value chains with still-to-be-connected stakeholders (regardless of higher failure rates)

Make use of the EU competition policy toolbox, given sufficient dedicated expertise, to avoid rent seeking and ensure the power of competition for innovations in new clean markets
• Balance and coordination between directed/missions and bottom up (EIC, ERC)
• Develop a portfolio of directed green missions: allocation to projects with largest socio-economic and climate returns, focus on early stage technologies with potential for general-purpose breakthroughs
  • A portfolio approach that includes risk-taking and not only safe bets with average returns: preference/no-bias against risky early stage clean projects,
    • High potential for breakthroughs
    • High risk of market/network failures/funding gap
  • New support models that provide grants in a non-bureaucratic way with independence, yet clear targets and accountability: An ARPA-climate?
• Leverage EU public resources and toolkit to scale-up national and regional public resources that go into climate innovation + mobilise private investment
• Avoid greenwashing: a methodology for monitoring & reporting CC impact
• Ensure that the remaining non-green part of Horizon, not going to climate innovation, does not work against green targets: mainstream green monitoring