



# An Preliminary Analysis on Indicators for Sustainable Manufacturing

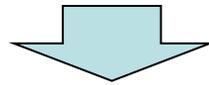
OECD Project on Sustainable  
Manufacturing & Eco-innovation

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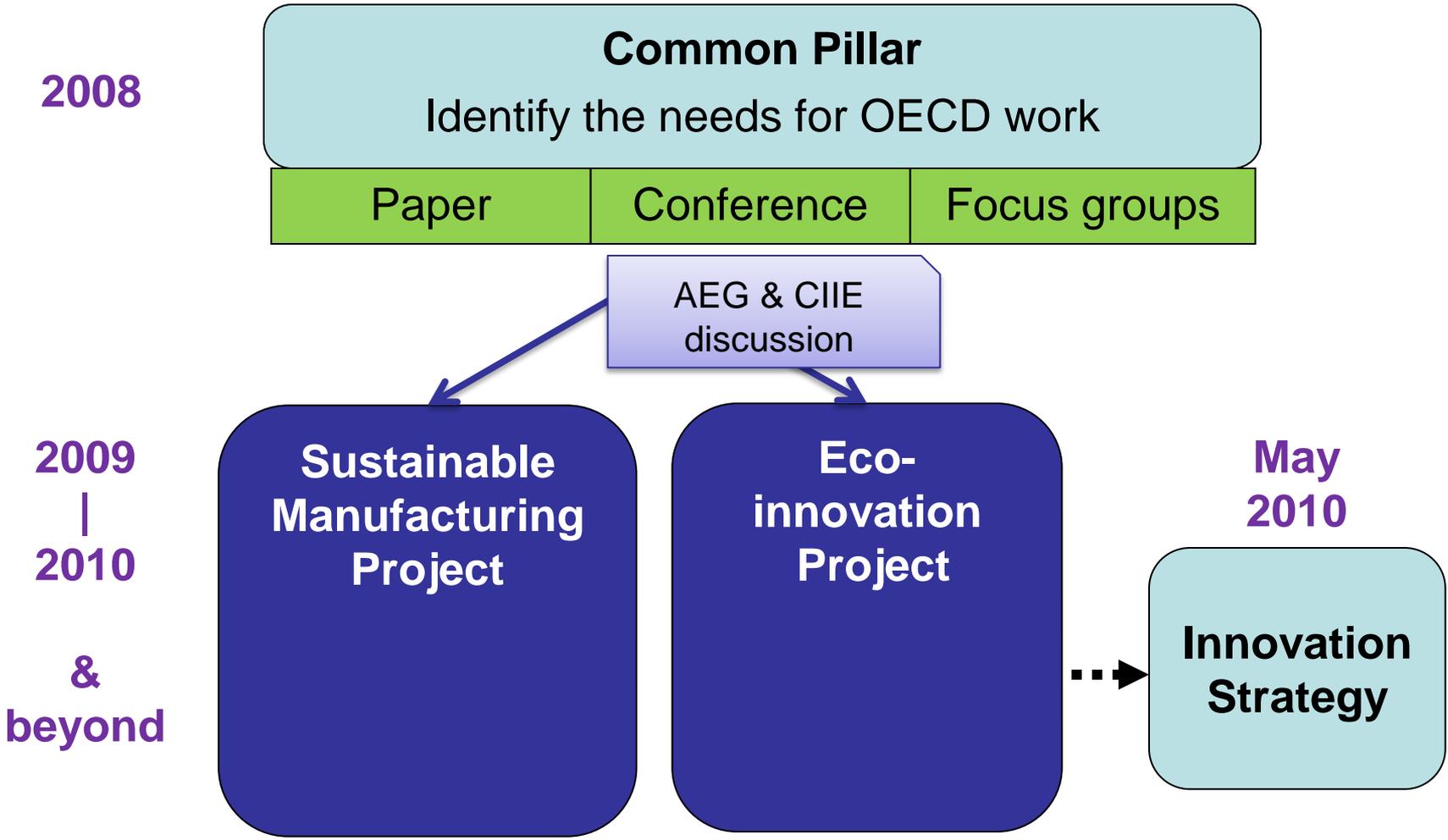
# Rationale for the project

- Growing environmental concerns; expected post-Kyoto target
- Industry is taking initiatives but improvement in efficiency has been offset by increasing consumption and outsourcing



- **A new vision** for business opportunities based on innovation is needed
- **Means to benchmark** to accelerate corporate efforts
- **Policy co-ordination** for enabling industry to take positive actions

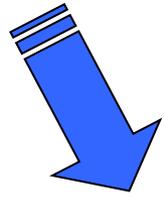
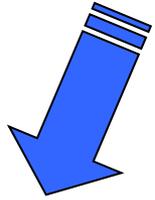
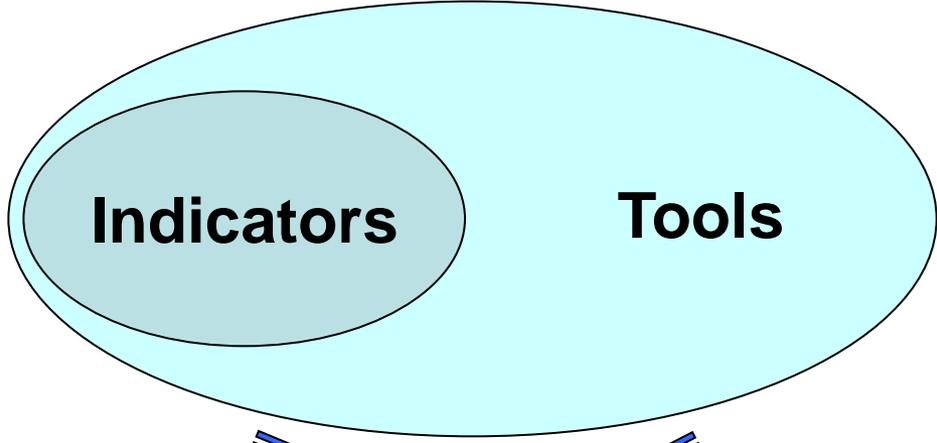
# Overview of the project



# Guidance wanted from industry

1. Indicators/tools for sustainable manufacturing
  - What are used and the most useful
  - What are missing and what kind of help is needed
2. Government and OECD's role for promoting sustainable manufacturing & eco-innovation
  - What are effective policies for enabling companies
  - What can the OECD help government & companies

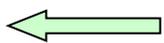
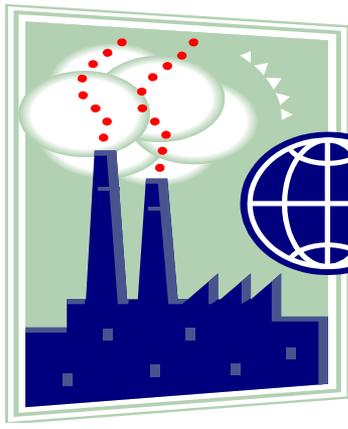
# Enabling sustainable manufacturing



**Help improve**

**Facility &  
Supply chain**

**Processes  
Products**



**Management**

**Decision-  
making**

# Indicators & tools

## Indicators

**Individual indicators**

**KPIs**

**Composite indices**

**Material flow analysis**

**Environmental accounting**

**Eco-efficiency indicators**

**LCA indicators**

**Reporting indicators**

**SRI indices**

## Tools

**Policy declaration**

**EMS**

**Technology verification**

**Eco-labelling**

**Tradable permits**

**EIA**

**Green procurement**

**Environmental auditing**

**Green SCM**

**CSR**

**Employee training**

**How-to guide**

# Criteria for indicator analysis

1. Comparability for external benchmarking
2. Applicability for SMEs
3. Usefulness for management decision-making
4. Effectiveness for operational improvement
5. Possibility for data aggregation & standardisation
6. Effectiveness for finding innovative products & solutions

# Summary of analysis

	Comparability	SMEs	Decision-making	Operation	Aggregation	Innovation
Individual indicators		Dark Blue		Light Blue		
Key performance indicators			Dark Blue			
Composite indices	Light Blue		Dark Blue	Light Blue	Light Blue	
Material flow analysis				Dark Blue	Dark Blue	Dark Blue
Environmental accounting	Light Blue	Light Blue	Light Blue	Dark Blue	Light Blue	Light Blue
Eco-efficiency indicators	Light Blue		Light Blue	Dark Blue		Dark Blue
LCA indicators	Dark Blue	Light Blue		Dark Blue	Light Blue	Dark Blue
Sustainability reporting indicators		Light Blue		Light Blue		
SRI Indices	Light Blue		Light Blue			

# Conclusions of the analysis

- Diverse and original indicators ... lack of common understanding and comparability
- No ideal single indicator set ... need for combination (*e.g.* MFA, LCA & accounting)
- Separation between those used for operations and those used for decision-making ... Eco-efficiency could address both
- SMEs need steps to develop indicators
- Need for system-wide indicators beyond product lifecycle

# Focus group format

- Interactive interview method originally developed for marketing research
- Participants talk to each other over given questions, unlike one-to-one interviews
- 2 sessions ... indicators/tools & public policy
- 2 sectors ... electronics & automotive/transport
- Facilitated by governmental representatives
- 55 minutes each; 3 questions in each session
- Present your views based on the questionnaire and information you brought

# Questions for the indicators/tools focus groups

1. What indicators does your company use for improving environmental performance?  
Which indicators are the most useful?
2. What tools does your company use for improving environmental performance?  
Which tools are the most useful?
3. What indicators and tools are missing and can be developed further? What do you expect the OECD to work on indicators and tools?

Thank you & enjoy discussions!

Visit our website:

[www.oecd.org/sti/innovation/sustainablemanufacturing](http://www.oecd.org/sti/innovation/sustainablemanufacturing)

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