



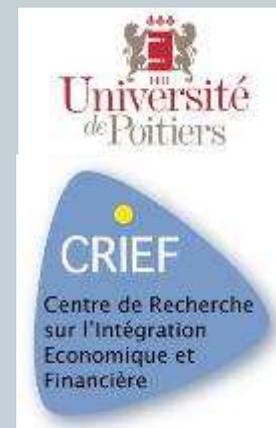
# Research Network on Innovation 2013 Summer School

## “Innovation and Research Policies for a Sustainable Transition”



**Environmental innovations and partnership strategies: A case study of Poitou-Charentes companies**

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28th-31st August 2013 Belfort (France)

# Problems

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- Environmental strategies of companies
  - Need various complementary skills...
  - ... They need to acquire from its external environment
  - Collective dimension of EI:
    - ✦ « *The systemic, credence, complex character of EI suggest that, to develop them, cooperation may be even more important when it comes to introduce other types of innovation* » (De Marchi , 2012)
  - Lack of precise data about environmental partnerships...

# Aims of the paper

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- To give empirical evidence and precisions about EI and partnerships
  - To answer different simple questions
    - ✦ About environmental partnerships:
      - Weight?
      - Determining factors?
    - ✦ About environmental partners:
      - Who?
      - What for?
      - How selected?
      - Where ?
- Crucial need for relevant and precise data

# Literature review: EI and partnerships

- Redefining EI
  - Not only technological
    - ✦ Organizational and marketing EI
  - Not only with a direct environmental impact
    - ✦ The « indirect » EI
  
- The need for collaboration?
  - ✦ The collective dimension of EI (Andersen, 1999; Andersen & Foxon, 2009; Madsen & Andersen, 2010)
    - → « Green alliance » (Crane, 1998; Hartman & Stafford, 1992; Westley & Vredenburg, 1991) ; « Green clusters » (Cooke, 2010; Hamdouch & Depret, 2010) ; ...

| Typology of the EI | Detailed typology of the EI               |
|--------------------|---|
| Preventive EI      | Waste reduction or substitution           |
|                    | Reduction in energy consumption           |
| Curative EI        | Waste sorting                             |
|                    | External waste recovery                   |
|                    | Internal waste recovery                   |
|                    | Delegated waste management                |
| Eco-design         | Eco-design                                |
| Indirect EI        | Awareness raising/sensitization           |
|                    | Formalization of the environmental policy |
|                    | Analysis and observation tools            |

# Literature review: EI and partnerships

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- The partners
  - For what?
    - ✦ Search for complementary skills (Albino et al., 2003; Sharma et al., 2007; Christmann, 2008; etc.)
    - ✦ Importance of costs, strengthens in crisis situation (Laperche & Lefevre, 2012; Rondinely & London, 2003)
  - Who are they?
    - ✦ Different kind of partners (Albino et al., 2003; Foster & Green, 2000)
    - ✦ Focus on NGO's and public labs
  - How are they selected?
  - Where are they located? → The geography of environmental partnerships!
    - ✦ Nothing specifically about EI

# Method, context and data

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- Semi-structured interviews among companies
  - Creation of a database
  - Statistical analysis
  - Interpretation of the results
- 
- Use of a mixed-method combining qualitative and quantitative data
  - Avoid misinterpretation of the results thanks to interviews and quotes

# Method, context and data

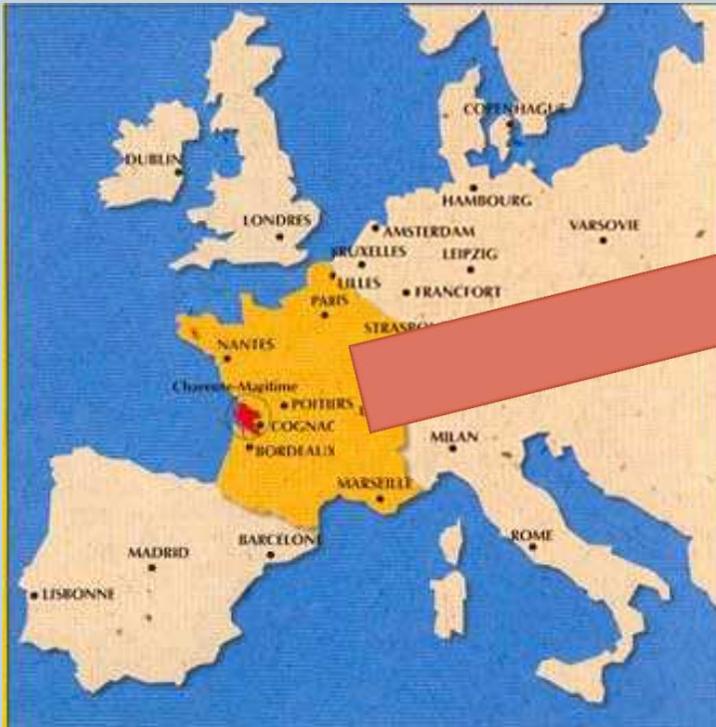
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- Original data: insights from semi-structured interviews
  - Around 40 CEO or environmental managers interviewed
  - Information for 308 EI...
  - ... That involve 184 partners
  - Numerous data about:
    - ✦ Nature of the EI implemented,
    - ✦ Collaboration,
    - ✦ Nature of the partner,
    - ✦ Geography of the collaboration,
    - ✦ Criterion of the partner selection,
    - ✦ Role of the partner

# Method, context and data

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- Our sample
  - The Poitou-Charentes Region



# Method, context and data

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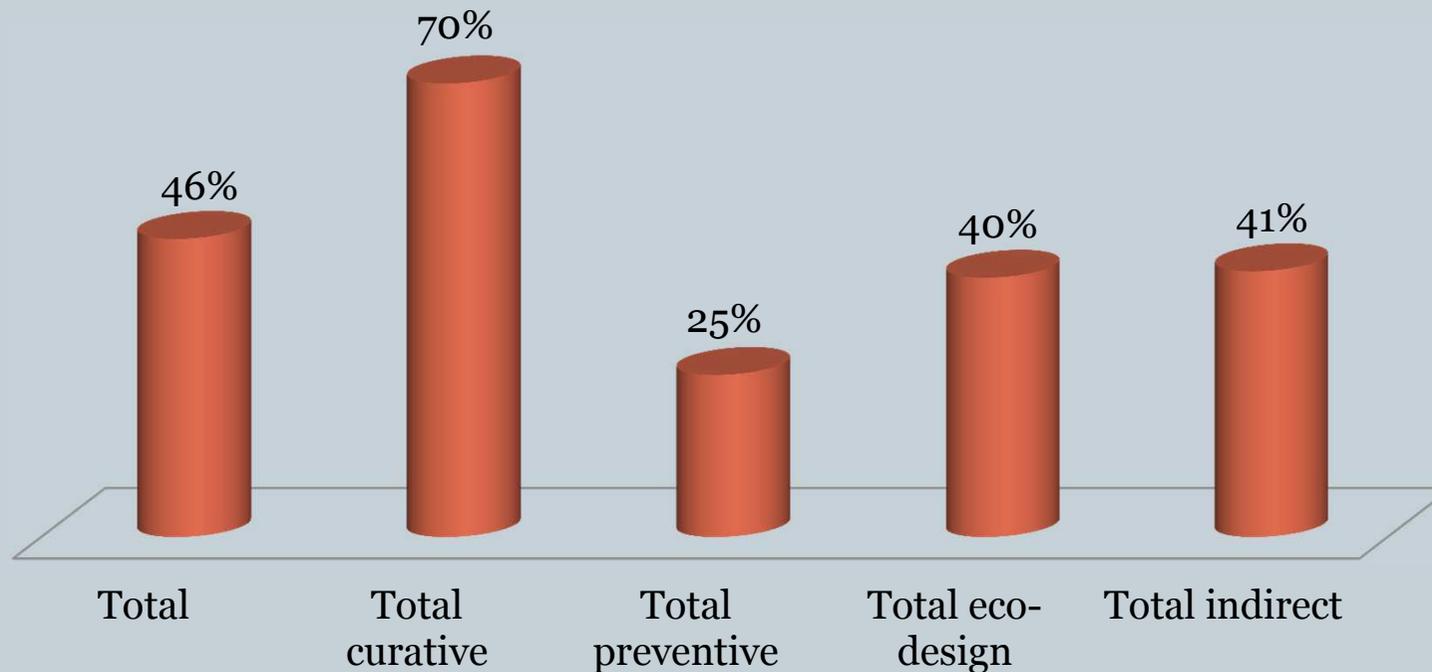
- Our sample
  - The Poitou-Charentes Region
  - Focus on 3 sectors (« key » sectors)
  - Criterion about environmental characteristics of the companies not included

| Sample features                     | Nb of companies |
|-------------------------------------|-----------------|
| <b>Sectors</b>                      |                 |
| - Wood, paper, cardboard            | 11              |
| - Mechanical/electrical             | 16              |
| - Agrofood industry                 | 11              |
| <b>Size</b>                         |                 |
| - <50                               | 13              |
| - 50-250                            | 17              |
| - >250                              | 8               |
| <b>Belonging to a group</b>         |                 |
| - yes                               | 27              |
| - no                                | 11              |
| <b>Belonging to an env. network</b> |                 |
| - yes                               | 11              |
| - no                                | 27              |
| <b>Location</b>                     |                 |
| Vienne                              | 20              |
| - Deux-Sèvres                       | 17              |
| - Charente                          | 1               |

# Weight of environmental partnerships

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- 46% of the total of EI are realized with at least one partner
- Divergence according to the type of EI



# Determining factors of environmental partnerships

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- The probability to realize an EI with a partner depends on:
  - Nature of the EI realized
    - ✦ The curative EI generally foster the collaborations (waste sorting, delegation, external recovery)
    - ✦ The indirect EI related to the “tools” also
  - Size of the company
    - ✦ The large company are more likely to collaborate
  - Belonging to a group
    - ✦ It decreases the probability to collaborate
- The probability to realize an EI is independent to the :
  - The number of EI realized by the company
  - Location of the company
  - The sectorial activity of the company
  - The belonging to an environmental network

# Nature of the partner

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| Type of partner    | Total            | Curative | Preventive | Eco-design | Indirect EI |
|--------------------|------------------|----------|------------|------------|-------------|
| Private company    | <b>107 (58%)</b> | 77%      | 57%        | 0%         | 19%         |
| Association        | <b>24 (13%)</b>  | 10%      | 3%         | 0%         | 28%         |
| Private lab        | <b>22 (12%)</b>  | 5%       | 13%        | 50%        | 26%         |
| Public institution | <b>18 (10%)</b>  | 6%       | 7%         | 0%         | 21%         |
| Public lab         | <b>4 (2%)</b>    | 1%       | 0%         | 50%        | 4%          |
| Group              | <b>1 (1%)</b>    | 1%       | 0%         | 0%         | 0%          |
| NR                 | <b>8 (4%)</b>    | 1%       | 20%        | 0%         | 2%          |
| <b>Total</b>       | <b>184</b>       | 100%     | 100%       | 100%       | 100%        |

- **Mainly private companies - 58%**
  - Ratio even higher for the curative EI - 77%
  - Still important for the other types of EI
  - ➔ whatever the type of EI, private companies are a significant partner
- **Diversity of partners concerning the indirect EI:**  
private companies, associations, private lab, public institutions

# Role of the partner

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| Role              | Total      | Curative    | Preventive  | Eco design  | Indirect EI |
|-------------------|------------|-------------|-------------|-------------|-------------|
| Technical support | 100 (54%)  | 84%         | 37%         | 0%          | 2%          |
| Expertise         | 45 (25%)   | 8%          | 17%         | 100%        | 64%         |
| Supplier          | 16 (9%)    | 5%          | 33%         | 0%          | 2%          |
| Skill transfer    | 12 (7%)    | 0%          | 3%          | 0%          | 23%         |
| Funding           | 6 (3%)     | 1%          | 3%          | 0%          | 9%          |
| NR                | 5 (3%)     | 3%          | 7%          | 0%          | 0%          |
| <b>Total</b>      | <b>184</b> | <b>100%</b> | <b>100%</b> | <b>100%</b> | <b>100%</b> |

- Curative EI mostly require technical support (84%)
- Indirect EI mainly need expertise (64%)
- Role of the partner more diversified for the preventive EI
- ➔ 54% of the total of EI involving a partner require technical support

*WARNING: the curative EI - which need the most technical support – are the most numerous in our sample. Risk of bias: technical support may be over-represented on the total*

# Selection criterion of the partner

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| Criteria     | Total             |
|--------------|-------------------|
| Proximity    | 43 (22%)          |
| Renewal      | 29 (16%)          |
| Cost         | 22 (12%)          |
| Competences  | 22 (12%)          |
| Monopoly     | 23 (12%)          |
| Relations    | 16 (9%)           |
| Group        | 3 (2%)            |
| NR           | 26 (13%)          |
| <b>Total</b> | <b>184 (100%)</b> |

- The geographical proximity is the main selection criterion of the partner
  - **Reactivity:** « [...] in case of emergency, we need reactivity! »
  - **Support the local economy:** « [...] it is our duty to support the activity of the territory. »
  - **Environmental responsibility:** « [...] the least we can do to respect the environment is to avoid to send our waste at hundreds of kilometers! »
  - **Limit the risks due to transport**

# Selection criterion of the partner

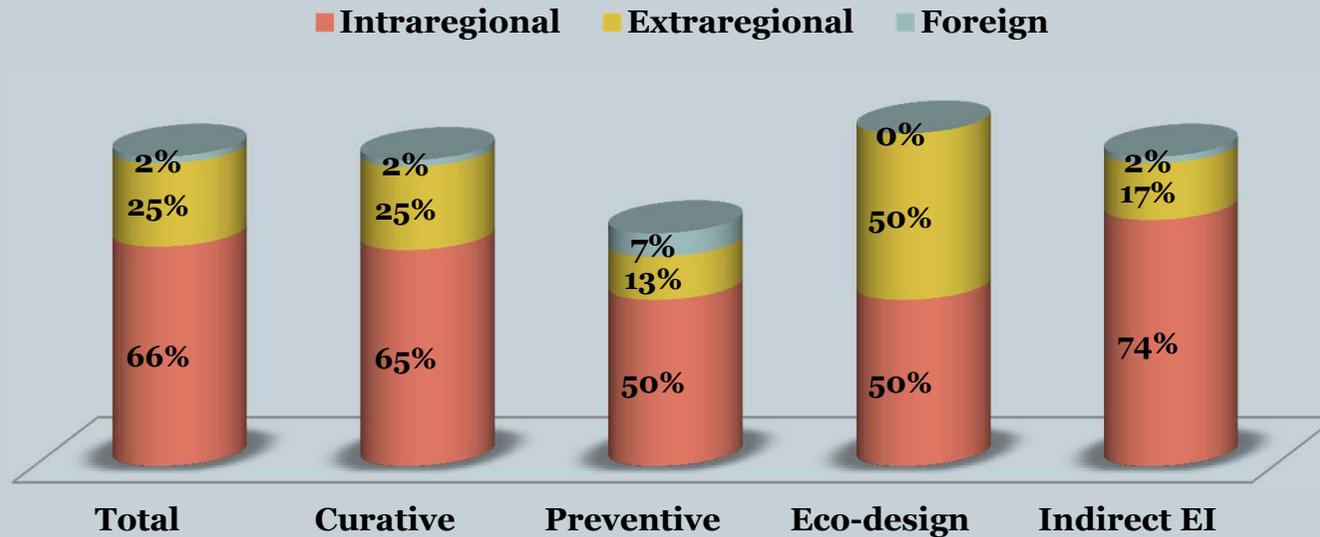
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- The cost is rarely quoted as the unique criterion. It is often related to the need of spatial proximity. « [...] I don't especially look for the less expensive partner but since I'm looking for the closer, it is often the one with the best prices... »
- In 16% of the cases, the partner is chosen because the company already worked with him before « [...] it is a historical partner, we are working together since the creation of the company! »
- The company may not have the choice in the partner: monopoly situation... But the monopoly is sometimes perceived but not real...

# Geography of the collaboration

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- Importance of the intraregional scale on the collaboration process
- Extra regional scale is not to neglect
- Foreign partners only in exceptional situations

# Conclusion and discussion

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- **New insights**
  - Precise and numerous data and mixed-method analysis
  - Determining factors of environmental partnerships
  - Main characteristics of environmental partnerships
  - Precision given thanks to the EI realized
- **Scope and limitation**
  - Context sensitive
  - First version



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