

SUSTAINABLE ENERGY
SET@Work
 TECHNOLOGY AT WORK

Sustainable Design

Organisation and Stakeholders

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www.setatwork.eu

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Course structure

1. Introduction
2. Workflow in Sustainable Design projects
3. Tools for Sustainable Design
4. Integration with design practices
- 5. Organisation and stakeholders**
6. Success with Sustainable Design

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Agenda

- Project stakeholders
- Organization of sustainable Design
- Interfaces
- Corporate procedures
- Management systems
- EU Emission Trading Scheme

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Project Stakeholders

A central circle labeled "Sustainable Design" is connected to six surrounding circles: Expert, Host organisation, Design engineers, Architects, Equipment suppliers, and Society. A curved arrow points from the bottom right towards the center.

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Host organisation

Stakeholder	Support	Barrier
Project manager	Funding opportunities State of the art performance Sound business	Limited budget Few resources Tight time schedule
Users	Improving process knowledge Sustainable production Cost and investment savings	Company standards/science Business as usual Human factors
QA	Assess scientific judgements Knowledge sharing to other projects	Company standards/science Few resources – production 1 st
Site management	Cost savings, ISO14001 requirements Compliance with corporate strategy Benchmarking between sites	Production first Outsourced responsibility Awareness of EED
ISO14001/IS393	Required continuous improvement Impact controlled by organisation	Access to projects Responsibility in projects
Corporate	Sustainable Design is sound business Benchmarking Corporate reporting	

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Stakeholders in Industry


- Non-project groups do have great impact
 - Energy manager holds energy budget and commitment
 - EHS manager holds water and waste water budget and commitment
 - Production will inherit projects after commissioning

Diagram showing hierarchy: Site manager (top), QA, EHS manager (ISO 14001), Energy Manager, Production, Units A, B, ..., X, Projects (bottom).

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Engineers & Architects

Stakeholder	Support	Barrier
Project manager	Additional service	Impact on time schedule Scope change
Work package engineers	Scientific interest Beyond as-default	Review of completed work
Architects	Beyond as-default Out-of-the-box thinking	Energy efficiency vs. aesthetics
Company	Additional service Reduced manufacturing costs Climate Change is 'hot'	Core business is on-time at costs at capacity

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Suppliers

Stakeholder	Support	Barrier
Contractors	Additional service and turnover Beyond as-default	Reduced use of design from previous projects Human factor
Equipment suppliers, utility	Scientific interest Beyond as-default	'Standard' equipment may be insufficient Are experts within domain ..'most good has been done'.
Equipment suppliers, processing equipment		Scientific knowledge Human factor

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Stakeholder conclusion

- Independency of Sustainable Design team is crucial for success
- Stakeholders have different focus
 - Big opportunity for improvement
 - Barriers for accepting design changes
 - Need for management commitment

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Project organisation

```

  graph TD
    Company[Company] --- SustainableDesign[Sustainable Design]
    SustainableDesign --- Architect[Architect]
    SustainableDesign --- DesignEngineers[Design engineers]
    SustainableDesign --- EquipmentSuppliers[Equipment suppliers]
    SustainableDesign --- Contractors[Contractors]
  
```

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Industry organisation

```

  graph TD
    subgraph PM [Project management]
      Automation[Automation] --- Process[Process]
      RawMaterials[Raw materials] --- Quality[Quality]
      Environment[Environment] --- Building[Building]
      Utilities[Utilities] --- Utilities[Utilities]
    end
    Company[Company] --- SustainableDesign[Sustainable Design]
    SustainableDesign --- Architect[Architect]
    SustainableDesign --- DesignEngineers[Design engineers]
    SustainableDesign --- EquipmentSuppliers[Equipment suppliers]
    SustainableDesign --- Contractors[Contractors]
    PM --> Company
  
```

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Industry project organisation

```

  graph TD
    subgraph PM [Project management]
      Automation[Automation] --- Process[Process]
      RawMaterials[Raw materials] --- Quality[Quality]
      Environment[Environment] --- Building[Building]
      Utilities[Utilities] --- Utilities[Utilities]
    end
    Company[Company] --- SustainableDesign[Sustainable Design]
    SustainableDesign --- Architect[Architect]
    SustainableDesign --- DesignEngineers[Design engineers]
    SustainableDesign --- EquipmentSuppliers[Equipment suppliers]
    SustainableDesign --- Contractors[Contractors]
    SustainableDesign --> PM
  
```

Sustainable Design team is advisor to industry project management

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Sustainable Design team

- Should be independent from project design, e.g.
 - Resource within industry
 - Resource in design company
 - External experts
- Sustainable Design team reports to industry project director

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Corporate procedures

- High level documents on Climate change, environment and CSR
- Investment projects are within the scope of procedures
- Support to Project management for allocating project resources
- Link to additional project funding for environmental initiatives

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Management systems

- Investment projects rarely in scope of management systems
- Systems have information of high value to sustainable Design (energy costs, WWTP etc.)
 - Site infra structure
 - Utility data and unit prices
 - Emission data
- Knowledge across individual facilities
- Corporate focus

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EU-ETS

- Value of CO₂-emissions
- Sustainable Design equals expansion of activities
- Sustainable Design reduces needs for purchase of carbon credits
- Sustainable Design may be used for generating carbon credits

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The end

Thank you for your attention

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