

A coal plant in Finland. Fossil fuels: coal, oil, natural gas and peat are the major sources of climate emissions. Massive amounts of coal is still used in Finland as an energy source. Coal has huge climate impacts and negative effects on air quality. It has been decided that using coal will be banned in Finland as of 2029. It will be a challenge to replace coal, especially in heating. In terms of climate change mitigation, the replacement of coal is an important question. Finland imports coal from abroad.

A coal mine in Mongolia. Coal mines have extensive local environmental effects as you can see from the size of the open-pit mine on the photo. The mines cause health issues to the people living in the area. The coal mines are often justified by saying that they employ local people. However, often few locals get long term jobs in mines. Instead, people lose their lands, and chances for traditional livelihoods diminish.

Deforestation in Finland. Clear cutting causes almost as much climate emissions as traffic in Finland every year (7 million tonnes versus 10 million tonnes CO₂ equivalents caused by traffic). Clear cutting, which basically means clearing all of the forest, is still the default practice in forest "management". The current level of logging has led to loss of habitats and forest species and to the deterioration of the quality of water bodies. Thus, the forest industry in Finland is not sustainable and the amount of loggings cannot be sustainably increased. Over half of the wood in Finland is used in the production of cellulose.

Deforestation in Indonesia. Worldwide emissions caused by deforestation make up approximately 10% of all emissions. If this was the amount of emissions of one country, this country would be the third biggest polluter in the world. Deforestation causes significant climate emissions, especially in peatlands, where methane is released into the atmosphere along with the carbon dioxide that has been absorbed by forests. In Indonesia, peat swamp rainforests are being cleared to make way particularly for palm oil plantations. Palm oil is a very common raw material in food industry and cosmetics.

Industrial meat production in Finland. Emissions generated by food make up approximately one fifth of the carbon footprint of a Finn. Furthermore, food production affects ecosystems and biological diversity worldwide. Forests are being cleared to make way for fodder production. Industrial production utilises a lot of energy (fuel for the machines), pesticides and fertilisers. The Finnish broilers eat, for example, soybean feed that is imported from Brazil where land is being cleared for soy plantations. The living conditions of animals are poor in industrial production. Broilers have approx. an A4 paper size of living space per bird.

Industrial meat production in Brazil. Meat production causes approx. 15% of world's climate emissions. Forests are cleared to make way for cow pastures and fodder crops. Deforestation, for its part, causes more and more climate emissions as the carbon dioxide absorbed by forests is released. When a forest is turned into a pasture, the carbon sink of the forest is lost. For example, in the Amazon rainforest area, 70% of the cleared forest area is used for meat production. In addition, cows produce methane through their digestion which is why beef in particular has significant climate impacts.

Solar panels in Finland. Solar panels produce renewable energy which is used to replace fossil fuels. Although the winters in Finland are long and dark, already on March onwards there is enough sun for the solar panels to be productive. The prices of solar panels have gone down and they are becoming more and more common. Solar energy as such does not produce emissions. Indirect emissions and environmental impacts are caused by the materials needed in the production of solar panels, the energy used in the production, transportation and installation.

Solar panels in Thailand. Solar energy is a good example that shows that also the Southern countries have taken significant measures towards the transition to renewable energy. India, for example, is the third largest solar energy producer in the world. India is building so many solar energy plants that when the sun is shining, the amount of electricity they produce is equivalent to hundred nuclear power plants. China, on the other hand, has become the world's biggest investor in renewable energy. The country has recently suspended the construction of hundred large coal power plants, and the growth of carbon dioxide emissions has stagnated a few years ago.

Conservation of forests in Finland. The forests have an important role in climate change mitigation as so-called carbon sinks. As a tree grows, it absorbs carbon dioxide. The released carbon dioxide warms the atmosphere, and correspondingly, the carbon that transfers from the atmosphere to forests and trees cools the climate. The amount of carbon dioxide that the carbon sinks of Finnish forests absorb yearly, corresponds to approximately half of the greenhouse gas emissions of Finland. By reporting the endangered species or habitats found in a certain area, suggestions for forest conservation can be made. In Finland, less than 6% of forest land is conserved. The photo shows volunteers doing forest inventory as a means for forest conservation.

Conservation of forests in Brazil. Almost one fourth of all the forests in the world are so-called pristine forests, i.e., forests that do not have any visible industrial human activities. It is estimated that these forests absorb around 28% of the climate emissions of the world every year. Local communities have an important role in conserving forests and biological diversity. Approximately more than third of the pristine forests are located in the areas governed or owned by indigenous peoples. Forest conservation can be advanced by influencing decision-making, with demonstrations or in very concrete manner, for example, scouting the forest areas and reporting the observed action. The objective is to spot possible loggings and report them to the authorities. One of the tools that can be used for this is the Forest Watcher mobile application seen in the photo.

Sustainable food production in Finland. Local and organic food have lesser impacts on the environment and climate than industrial food production. Food production systems that imitate nature and the function of ecosystems are more sustainable than monocultures where only a single variety is grown. It is good to grow a mix of different varieties together and to avoid chemical pesticides and fertilisers. Flowers attract pollinators that improve crop yields. This photo is an example of polycultures in a Finnish allotment garden.

Sustainable food production in Kenya. A large part of the cultivable soil in the world has become poorer as a result of industrial agriculture. Food production systems that imitate nature and the function of ecosystems are more sustainable than monocultures where only a single variety is grown. A transition to less intensive methods that nurture diversity is important. Furthermore, without heavy machinery, the soil remains healthier. Diverse plantations can better withstand changes in weather conditions and pests. This photo is an example from Kenya where trees and other food plants are grown together.