

„Design-for-the-environment as part of a strategy aimed at ecological modernisation: Evaluating technological innovations in industry and their promotion using instruments of environmental policy-making“

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1) Sustainable development, ecological modernisation and environmental policy-making

Sustainable development has become the main focus for human action and policy strategies for the 21st century. The aim is to foster economic development and social advance but this development should be environmentally sensitive.

Ecological modernisation is the basic concept that informs most environmental policy-making in industrialised countries. It promotes the inclusion of environmental considerations in industrial production.

The three main *approaches of environmental policy-making* are: command-and-control; market-based instruments; and voluntary or cooperative approaches.

2) Innovation, design and the implications for the environment

Innovation includes all stages of new economic activity, including "the search for and discovery, experimentation, development, imitation and adoption of new products, new processes, and new organisational set-ups" (Dosi, 1988).

Overall, innovations can be either 'radical', or 'incremental'.

Innovations for environmental improvements can be divided into (a) control technologies or 'end-of-pipe' innovations, and (b) clean(er) technologies or 'innovations at source'.

Design is not only concerned with appearance, but with ease of manufacture, the efficient use of materials and user-friendliness. Design is clearly important for the realisation of the radical invention as an innovation.

3) Design-for-the-environment

Three different design-for-the-environment strategies: green design; eco-design or life-cycle design; and sustainable product-service systems.

Eco-design is the "systematic incorporation of environmental factors into product design and development" (Eder, 2000). The aim is to reduce and balance the adverse impact of manufactured products on the environment by considering the product's whole life cycle.

Hypothesis: voluntary or cooperative approaches will foster the implementation of technical innovations for design-for-the-environment strategies.

4) Inclusion of suppliers and users of manufactured products in the design process

References

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