

Impacts of sustainable production on
employment quantity and quality

Auswirkungen nachhaltiger Produktion auf
die Quantität und Qualität von
Arbeitsplätzen

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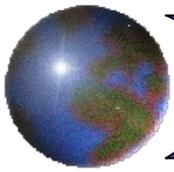
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Questions to be addressed

- What is sustainable production – efficiency, sufficiency
- Potential employment impacts

- Research team:
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 - ❑ Helmut Mahringer, Austrian Institute of Economic Research
 - ❑ Thomas Ritt, Chamber of Labour Vienna

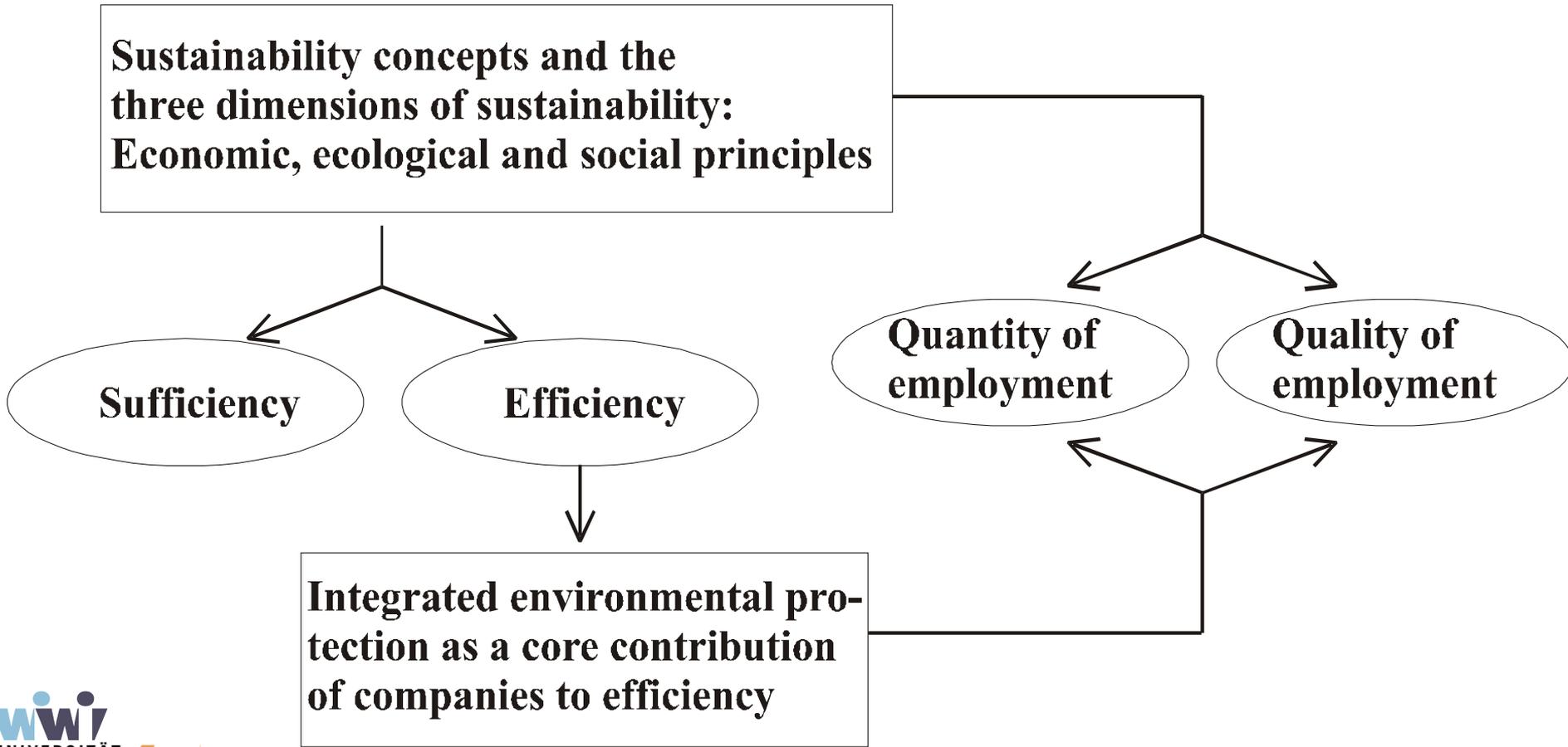


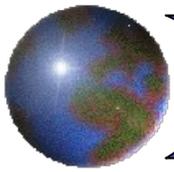
Viewpoints of sustainable production

- Employment effects of a more sustainable production
 - ▣ from the viewpoint of efficiency policies
 - ▣ in the sense of integrated environmental protection
- Assessed under the three main dimensions of sustainability:
 - ▣ Economic - ecological - social principles.
- Focus is on quantity and quality of employment effects

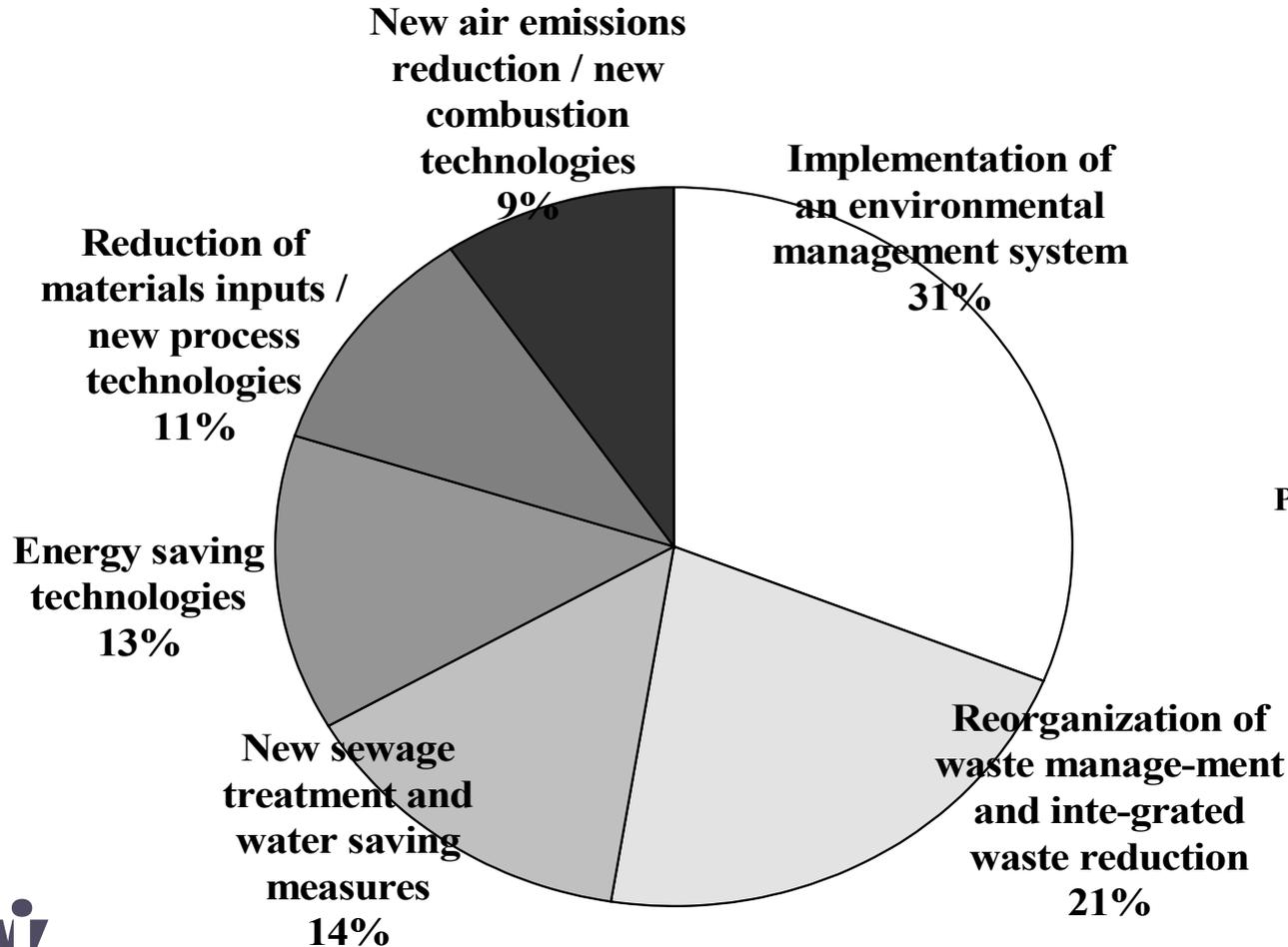


The conceptual approach

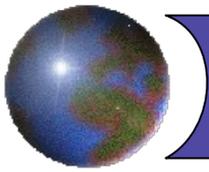




Implemented integrated environmental measures

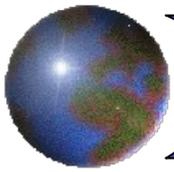


Number of participating companies: 407;
Number of answers (multiple responses): 734;
Percentages are calculated on the basis of the number of multiple responses

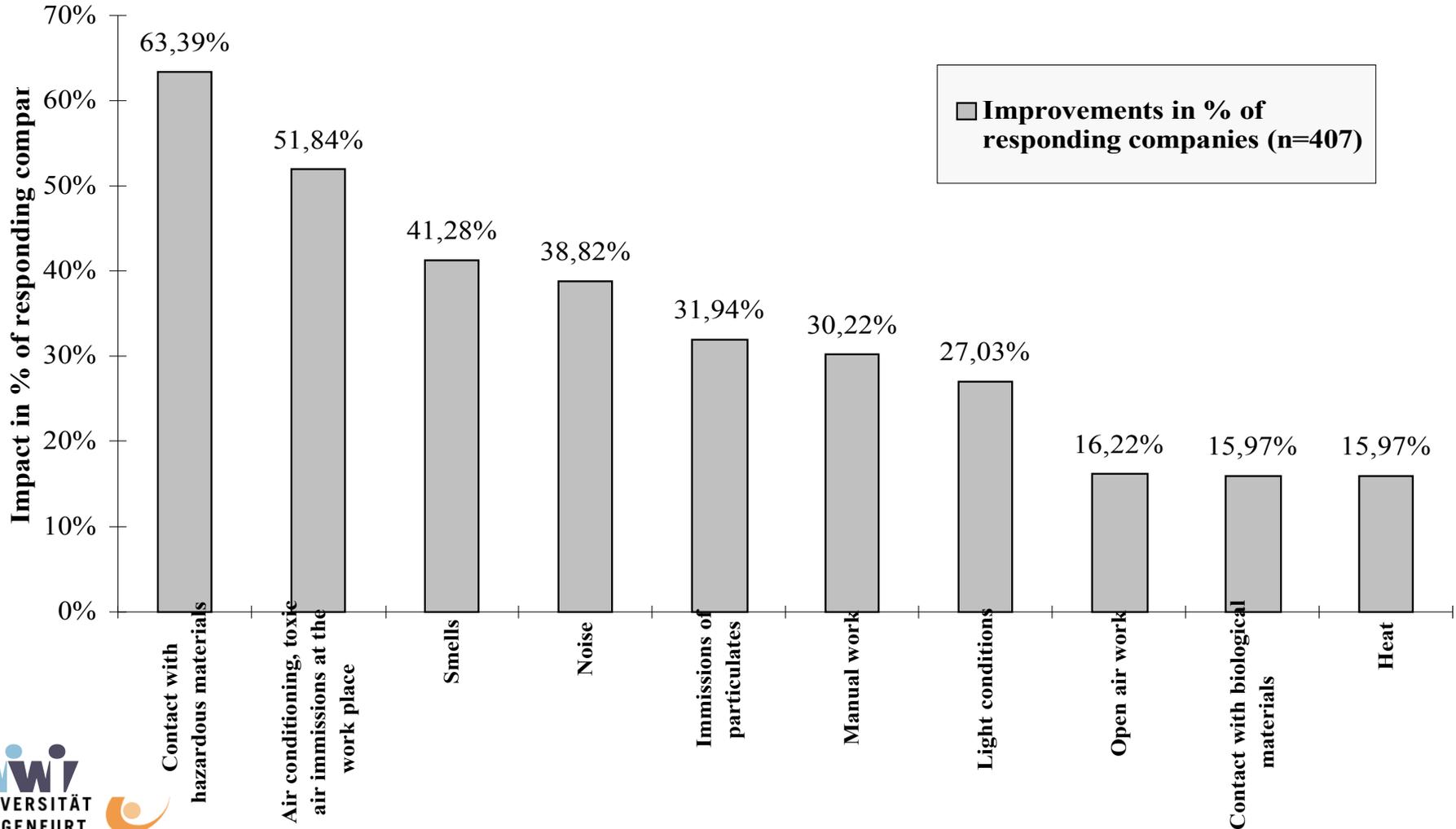


Direct effects on the quantity and quality of work

- No significant change of the quantity of employment
- Increased qualification of employees
- Qualitative employment impacts of clean technologies:
 - ▣ Improved working conditions.
Improvements of noise, air and risk conditions, of manual work and of handling hazardous materials.
 - ▣ Change of the working environment.
 - More team and project oriented work.
 - More flexible working time schedules and work contracts.

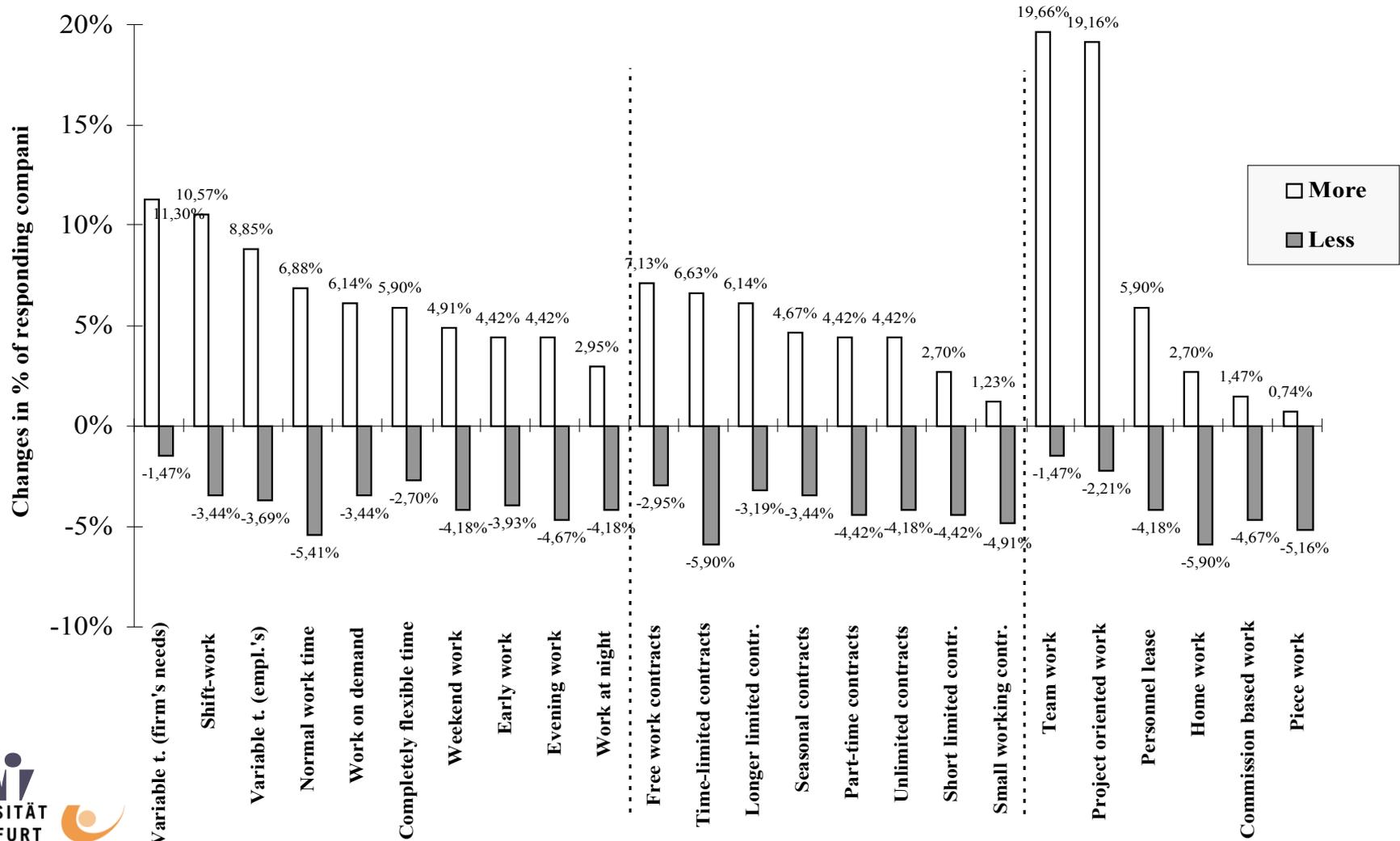


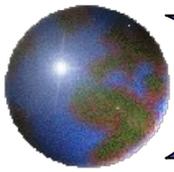
Improvements of the work place





Change of the working environment





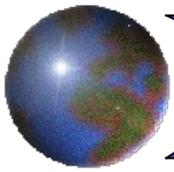
Economic effects

- The implementation of clean technologies is an economic and ecological success.
 - ▣ Savings of costs (e.g. reduced resource and waste treatment costs)
 - ▣ Significant reduction of emissions
- Positive impact
 - ▣ on the market opportunities of companies
 - ▣ on the stability of employment.
- Indirect effects of clean technologies on sub-suppliers
 - ▣ probably significant from an overall viewpoint:
 - Demand shifts between branches



Motivation of companies

- Three groups of motivations crucially important
 - ❑ Economic and price incentives.
 - ❑ Customers demand the certification of the production process.
 - ❑ A diverse regulatory framework of environmental and economic policy instruments
- Apparent contradiction to perceived effectiveness of environmental instruments
 - ❑ Command and control instruments most effective
 - ❑ Regulatory instruments create prices for emissions so that the reduction of emissions becomes now profitable - Regulation as a basis for voluntary measures



Econometric analysis: conclusions

➤ Conclusions

❑ Specific problems of

- small companies
- ecologically problematic sectors

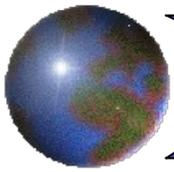
❑ Clear distinction between

- “proactive” companies
- “non-proactive” companies

❑ Participatory programs important for quality of work

❑ Recycling is not “socially” sustainable (low qualification)

❑ Problems for employees now active in the waste and sewage treatment industries who might lose their jobs after the transformation



Indirect qualitative employment effects of a more sustainable production

➤ Starting point:

▣ More sustainable production patterns affect the environmental sector significantly:

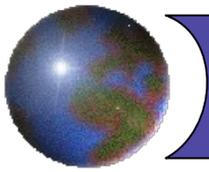
- (ceteris paribus) higher employment in Eco - industries and Eco - consulting, while waste management is effected negatively.

➤ Questions to answer:

▣ Which kind of jobs are created or lost?

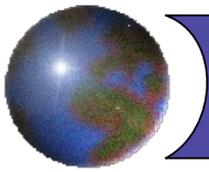
▣ How does that affect the quality of work?

▣ In which segments of the labour market may problems appear?



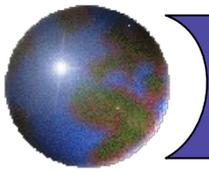
Quantity of employment in the environmental sector

- Range of number of employees due to different approaches and methods
 - ▣ 1 to 3.5 million in the EU
- Direct environmental employment:
 - ▣ Large share of employees in sectors with low quality of work



Indirect qualitative employment effects

- If sustainable production patterns shift demand from end-of-pipe to integrated strategies, employment shifts away from low skilled, low paid work with little career opportunities in the environmental sector
- Job-growth due to sustainable production happens in highly separated segments of the labour market that are different from those segments exposed to job-destruction;
 - ☒ overall job quality is improved
 - ☒ job opportunities for low skilled workers might get worse
- Strategies to improve the chances for these low skilled workers:
 - ☒ Offer opportunities for re-qualification
 - ☒ Raise demand for low skilled workers, for instance in waste management and recycling and improve job quality there



Summary: employment effects of a more sustainable production

- „Direct“ effects within the company
 - ❑ Quantity: NONE
 - ❑ Quality: Overall positive effects
 - Improved quality of work place (the same work place)
- „Indirect“ effects
 - ❑ Quantity: ambiguous, probably slightly positive
 - ❑ Quality: positive
 - Improved quality of work place (different work places), due to demand shift between branches
 - problems for low skilled workers
- „Sum“ of effects:
 - ❑ Quantity: neutral, probably slightly positive
 - ❑ Quality: significant improvement but problems for low skilled workers