

# Prioritizing Environmental Aspects

Why and how?

Tools

Magnus Løseth

Consultant

Environment and Safety

**Norsk Energi**

***Workshop 2***

*Cleaner and more Cost Effective Industry in Macedonia*

*February 16, Skopje*

# Content

- Why and how?
- Criteria for selection/evaluation/prioritization
  - Economic
  - Social
  - Legal
  - Technological
  - Ethical
- Evaluation methods
  - Traffic light scheme
  - FLIPO

# Why evaluate and prioritize the aspects?

- A company might have several aspects and associated impacts
- It is necessary to pick out the most significant ones
  - The organization shall establish, implement and maintain a procedure(s)... to determine those aspect that have or can have significant impacts on the environment (i.e. significant environmental aspects) ISO 14001.
- Consider the impacts of the aspects
- Important to document your prioritizations
  - How are the aspects chosen?
  - Why are they chosen?

# Evaluating and prioritizing

## Criteria

- **Economic**
  - Customer requirements
  - Material costs
  - Energy costs
  - Possible savings
- **Legal**
  - Laws and regulations
  - Permits
  - Voluntary agreements
- **Ethical**
  - Voluntary commitments
- **Social**
  - Public opinion
  - Public relations
  - Complaints
  - Concerns of employees
  - Interest groups
- **Technological**
  - Customer requirements
  - Substitutions of toxic materials
  - New technologies
  - New products
  - New energy sources
  - Best available technologies

# Typical criteria

- Impact on environment under normal production conditions
- Impact due to high volumes
- Possible impacts during different production conditions
- Requirements from stakeholders

# Evaluation methods

- ISO 14001 does not specify any particular method
- But, specifies that documentation is important
  - A key issue for external auditors when certified
- Keep a register of all aspects
  - For example in an Excel-file
- The evaluation process must be repeated every year
  - To secure continuous improvement

# Evaluation methods

## Traffic light scheme

- Red
  - Serious environmental problem and immediate need for action
    - Must be included in action programme
- Orange
  - Medium level environmental problem which require medium term action
- Green
  - Low-level or no environmental problems based on current knowledge



# Evaluation methods - example

## Traffic light scheme

<b>Significance of the environmental aspect – depending on the chemical properties of the substances and their volume.</b>	<b>Evaluation</b>
The environmental impact always results in considerable or long-term damage.	Red
The environmental impact can result in damage.	Orange
There is either no considerable negative impact on the environment or no damage.	Green
<b>Possible use of the CP methodology (based on material and energy balances)</b>	<b>Evaluation</b>
There is a considerable potential for possible savings with a short payback period – the losses disclosed by the analysis are obvious.	Red
There is some potential for possible savings.	Orange
Our current knowledge does not indicate any potential for possible savings. The balances are part of the operation analysis and material flows are optimized.	Green
<b>Possible breach of legal requirements (based on an evaluation of legal requirements)</b>	<b>Evaluation</b>
Standard plant operation regularly results in violation of legal requirements.	Red
Emergency conditions may sometimes result in violation of legal requirements. Violations during standard operation are possible, but not frequent.	Orange
No violation of legal requirements can occur under any conditions.	Green
<b>Waste disposal costs</b>	<b>Evaluation</b>
High waste disposal costs	Red
Waste disposal requires simple corrective measures of a technical nature.	Orange
No apparent potential to reduce material losses by waste minimization.	Green



# Evaluation methods

## FLIPO

- For each aspect/impact give a rating between 1 and 3, where 1 is low priority/normal
- Divide in direct and indirect aspects
- 6 different categories

Flow

Legislation

Impacts

Practices

Opinions

# Evaluation methods

## FLIPO - Categories

- Flow
  - Energy
  - Materials
  - Waste
- Legislation
  - Permits
  - Requirements
- Impacts
  - Risk
  - Seriousness
- Practices
  - Obsolete
  - Inadequate
- Opinions of workers
  - Level of satisfaction

# Evaluation methods

## FLIPO - Examples of scales

- Flow

1. Normal
2. Important
3. Very important

- Legislation

1. Market pressure
2. Administrative processes
3. Environmental permit

- Impacts

1. Light
2. Very important
3. Serious and repeated

- Practices

1. To be checked
2. To be changed
3. To be stopped immediately

- Opinions of workers

1. 20% unsatisfied
2. 30% unsatisfied
3. 50% unsatisfied

# Evaluation methods

## FLIPO

- Some of the categories are weighted higher
  - Legislation – Very important to be compliant to laws and regulations
  - Environmental impacts
- The total sum of the categories, including weighting, will highlight the significant environmental aspects.
- You can add other categories to better determine significance

FLIPO Flow, Legislation, Impact, Practices, Opinion

N°	DIRECT SIGNIFICANT ENVIRONMENTAL ASPECTS	Environmental impact N° of ecomaps	Flows frequency	Legislation x3	Impact x2	Practice	Opinions	TOTAL	Ranking
	WASTE GENERATION							0	
	AIR POLLUTION							0	
	ENERGY CONSUMPTION							0	
								0	
								0	
								0	
								0	
								0	
								0	
								0	
								0	
								0	
								0	
								0	

Cotation	Level 3	Level 2	Level 1
Flows, materials-	Very important	Important	Normal
Legislation, environmental-	Environmental permit	Administrative requirement	Market pressures
Impacts, environmental-	Serious and repeated	Very important	Light
Practices, environmental-	To be stopped immediately	To be changed	To be checked
Opinions, workers-	50% unsatisfied	30% unsatisfied	20% unsatisfied
other criteria			
Date : .....	Name and signature : .....		Version : .....

# After the evaluation

## Moving on towards EMS

- Identify objects and targets
  - Compliance with regulations
  - 20 % less energy use
  - No more oil spills
  - More satisfied workers
- Indicators for measuring improvement
  - Key performance indicators
- Create an environmental action programme
  - What must be done?
  - Responsible person
  - Deadline for completion
  - Arrange trainings for workers
- Establish new routines and procedures

Thank you for your attention!

Questions?

[magnus.loseth@energi.no](mailto:magnus.loseth@energi.no)