Demand Oriented Innovation Policy

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Structure

- **Definition and Typology of Demand Oriented Innovation Policy**
- **Justification and Leverage**
- Demand orientation in public policy
- **Pitfalls and Bottlenecks**
- **Critical Factors of Demand Oriented Innovation Policies**

Demand oriented Innovation Policy - Definition

Set of public measures to

- **induce innovations and / or**
- **speed up diffusion of innovations,**

through

- **increasing the demand for innovations and/or**
- **define new functional requirement for products and services**

☞ **often linked to sectoral policy aims (e.g. sustainability, energy efficiency, infrastructure, health system)**

☞ ***Public Procurement* as part of a wider policy approach**

Public Procurement as part of a wider approach: A Refined Typology of Demand Oriented Policy

1) Public Demand / Procurement	- General procurement - Targeted Areas, State as Lead User of Innovations
2) Support of private demand	- Cooperative and catalytic procurement - Demand subsidies
3) Enable / Marketing	- Adjustment of training programmes, curricula etc. - Awareness Measures, - Labelling / Marketing (eco-labels)
4) Regulation	- Norms for product information - Norms as for performance of products and services - Legal security for usage of new products/services (electronic signature)
5) Systematic Approaches:	- Combination of demand measures - Combination of supply and demand, e.g. Lead Markets (e.g. ambitious regulations in connection with support programmes)

Across the board of demand oriented policies: little systematic knowledge

Justification and Leverage

Justifications of Demand Oriented Innovation Policies

- **Market failures**
  - **Information problem:**
    - **Lack of mutual understanding producer – user**
    - **Lack of awareness, trust (users)**
    - **Lack of skills (users)**
  - **High entry costs, but high scale and network effects likely**
- **Lead Market potential**
- **Sectoral Policy Needs**
  - **More effective, more efficient public service**
  - **Public need, normative policy goal**

The Innovation Leverage of Public Demand (1)

The size of public demand

- Public Demand in Europe: 16 % of GDP

State as lead user:

- Bearing of high entry costs
- Signal (demonstration of functionalities) to private consumers / Awareness
- Acceptance of innovations in combination with sectoral policy aims (danger?)
- Spill over:
  - Complementary innovation (network effects)
  - Speed up of Diffusion
  - „Upgrading“ of technological competition

The Innovation Leverage of Public Demand (2)

Direct effect on suppliers:

- Clear market expectations, security (return on innovative investment, contract before innovation activity)
- Critical mass
- More near to market R&D

Inter-active specification of functionalities:

- Common „discovery“ of possibilities
- Common learning (supply and demand)
- Risk reduction through interaction and discourse

Demand orientation in public policy (defence excluded)

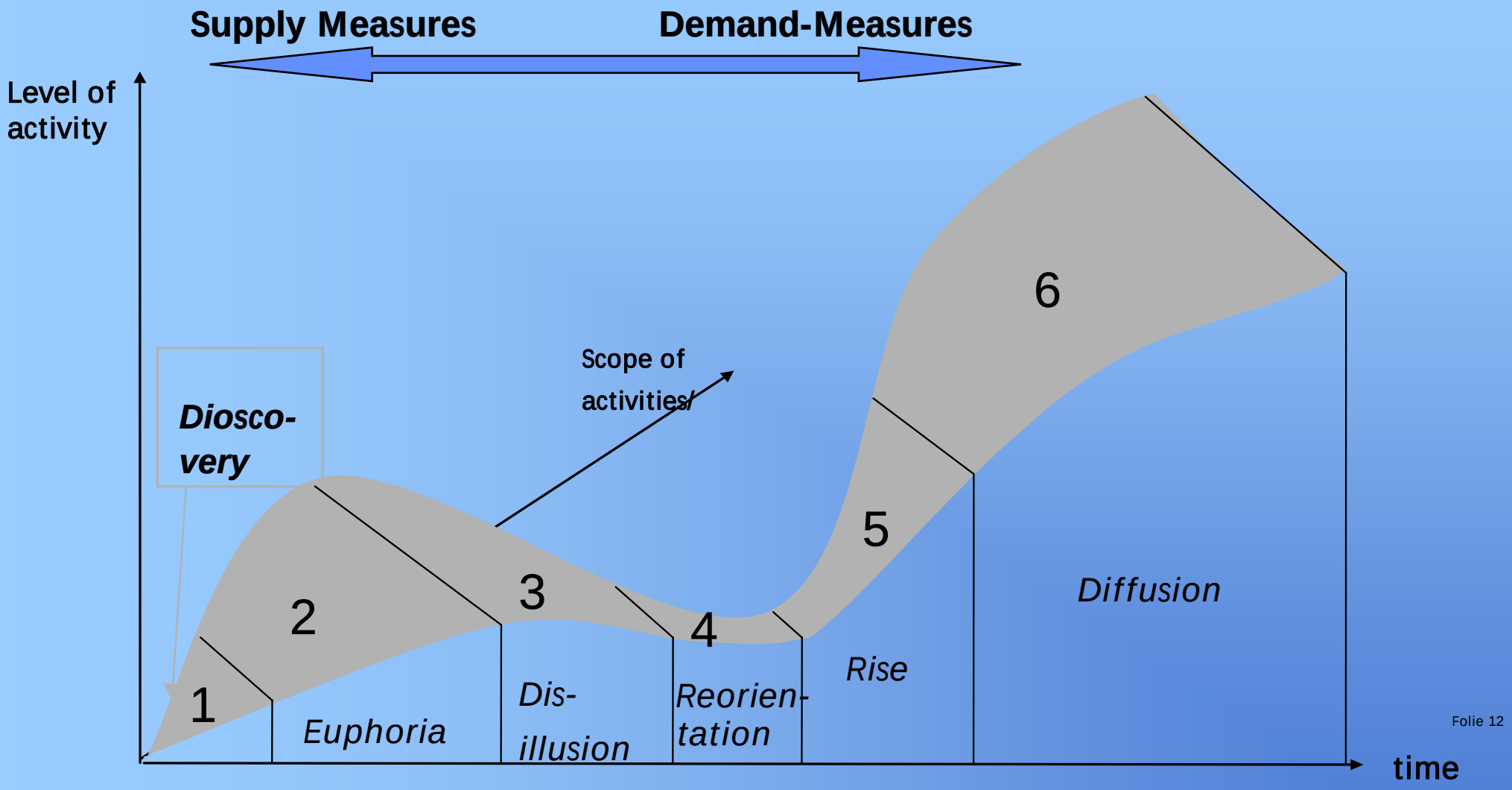
- Only UK with comprehensive, strategic approach as for innovation policy :
  - Procurement as integrated part of horizontal Innovation Strategy
  - Specific co-ordinated Activities in Sectoral Procurement (Construction sector, market intelligence, discourse moderation, supply-demand)
- Mixed signals: Some had turned their backs, now renewed interest
- Many examples in sectoral policy – but not designed/sold as innovation policy (demand subsidies, regulation (energy)
- Scandinavia, 1990s: Market Creation Programmes for Energy Efficient Consumer Products
- USA: dual use (defence) , energy, various activities at state level (e.g. Toll System)
- Netherlands: PIA Approach
- Germany: innovation offensive, re-discovery (not operative yet)
- EU: A new offensive, various measures, procurement regulation (Competitive Dialogue); general awareness measures (see presentation by José Ramon Tiscar)

Demand Oriented Innovation Policy: Pitfalls and Bottlenecks

Pitfalls and Bottlenecks - *General*

- **Lack of co-ordination**
  Innovation policy – Procurement Policy – Sectoral Policy
- **Lack of Awareness in Sectoral Ministries**
  (goal attainment/better service and procurement)
- **Systemic approaches?**
  - **Neglecting public action to spur private demand**
  - **Neglecting failures and potential in private demand**
  - **Lack of sound justification of public action: what is the market failure?**
  - **Over-Complexity: where are we on the innovation cycle?**

Over-Complexity: Innovation-Cycle and Policy Approaches



Source: FhG-ISI 2005 (Dreher, Frietsch, Schmoch, Edler)

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Pitfalls and Bottlenecks: *public demand*

- Risk aversion and problematic incentive structures on all levels
  - Departments: delivery of policy
  - Agencies: cost of failure
  - Procurer: individual careers
- Potential conflict: efficiency vs. innovation (initial costs)
- Privatisation: leverage diminished?
- Fragmentation of public demand (critical mass to be mobilised?)
- Who benefits?
  - Innovation vs. regional/local economic support
  - National Champion Policy – International Firms
  - SME disadvantaged (little power in negotiations, interactions)
  - Over-dependency on specialised suppliers
- Readiness of business?

Critical Factors of Demand Oriented Innovation Policies

General

- Strategic integration of innovation into all public policy
- Combination of sectoral policy aims and innovation
- Horizontal and vertical coordination / strong leadership
- More evidence-based innovation cycle orientation

Procurement

- New Rationale: Procurement as Part of *Innovation policy*
  - Risk with the state
  - Patience and backbone
  - Industry as partner – early interaction needed (such as „competitive dialogue“)
  - Functional targets (Performance), life cycle costs ("m.e.a.t.")
- Build up of expertise in public policy-making
  - Knowledge on public needs, definition of sectoral strategies (includ. Foresight)
  - Knowledge on supplying markets (structures, potential, technological feasibility)
  - Knowledge on spill over effects (networks, diffusion)
  - Legal expertise (new forms of contracts, life cycle, risk)
- Systemic Approaches: Combination with other demand and supply measures

Thanks for your attention

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Annex: Some Examples

Example 1: Procurement as Innovation Policy Tool: The strategic approach (attempt?) of the United Kingdom

- Public Demand and Innovation integrated in strategic documents – high level of importance and visibility (DTI, Cabinet Office, other ministries)
- Objective: all public procurement to be defined as innovation policy tool *also*
- Inter-ministerial working groups - Integration of ministerial top level
- Integration of OGC (Kelly Report) and DTI activities (Innovation Report)
- Connection of strategic and operative level
- Training and awareness of procurers
- Broad understanding: strategy for local procurers
- Clear implementation plan and controlling
- Sectoral pilots (Construction):
  - Integration of suppliers as well as regional and local demanders
  - Market transparency – Reduction of information asymmetries (what will be demanded, what can be supplied?)

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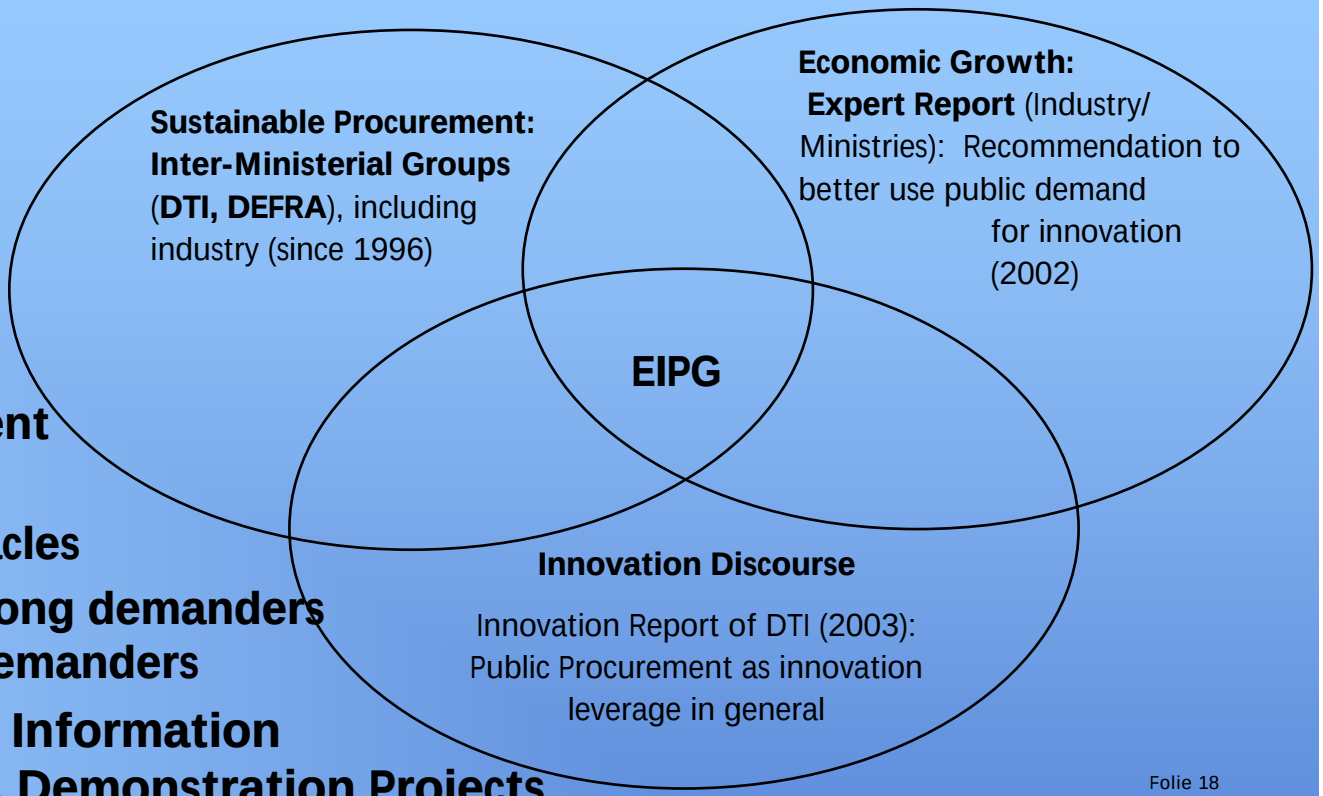
Example 2: Sustainable *and* Innovative Procurement (UK)

- **Idea: State as lead user to spur development and diffusion of sustainable products**
- **Integration of different (formerly separated) discourses**
- **Environmental Innovation Procurement Group (EIPG):**
  - **Industry chair, Ministries, Agencies**
  - **To use sustainable procurement as innovation driver**
  - **Reduction of regulative obstacles**
  - **Improved communication among demanders and between suppliers and demanders**



- **Measures: Market Transparency, Information Campaign, Training of Procurers, Demonstration Projects**
- **Main Effect:**
  - **Structural integration of innovation and sustainability debate**
  - **Integration of all public levels and industry, expectation: spill over to private procurement**

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Example 3: Energy Efficiency and Innovation (Sweden)

- 30 Procurement Programmes at national, regional, local level (1990s)
- High variety of approaches, one responsible agency: NUTEK
- Basic idea:
  - Build up of combined demand for energy efficient products (Industry and consumers)
  - Common specifications in common tenders
  - Market transparency
  - life cycle approach
  - Awareness Measures (national (Media Campaigns, Labels, Demonstration Projects, etc.)
  - Partly supplemented with demand subsidies
  - Monitoring of the market Penetration
- Effects: Market Diffusion, Economies of scale
- Lessons:
  - Technology specific mix of measures needed
  - horizontal and vertical coordination (bundling of demand)
  - Excellent market knowledge (suppliers), competence to bundle demand
  - Long-term approaches

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Example 4: The wake up in Germany

Innovation Offensive: 16 Impulse Circles

One of Which: State as Factor for Innovation

- Public Procurement and Innovation
- State as Supporter of Targeted Technologies (Strategic Procurement)
- State as Regulator
- State as Manager of Large Infrastructure

Participants:

- Various Ministries (federal level)
- Procurement Agencies
- Federations of Municipalities
- Business Federations

Outcome: Brochure for procurers and decision makers at all levels

Renewed interest for (public) demand as innovation leverage

- EU-Context: Barcelona/Lisbon-Strategy
  - EU: ETAN-Group „Direct Measures“ (3%-Context)
  - IPTS - ESTO paper (memo)
  - EU-Expert group on „Public Procurement - Private R&D and Innovation“,
  - International Benchmark of innovative procurement (Edquist et. al. late 1990s)
  - Procurement as part of 3% action plan
  - Kok-Report, German, France, UK – Note on Innovation
- UK: Procurement as part of innovation strategy, conceptualisation of DTI and Cabinet Office
- Ireland: Forfás-study
- Germany: Parliament – on-going study