



Leaders for
Nature



Leaders for Nature Master Class

Energizing the Future, naturally!

How to change policy, reduce, shift and compensate?
Result of the break out session on applying the mitigation hierarchy & REDD+



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1. Introduction

The upcoming years will see a rapidly growing energy need across the world and this need can be fulfilled in an economically, socially and environmentally sustainable way. Whether you operate in the Netherlands, Europe or any other continent: your company will be facing the question of how to energize the future sustainably.

“The future ... hinges on finding a way of supplying the world’s growing energy needs in a way that does not irreparably harm the environment.” World Energy Outlook, 2008

But what changes, challenges and opportunities do we face? And how can we make the needed transition to a sustainable energy base? The Leaders for Nature master class ‘Energizing the future, naturally’ on 23 June 2011 set the scene of energy transition beyond CO₂. Energy use impacts (and depends on) biodiversity, not only through climate change but also through use of water, land and natural resources. The good news is that there is an opportunity to move from a vicious cycle to a virtuous cycle. The master class stimulated the participating companies to take the first steps in formulating strategies to change energy use and sources and create a new, truly sustainable energy basis for their company.

This reader provides you with the results of the break out sessions of the master class and information to take further steps. We encourage you to take the lead and act to further reduce, shift and compensate within your sphere of influence.

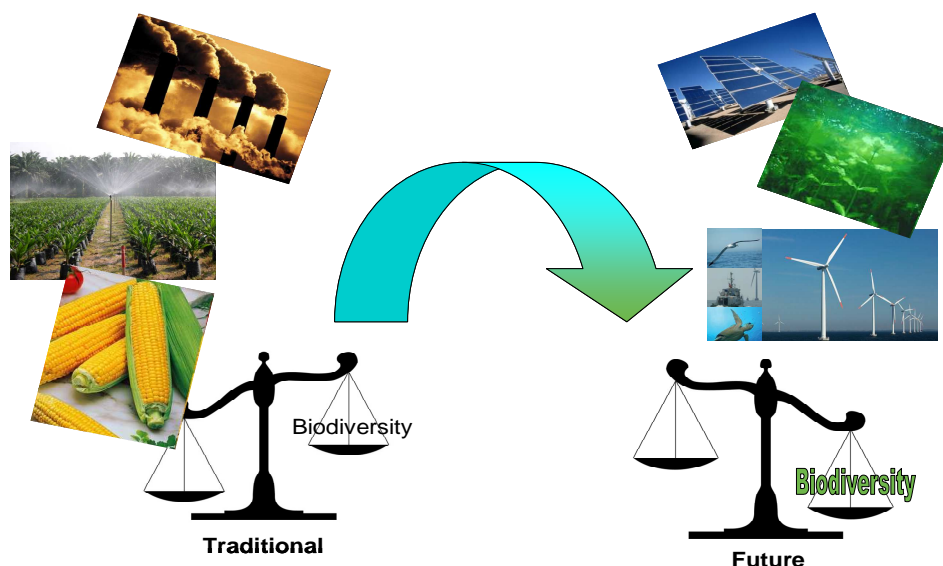


Figure 1. Shifting to a sustainable energy strategy. Energy systems impact (and depend on) biodiversity through CO₂ emissions, water and land use.

2. Energy & biodiversity

2.1 Impact on biodiversity and ecosystems

Energy systems depend on biodiversity and ecosystems for their resources, but on the other hand also have an impact on biodiversity and ecosystems by resource extraction and production. Therefore, biodiversity is key in making the transition to a sustainable energy future. The main impact of energy sources on natural systems is caused by land conversion (land use change), climate change, overextraction of water, invasive species and use of natural resources. Alternatively, biodiversity provides ecosystem services, including buffering of climate change, pollination and pest-control for bio-energy crops, regulating water flows and sediments. These aspects have to be considered when formulating strategies to change energy use and source.

An example: energy sources & land conversion

The figure below indicates the amount of land that is needed to power San Jose using different renewable energy sources. To power San Jose with energy produced from biomass you need 270,000 hectares of land. When this shift is not regulated, land conversion can have a profound negative impact on biodiversity. A well known example is turning tropical rainforest into production sites for biofuels (e.g. soy, sugar cane, palm oil), which not only causes biodiversity loss but also CO₂ emissions. Therefore, when a company is planning to shift to renewable energy sources it is very important to consider biodiversity impacts and dependencies, and through this consider also CO₂, water and land use aspects.

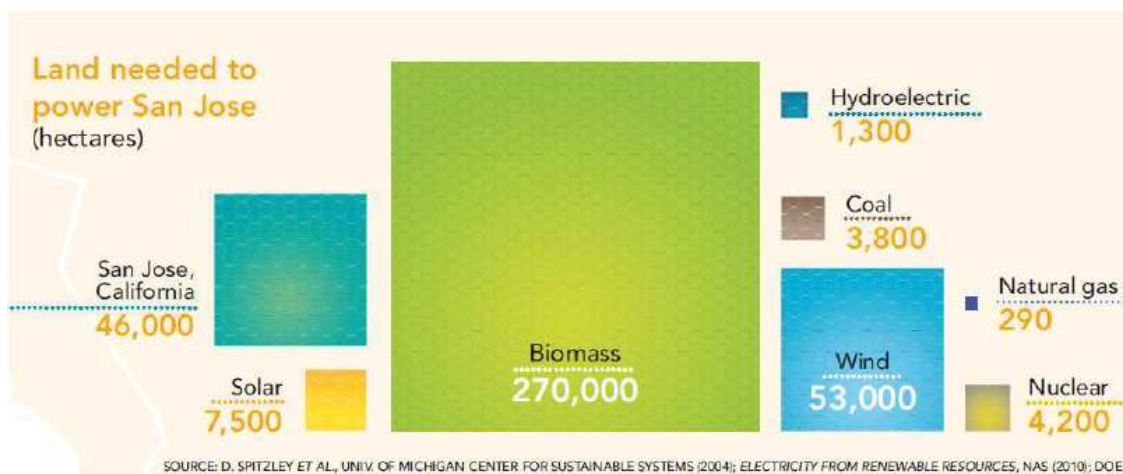


Figure 2. Differences in land need per energy system.

2.2 The mitigation hierarchy

A tool that can help your company to make the change towards a sustainable energy strategy for your company, taking into account biodiversity, is the mitigation hierarchy. The mitigation hierarchy uses 4 steps to green your energy options:

1. Policy: define a sustainable energy use policy and strategy taking into account biodiversity.
2. Reduce: reduce energy use through energy efficiency and redesign of products and services.
3. Shift: shift to renewable and/or low carbon energy options that minimise biodiversity risks and maximise biodiversity opportunities.
4. Compensate: compensate remaining unavoidable CO₂ emissions in a way that minimises biodiversity risks and maximises biodiversity opportunities.

The figure below shows the steps to take in the mitigation hierarchy. You can use the mitigation hierarchy on different levels in your company, so also in your sphere of influence.

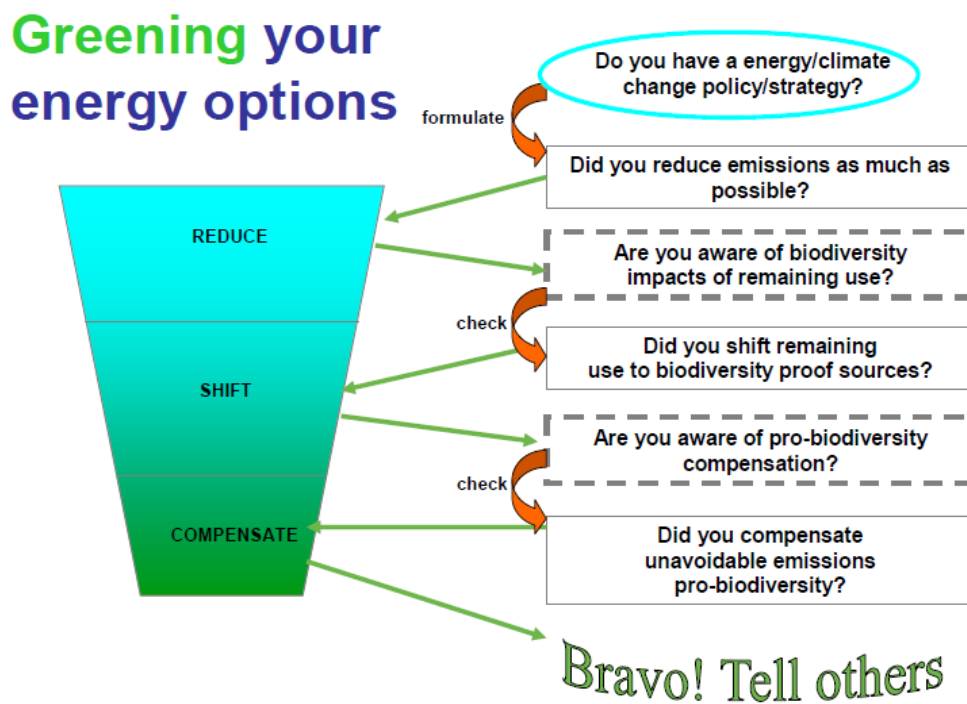


Figure 3. Steps to take in the mitigation hierarchy.

3. The first steps

3.1 Current situation

At the start of the breakout session all companies indicated their current situation concerning the mitigation hierarchy in relation to greening energy options. The results are shown in the pictures below. Most companies already have a policy on energy and CO₂. They also take measures to reduce energy use. However, there is still a lot to win in case of shifting to renewable and/or low carbon energy options and compensating remaining CO₂ emissions. Especially the link between greening energy options and applying the mitigation hierarchy is still a challenge. Possible ways forward were discussed during the breakout session.

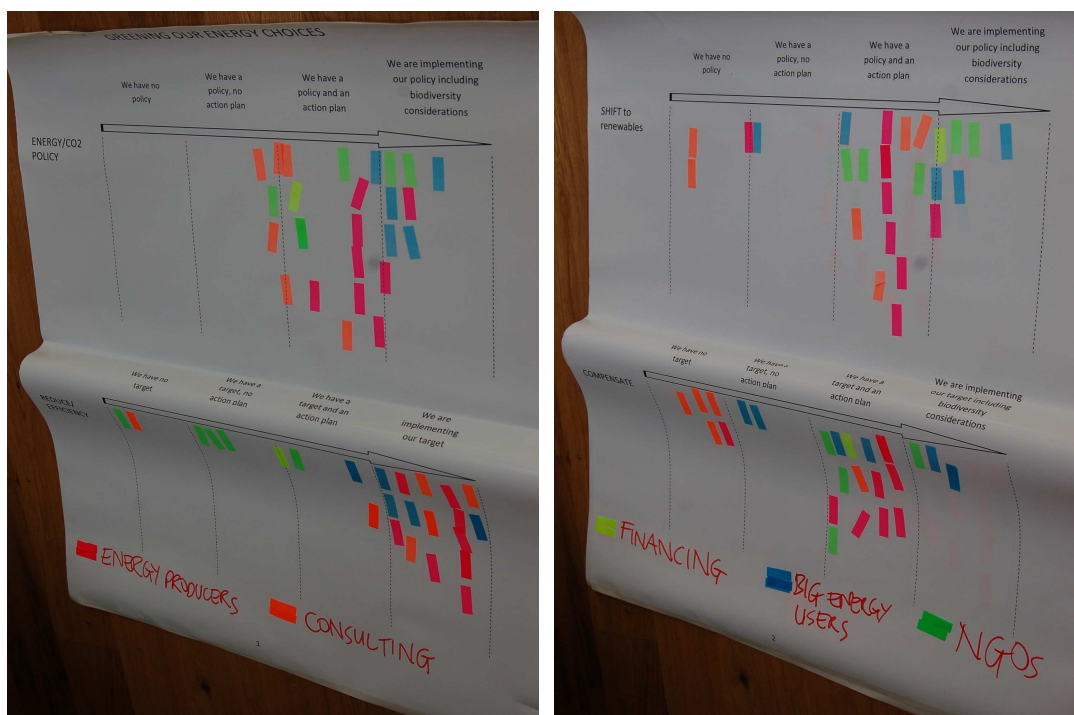


Figure 4. Current situation of the companies concerning the mitigation hierarchy.

3.2 Challenges and opportunities

During a break out session the companies discussed the challenges and opportunities for taking their company to the next level in the mitigation hierarchy. In this paragraph the main challenges and opportunities to change policy, to shift and to compensate, that were indicated during the session, are shown. Results of the separate breakout group on REDD+, as a way to 'compensate naturally', are fed into this overview. REDD+ is a mechanism that provides economic incentives – possibly the carbon market – to avoid deforestation and enable conservation and restoration in developing countries. It plays a key role in the latest round of UN climate talks.

Policy

- One of the barriers to implement biodiversity within the energy policy of a company is that it is hard to measure. Tools that can be used for measuring biodiversity are described in the [Ecosystems Services Review](#) and the [Corporate Ecosystems Valuation](#). With these tools it is possible to chart and value the services leading to your companies' energy supply.
- The government has to set biodiversity criteria to level the energy playing field, in parallel companies need to include biodiversity in their energy policies and strategies and investors need to ask for biodiversity considerations.
- Transparent certification and verification of energy sources can assist companies to change to a sustainable energy policy.
- Exposing your sustainable energy policy and strategy to suppliers and customers will strengthen your reputation, set an example and inspire others.
- Many policies are restricted to one company, while it is much more efficient to work together and expand policies towards the entire supply chain. Companies with large market power can use their power to persuade others. Cooperate instead of compete.
- Concrete action plans for specific value chains can help you to get started.

Reduce

- Reduction of energy use can take place through energy efficiency and redesign of products and services. Reduction is focused on processes within a company and has no direct link with biodiversity and ecosystems.
- After reducing the energy use a company can think about shifting to greener energy options and compensating unavoidable CO₂ emissions. Shifting and compensation do have a direct impact on biodiversity and ecosystems. Therefore, these steps were discussed in more detail during the breakout session.

Shift

- A biodiversity risk analysis should be done per energy source to know if a shift is worth the effort also from a biodiversity perspective (think of palm oil and peatlands). This should lead to an optimal energy mix, with thought-through tradeoffs. When risks are there, a risk mitigation strategy could be made as a part of the energy strategy (for example measures to minimise the risks of wind mills for birds).
- A set of criteria, such as the [criteria for sustainable biomass production](#), could be used to test the effect on biodiversity in case of biomass use.
- Use waste streams and push forward the [cradle to cradle](#) philosophy.
- Choose for no-regret options that avoid unsustainable land use, greenhouse gas emissions, overexploitation of water or pollution.
- Look in the value chain where you have the largest impact and take measures there where you can be most efficient and effective.

- Shareholders, competition, costs in the short term?, lack of? awareness of urgency and lack of leadership withhold companies from making the transition to renewables. Involve your shareholders, suppliers, customers and competitors in your actions and/or start small. Also in your sphere of influence you can have an impact.

Compensate

- Compensation should never be a stand alone policy, but should be adequately aligned with policies and measures to reduce energy use and to shift to more sustainable sources. In view of the urgency of the climate change and biodiversity problems, all steps need to be taken in parallel. The share of 'compensation' becomes smaller over time as companies become more effective in reducing and shifting.
- Companies can opt for 'natural compensation' by choosing for forest carbon offsets. When preferring certified offsets companies directly support biodiversity conservation. Therefore, compensation is also a crucial step in a sustainable energy strategy, just like reduce and shift.
- Compensation plays an important role in stimulating technological development and innovation: compensation money can be spent in conservation and at the same time part of it can be spent to redesign production processes to be more energy efficient and avoid the need for compensation in the future.
- Buying green credits is not an easy matter, the market is rather intransparent. It is important to choose for sources that really help biodiversity conservation and CO₂ reduction and have safeguards in place. Currently voluntary standards such as the Verified Carbon Standard and Climate Community and Biodiversity Standards operationalise such safeguards and safeguards at UNFCCC level are underway.
- REDD+ mechanisms can help to reduce greenhouse gas emissions and simultaneously contribute to the maintenance of biodiversity and support the livelihoods of forest dependent (indigenous) people. Find out more about [REDD+](#).
- Many companies don't have a direct link between their business and deforestation, so compensation is less tangible and too abstract. Compensation should be combined with communication and raising awareness on urgency within the company.
- Shareholders, suppliers and customers should be involved in compensation measurements and projects.
- Think big: you can compensate nearby your own production site or elsewhere. Look for the link between the location for compensation and your company. Where do you have the largest impact?

4. Further steps

4.1 Action

IUCN NL formulated 5 action points to assist your company in taking the next steps:

1. Find out more about your companies' energy policy and the measurements that are already taken to reduce, shift and/or compensate. Learn more about the impact between biodiversity and energy systems and the relevance for your business.
2. Define what you can do in your sphere of influence to contribute to your companies' energy policy and strategy.
3. Find partners (CSR department, other business units, customers, suppliers, etc) to cooperate with. Try to raise awareness on the urgency of a sustainable energy basis for your company.
4. Define concrete actions together with your partners to start with. Make sure you think about a mixed portfolio of actions to reduce, shift and compensate and always consider the effect of your actions from a biodiversity perspective.
5. Execute, measure and monitor your actions. Start small, but be ambitious. Don't hesitate to consult the experts of IUCN NL.

4.2 More information

More information on biodiversity and energy systems can be found on the following websites:

- [IUCN – Sustainable energy](#)
- [IUCN – Climate change](#)
- [IUCN – Biodiversity](#)
- [IUCN NL – Biomass](#)
- [Energy research centre of the Netherlands \(ECN\)](#)
- [International energy agency – World energy outlook](#)
- [World resources institute – Climate, energy and transport](#)
- [Planbureau voor de leefomgeving – Energie en energievoorziening](#)
- [Planbureau voor de leefomgeving – Klimaatverandering](#)
- [Planbureau voor de leefomgeving – Natuur en biodiversiteit](#)

The powerpoint presentations of the speakers during the master class can be found on the [Leaders for Nature website](#).

We encourage you to take the lead and act to further reduce, shift and compensate within your company. The IUCN NL experts are more than willing to assist you in this process. Please contact one of the persons below for more information.

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