



Photo: Kennet Ruona

## How can we pave the way for environmental benefits?

**Human beings affect the planet locally, regionally and globally to an unprecedented extent. This has a price, in the form of consequences on health, depletion of natural resources, and loss of ecosystem functions. Green economics is on the agenda to counteract environmental damage while allowing for improved welfare. But knowledge of what this entails from a purely practical perspective is still limited.**

Human beings are completely dependent on what nature provides. It gives us food and clean water, and regulates the environment, preventing flooding, for example. Behind these are additional, less visible natural functions such as carbon sequestration in forests and soils, insect pollination of crops and the contribution of soil organisms to the circulation of nutrients. Green economics comprises not only the sustainable phasing out of dependency on fossil fuels, it also safeguards the soil, water and air environments, and entails a positive renewal of society. At Lund University's Centre for Environmental and Climate Research, research is conducted on climate change as well as environmental and adaptation issues. These issues require integrated research covering science, social sciences, economics and engineering.

### Highlighting ecosystem services

One way of realising a green economy is to highlight the value of nature by applying the concept of ecosystem services. The concept highlights the goods and services that nature provides, as well as their underlying functions. This allows us to concretise the effects of human activity on nature and its biodiversity. The concept of ecosystem services provides us with documentation to include the value of nature in political decisions, so that we can govern natural resources in a way which contributes to sustainable development. One tool for implementing the concept is integrated assessment modelling, which show how different ways of farming and cultivating our soils and forests affect various ecosystem services. The development of such a tool requires close cooperation between economists, ecologists and wider society. It can entail measures such as adapted agricultural methods which exploit biodiversity in order to increase production in a sustainable manner.

### Air quality and climate change

Human activity affects local and regional air quality. Carbon emissions and the formation of tropospheric ozone affect the climate and have grave consequences on human health. In addition, ozone damages vegetation. In contrast, measures to limit these emissions have several positive effects. Efficiently reducing the exposure of the climate, of nature and of humans requires integrated research on the sources of the damaging substances, their dissemination and effects, in order to highlight the measures that are effective and to provide documentation for international environmental agreements. On the one hand, this requires interdisciplinary research on effective emissions reduction. On the other, there is a need to monitor the emissions of long-lasting and short-lived greenhouse gases using new technological equipment, such as measuring stations.

### FUNDING NEEDS

Resources are needed both to stimulate and reinforce interdisciplinary research environments, and for technological and infrastructure investments.

Interdisciplinary graduate school SEK 1.5 million per year

Visiting professorship SEK 1 million per year

Professorship SEK 10 million

Innovations and technological development SEK 2 million per year

Additional climate monitoring stations SEK 40 million

All donations are welcome, whether large or small. Together we can work for a better world.

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