Welcome to the web based questionnaire for Strategic Research Environment! Before you start reporting, make sure to read the instruction and prepare the Excel files that has been attached in a prevoius e-mail.

FRÅGA 1

This report concerns the research environment named Biodiversity and Ecosystem services in a Changing Climate - BECC (akronym: EffnatLu). If you have more than one environment to report, please be sure that you fill in the information in the relevant report!

FRÅGA 2

Q. QUESTIONS FROM THE GOVERNMENT (new 2011)

FRÅGA 3

Q1. Please state the main priorities within the environment in 2011.

Biodiversity and Ecosystem Services in a Changing Climate (BECC) is a research programme within the Strategic Research Area (SRA)“Effekter på naturresurser, ekosystemtjänster och biologisk mångfald”.

Our vision is to create a world-leading interdisciplinary research programme on climate- ecosystem-biodiversity relationships at multiple scales, bringing together ecological modelling with empirical studies and linking this with policy and governance for the sustainable management of ecosystems and biodiversity in a rapidly changing world. A priority has therefore been to promote scientific interactions between empiricists and modelers as well as between social and natural scientists. To this end we have set up six thematic research clusters reflecting interdisciplinary linkages among and collaboration between the researchers. The clusters initiate research and synthesis with the aim to fulfilling the overall objectives of BECC, as expressed in the original funding application.

BECC aims to foster a next generation of researchers well-versed in the challenges and opportunities of cross-disciplinary research. A priority has therefore been to recruit young researchers to projects spanning across departments and disciplines and to develop a curriculum for our PhD students that includes interdisciplinary education and synthesis. Promoting gender equality in the next generation of scientific leaders is a further aspiration.

As a large research environment, BECC has the possibility and responsibility to facilitate research by identifying needs for and supporting research infrastructure in the areas of climate and biodiversity research. A priority for BECC during the past year has also been to develop interactions with stakeholders, both to inform us about their needs for research as a basis for decision-making and as one channel for the dissemination of results.

Since BECC is a large research environment, comprising 117 researchers and 75 PhD-students, an important priority during the past year has been to strengthen the effectiveness of management and support to researchers.

FRÅGA 4

Q2. Please describe the major activities within the environment in 2011.

A major focus of our activities has been within the BECC projects initiated in 2010. These cover a large part of the BECC thematic areas, and involve interactions between experimentalists, modellers and stakeholders. Interactions with stakeholders have also been promoted by organizing specific meetings, by participating in conferences and expert panels.

The six thematic research clusters have organized a large number of workshops and seminars that have brought together researchers from different disciplines and departments. Activities in the clusters have aimed to and resulted in the development of new research projects, with the ambition to integrate natural and social science to address issues of importance to society. We have recruited several new postdocs and PhD-students to these projects.

BECC has, together with the MERGE (ModElling the Regional and Global Earth system) SRA, launched the new cross-disciplinary research school ClimBEco, with the vision to provide a PhD research education geared to promote the engagement of young scientists in cross-disciplinary research on the climate/Earth system, climate impacts on ecosystems and their services, and ecosystem management in a changing world. New courses are developed for interdisciplinary education and synthesis (e.g. combining empiricism with theory or modelling) and in pursuit of in-depth disciplinary understanding (e.g. ecological modelling, economic valuation). Currently 30 students are enrolled and a second cohort will be accepted in June 2012. In addition, BECC has initiated a guest researcher program.

We have significantly strengthened the administration by recruiting additional staff responsible for economy, scientific coordination and outreach at the Centre for Environmental and Climate Research (CEC). We have recruited and interacted with our Scientific Advisory Board consisting of four distinguished researchers in the field of climate, biodiversity and ecosystem services. Several excellent young female scientists participate in the Lund university program for the next generation of scientific leaders.

CEC is the host for ICOS (Integrated Carbon Observation System), a national and European infrastructure for ecosystem and atmospheric measurements, analysis and modelling. During 2011, the planning has continued which include purchasing of the measurement instrumentation.

FRÅGA 5

Q3. Please describe the major results within the environment in 2011.

We increased the understanding of how agricultural intensification affects biodiversity and ecosystem services. Long term experiments combined with economic-ecological modelling showed that loss of soil carbon will influence farmers' economy negatively when intensifying agriculture. Agricultural intensification resulted in loss of wild pollinators and predictably changed the community composition of functional traits. However, agri-environment schemes alleviated these effects and benefitted crop pollination.

Ongoing developments of the LPJ-GUESS regional vegetation-ecosystem model, combined with improved methods to record and date pollen and macro fossil data, have improved our ability to predict consequences of climate change on tree-species distributions beyond the range of historical experience. We have shown that improved modelling of dynamically changing vegetation better account for changes in emissions of biogenic volatile organic compounds with potential climate change impact.

We have increased understanding of processes controlling total soil organic matter (SOM), the largest terrestrial pool of carbon. Carbon allocated by plants through root exudates results in a massive stimulation of the decomposition of SOM and the release of nitrogen. Fungi that are symbionts on plants could at least partly degrade recalcitrant SOM, which suggest a new and unanticipated role of these fungi in the carbon cycle. We have used novel spectroscopic methods to characterize SOM released from terrestrial ecosystems into surrounding freshwater systems leading to brownification and eutrophication, changes which we show can have a detrimental effect on the foraging and growth of fishes. Using functional meta-analysis, we have identified a potential threat to food security through the rise of atmospheric carbon dioxide concentrations as wheat exposed to elevated carbon dioxide caused a significant reduction in grain protein concentration.

Empirical data indicate that climate change leads to phenological mismatch across trophic levels. We have developed a novel model for how plant and animal phenological strategies evolve as a result of environmental variation and competition for limited resources which shows that ecological interactions can explain these apparent mismatches.

We approach carbon accounting as a mitigation strategy that is enabled through a precise 'counting of carbon' (measuring, quantifying, demarcating and statistically aggregating stocks and flows of carbon) in, for example, forests. Previous analysis of carbon accounting have only focused on its technical dimensions without realising that certain forms of climate governance becomes only possible after carbon has been established as something that can be governed (such as a carbon sink).

We have also developed a framework for understanding the institutional interplay between forest, climate and biodiversity governance in Sweden

FRÅGA 6

A. GENERAL QUESTIONS

Only changes since 2010 are to be stated. If the answer from 2010 need clarifications, it should be clearly stated that these are clarifications (as opposed to changes).

FRÅGA 7

A1. What effect has the strategic research initiative(s) had on your university?

The BECC(Biodiversity and Ecosystem Services in a Changing Climate) research initiative has significantly promoted cross-disciplinary research and discourse at Lund University. During 2011, the BECC strategic research initiative has organized a large number of thematic workshops and seminars, providing for researchers from disciplines ranging from the biological and physical sciences to economics and political science to meet and discuss issues of biodiversity conservation, climate adaptation and environmental governance. These activities have created synergies and added value to climate impact research at both Lund University and University of Gothenburg. To face the challenges in terms of leadership and management Lund University launched a two-year leadership program for the coordinators and deputy coordinators of the strategic research initiatives, which is now completed. A corresponding program tailored to the next generation research leaders was launched this year and comprises ninety participants.

The strategic research initiatives have interacted in teaching and learning processes at both undergraduate and post graduate education. Evidence and knowledge from cutting edge science, will ensure the university's goal to provide education of the highest quality. This year BECC has together with strategic research area MERGE (ModElling the Regional and Global Earth system) initiated the cross-disciplinary research school ClimBEco. Furthermore, BECC has contributed significantly to the advancement of research infrastructure. The activities of the research school and the infrastructure are also accessible to researchers outside the strategic initiatives.

Several of the initiatives have implemented programs to recruit young researchers that can contribute with new expertise and insight to the research challenges. The strategic initiatives have made possible several strategic recruitments that ensure long term commitments to the challenges. Several young researchers have received grants in competition from VR and Formas.The BECC environment has also contributed to the coordination, strengthening and visibility of environmental and climate impact research at Lund University, by co-funding several new personnel for administrating the Centre for Climate and Environmental Research (CEC) and running its multitude of outreach activities.

The research environments created by virtue of the strategic initiatives are very valuable resources for the future. A variety of attractive research environments available on both university and national level provide options for talented researchers, both for young researcher or internationally leading experts.

FRÅGA 8

A2. Describe the model according to which the resources have been allocated.

During 2011 the Government strategic research funding to BECC was 16 000 000 SEK, of which 22 % as allocated to the co-applicant University of Gothenburg in the same way as the previous year. This is according to the distribution given in the application and decision by the Government.

The allocation of funding within BECC for 2011 has been decided by the BECC board, which comprise of representatives from Lund University and University of Gothenburg. The final decision has been taken within each university according to internal rulings.

From the funding allocated for use within Lund University, 5 % has been used for actions benefitting all twelve strategic research areas within Lund University to enhance strategic planning and quality assurance. These actions include two leadership programmes, common administrative support and coordination, senior advisor in strategic research questions, coordinated profiling and communication and internal follow up of the first year. The rest of the funding to Lund University has in the same way as the previous year been allocated to the board of BECC for further distributions to activities in BECC. These activities comprise of management, infrastructure, research projects and outreach according to the challenges defined in 2010. Proposals from BECC researchers, generated by discussions in thematic research clusters, were discussed at the annual workshop and formed a further detailed work plan on which the 2011 budget decision was based on. The main criteria used for allocating resources to research was the contribution to the central aims of BECC, e.g. fostering links between empirical ecology and modelling and between natural and social science. Similarly, in Gothenburg resources have been allocated using the same principles as in 2010. The basic difference is that allocation of resources follows a research plan accepted by University of Gothenburg, resulting in substantial co-funding. The research plan is closely linked to the overall strategy for BECC as decided by the BECC board.

FRÅGA 9

A. GENERAL QUESTIONS

Only changes since 2010 are to be stated. If the answer from 2010 need clarifications, it should be clearly stated that these are clarifications (as opposed to changes).

FRÅGA 10

A3. What effect has the strategic research initiative(s) had on the co-applicant university/universities (if any)?

The BECC SRA initiative has influenced the research activity at the University of Gothenburg in several important ways during the past year. It has led to further collaboration between different units at University of Gothenburg (Plant and Environmental Sciences, Chemistry, Earth sciences, Economics) and between the University of Gothenburg and Lund University, where common projects have been further developed or initiated during 2011. Important interactions exist with Lund University with respect to e.g. modelling of ozone effects on vegetation, soil processes and economic valuation of ecosystem services. Several new PhD students were recruited during 2011 supported by BECC, in addition to one new post doc. The BECC environment at the University of Gothenburg has been successful with grant applications during 2011. Two Formas proposals by younger BECC scientists as well as one EU FP7 grant, to which both the BECC environments at the University of Gothenburg and Lund University are partners, were funded during 2011 this will substantially strengthen the activity within the BECC research environment at the University of Gothenburg with respect to ecosystem nitrogen turnover, alpine/arctic ecology and ozone effects on vegetation.

The research school ClimBEco, a common initiative of BECC and MERGE, started in 2011 and is highly esteemed by the PhD students. It is likely to further stimulate research collaboration between the University of Gothenburg and Lund University and improve the research environment. BECC continued to support the operation of the Latnjajaure Ecological Field Station in Lapland, representing a continuation of a long and important observation series of BECC relevant data.

As a whole, the BECC programme, together with MERGE, has been very beneficial for the research area “Atmosphere- Climate-Ecosystem” at the University of Gothenburg. Increasingly, research related to BECC penetrated into undergraduate teaching during 2011.

FRÅGA 11

A4. Will the university monitor and assure the development within the strategic research environment(s)? Please state how and why.

Cross-disciplinary research is at the core of the research strategy of Lund University and we therefore carefully monitor and assure the development of the strategic research initiatives.

During 2011 Lund University conducted an internal assurance process of its strategic research initiatives as part and parcel of the project ”Fronesis/cross disciplinary research and education”. This process included a visit by a group of ”critical friends” (Craig Heller, Stanford University, Anne Cutler, Max-Planck Institute for Psycholinguistics, and David Price, University College of London). The group made site visits and interviews, held a concluding workshop and produced a report. They write:

”We bring to this review process the firm conviction that cross-disciplinary and interdisciplinary research and education must be a major feature of any university that aspires to be world class. Many of the greatest challenges and opportunities that we face cannot be addressed simply within the confines of the classical disciplines. Progress depends on combining the expertise of individuals coming from diverse disciplines, and thus the modern university has to facilitate these cross disciplinary connections and collaborations if it is to remain at the cutting edge of human knowledge and innovation.

The funding that supports the Strategic Research Areas is an effective catalyst for cross and interdisciplinary initiatives at Lund. That benefit has been realized clearly in all of the SRA projects we had the pleasure of visiting.”

Presently, we are designing a tool/method for the analysis, evaluation and planning of cross-disciplinary research groups and centres at Lund University. The purpose of this is to assess, in an evidence-based fashion, the contribution to research excellence of these activities and units, which are not coinciding with departments or faculties. The tool will be tested in the spring of 2012 and, if successful, be scaled up for general use.

In 2014 a new overall research quality assessment process will be launched at Lund University – a follow-up to our RQ08. This time, however, it will not only look at disciplinary-based research, but it will also pay special attention to cross-disciplinary research activities. In that context, we hope that the new tool/method we are developing will come in handy.

FRÅGA 12

B. DESIGN

FRÅGA 13

B1. Strategic research programme

Only changes since 2010 are to be stated. If the answer from 2010 need clarifications, it should be clearly stated that these are clarifications (as opposed to changes).

FRÅGA 14

a. List and describe the major challenges of the strategic research programme.

No changes since 2010.

FRÅGA 15

b. Describe the initiatives taken to meet these challenges.

We have set up our six thematic research clusters, formed in 2010, with the purpose of strengthening existing research and initiating new research projects. The research clusters have organized thematic workshops in both Lund and Gothenburg, bringing together researchers from different disciplines and departments to discuss results from ongoing projects and experiences from interactions with stakeholders.

The BECC Annual Workshop (September 21-22) gathered about 70 PIs, postdocs and PhD students from Lund and Gothenburg. Key-note presentations were given by the members of the newly established Scientific Advisory Board (SAB) including Frank Biermann (The Netherlands), Claus Beier (Denmark), Paula Harrison (UK) and Kirsten Halsnaes (Denmark). During the meeting, the research clusters met and discussed common research activities, strategies to improve interactions with stakeholders and proposals to develop new BECC projects. Ongoing BECC projects were presented in poster sessions and the SAB had a joint meeting with the BECC board.

Based on discussions in the clusters and the annual workshops, the BECC board decided in November 2011 to fund 14 new projects. Priority were given to projects that contribute to the fulfillment of the central aims of the BECC proposal, are of highest scientific quality, produce additional value to ongoing climate impact research at Lund University and University of Gothenburg and foster interactions between BECC researcher and stakeholders.

During 2011, BECC has organized four conferences with international contributors: “Carbon and nitrogen interactions in forest soils” (April 4-5), “Statistical approaches to down- and upscaling in climate models” (April 27-29), “Governing the global climate policy: rationality, practice and powers (June 20-21) and “Beyond the climate envelope” (October 11-12). To support the integration of the various research groups, BECC has also organized a number of one day (in total six) and shorter seminars on a variety of different topics. These activities have taken place both in Lund and Gothenburg. Several guest researchers have been working in the BECC environment during 2011 (c.f. B4).

The BECC/MERGE research school (ClimBEco) was launched during the fall of 2011 to provide a PhD research education that promotes young scientists to engage in cross-disciplinary research (c.f. B5).

Interactions with stakeholders have also been promoted by organizing specific meetings, and by participating in conferences and expert panels (c.f. B2).

FRÅGA 16

c. Are there any major changes in the research programme introduced since 2010? Please, describe and motivate. This information is important in order to monitor the development of the strategic research environment.

There are no major changes in the research programme compared to the plan given in the application.

FRÅGA 17

B2. Strategy and plan for process of knowledge transfer and utilization of research findings

Only changes since 2010 are to be stated. If the answer from 2010 need clarifications, it should be clearly stated that these are clarifications (as opposed to changes).

FRÅGA 18

a. Describe the major challenges concerning knowledge transfer and utilization of research findings.

The challenges described for 2010 all remained in 2011.

FRÅGA 19

b. Describe the initiatives taken to meet these challenges.

Progress in the establishment of a continuous in-depth dialogue between the stakeholders and researchers has been made during 2011. A working group with participants from BECC, the MERGE SRA, and other research projects at CEC has complemented the existing BECC communication plan with a time plan for activities. One of the major activities is the Stakeholder interaction day scheduled for March 2012. It will focus on the expectations and communication exchange, with a program developed together with key stakeholders.

The communication office at the CEC, a major resource shared by BECC, has been strengthened particularly to support BECC and MERGE in communication issues.

As part of the strategy for dissemination of scientific results and setting of research priorities, BECC researchers have been active in international and national fora, activities that have continued from 2010 during 2011. Some of the major events in which BECC researchers have been participating and interacting with stakeholders and policymakers are:

The United Nations Climate Conference in Durban, South Africa November the 28th to December 9th 2011, where three BECC researchers were participating in the meetings COP17, CMP7, SBSTA ,AWG-KP, AWG-LCA, SBI, and leaflets presenting BECC and MERGE were distributed at side events.
Round table debate at the European Parliament, were BECC researchers discussed the Common Agricultural Policy (CAP), for details see D2f.
A stakeholder interaction seminar with focus on the forest in a changing climate – “Tillväxt, risk för skador, ekonomi och anpassningsutrymme - hur påverkar ett förändrat klimat den svenska skogen?”. Participation and presentations by BECC affiliated researchers. For details see D2f
A stakeholder interaction seminar with focus on acidification “Försurning – var inte problemet löst?”, were a BECC researcher was invited speaker. For details see D2f

Participation in media and at seminars for the general public, the production of information for decision making, policy briefs and knowledge compilations, and direct round table discussions with stakeholders have also contributed to the outreach activities in 2011, see D2f for details.

Further “Klimatportalen” and the Climate initiative at Lund university, which BECC is supporting, has arranged seminars during 2011. Two examples are the seminar on climate, energy and ecology directed to the Research Service of the Swedish Parliament (Riksdagens utredningstjänst) were BECC researchers presented research results, and the seminar on the development of the EU Adaptation Strategy, with an invited speaker from DG CLIMA, EU Commission, which was open to all students and staff at Lund University. These seminars have has contributed to the challenge for BECC researchers to be motivated to reflect on the implications and value of research activities. For details see D1 e.i.

The PhD research school ClimBEco has in its curriculum included a focus on stakeholder interaction in order to provide the next generation of researchers with communication tools to engage in strong and continuous dialogue with stakeholders.

FRÅGA 20

c. Are there any major changes in the planned activities since 2010? Please, describe and motivate. This information is important in order to monitor the development of the strategic research environment.

No changes since 2010.

FRÅGA 21

B3. Collaboration/strategic alliance partners in 2011

FRÅGA 22

Please list the most important collaboration/strategic alliance partners in 2011 in relation to the strategic research environment. Start by specifying the number of collaboration/strategic alliance partners (including network organizations). Click on OK and the specified number of rows will be created. Fill in the created table by stating name of organization, business registration number (only for Swedish organizations) and mark with an X if it is a new partner compared to 2010. Also mark type of organization (industry, academia, etc.).

Number of collaborations/strategic alliances partners

31

Name of organization	Business registration number	New partner 2011	Academia	Public agency	Industry	Research institute
The Swedish Environmental Protection Agency	202100-1975		○	◉	○	○
The Swedish Forest Agency	202100-5612		○	◉	○	○
The Swedish Board of Agriculture	202100-4151		○	◉	○	○
The Water Authorities	202100-2411		○	◉	○	○
The County Administration of Skåne (Länsstyrelsen i Skåne)	202100-2346		○	◉	○	○
The Energy Agency	202100-5000		○	◉	○	○
Högestad & Christinehof Encolsed Estate LTD (Högestad & Christinehof Fideikommiss AB)	556579-3907		○	○	◉	○
Society for Nature Conservation in Scania	845000-4174		○	○	○	○
Södra	729500-3789		○	○	○	○
Sveaskog	556558-0031		○	○	◉	○
The Federation of Swedish Farmers (LRF) in Skåne	842000-1474		○	○	○	○
Hushållningssällskapet Skaraborg (Rural Economy and Agricultural Society of Skaraborg)	262000-0162		○	○	○	○

Name of organization	Business registration number	New partner 2011	Academia	Public agency	Industry	Research institute
IVL Swedish Environmental Research Institute (IVL Svenska Miljöinstitutet AB)	556116-2446		◉	○	○	○
Forest Soil C Sink Nordic Network		X	◉	○	○	○
LifeWatch		X	◉	○	○	○
CLIMSAVE – Climate Change Integrated Assessment Methodology for cross-sectoral adaptation and vulnerability in Europe (EU FP7)		X	◉	○	○	○
SCALES – Securing the conservation of biodiversity across Administrative levels and spatial, temporal and ecological scales (EU FP7)		X	◉	○	○	○
CLIMIT " Climate change impacts on insects and their mitigation" (EU FP6 ERA BiodivERsA)		X	◉	○	○	○
FIREMAN "Fire management to maintain biodiversity and mitigate economic loss" (EU FP6 ERA BiodivERsA)		X	◉	○	○	○

Name of organization	Business registration number	New partner 2011	Academia	Public agency	Industry	Research institute
ECOCHANGE "Challenges in assessing and forecasting biodiversity an d ecosystem changes in Europe" (EU FP6)		X	◉	○	○	○
CLEO "Climate Change and Environmental Objectives "		X	◉	○	○	○
SOILSERVICE (EU FP7)		X	◉	○	○	○
EcoFINDERS "Ecological Function and Biodiversity Indicators in European Soils" (EU FP7)		X	◉	○	○	○
STEP "Status and trends for European Pollinators" (EU FP7)		X	◉	○	○	○
SAPES "Multifunctional Agriculture: Harnessing Biodiversity for Sustaining Agricultural Production and Ecosystem services" (Formas strong research environment)		X	◉	○	○	○

Name of organization	Business registration number	New partner 2011	Academia	Public agency	Industry	Research institute	Non governmental organization (NGO)	Network organization	Other
ECLAIRE “Effects of Climate Change on Air Pollution and Response Strategies for European Ecosystems” (EU FP7)		X	◉	○	○	○	○	○	○
DEFROST (NCoE)		X	◉	○	○	○	◉	○	○
LAGGE - Landscape Greenhouse Gas Exchange (Formas strategic project)		X	◉	○	○	○	◉	○	○
Mistra-SWECIA "Swedish Research Programme for Climate, Impacts and Adaptation"		X	◉	○	○	○	○	○	○
EXPEER "Experimentation in Ecosystem" (EU FP7)		X	◉	○	○	○	○	○	○
ADSIMNOR "Advanced Simulation of Arctic Climate Change and Impact on Northern Regions" (Formas strategic project)		X	◉	○	○	○	○	○	○

Non governmental organization (NGO)	Network organization	Other
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FRÅGA 23

B4. Recruitment

Only changes since 2010 are to be stated. If the answer from 2010 need clarifications, it should be clearly stated that these are clarifications (as opposed to changes).

FRÅGA 24

a. Describe the strategies for recruitment to the strategic research environment.

In order to develop cross disciplinary activities and strengthen the existing areas, the BECC research initiative have identified gaps of knowledge and need for long term strategic recruitment. During 2011 an associate Senior University Lecturer (“biträdande lektor”). in Political Sciences has been recruited and a new position as Senior University Lecturer in Conservation Biology is now evaluated by external experts. To support development of younger researchers within BECC seven post-doctoral positions at the universities in Lund and Gothenburg have been appointed. The recruitment strategy has an international scope and has been successful as six out of the seven holders have a foreign PhD degree.

Recruitment of PhD students is an important part of BECC that links cutting edge science down to post graduate education. Seven new BECC supported PhD students were recruited during 2011, five of them BECC funded, the other two cofounded (50:50) by BECC and MERGE.

To further push the research agenda towards internationally leading science, resources have been allocated to attract and accommodate guest researchers. Three distinguished senior researchers have been active as guest scientists in the BECC environment during 2011: professor Frank Wätzold, Cottbus University (ecological-economic modelling) and Dr Peter Harmand, University of Oldenburg, Germany (mathematical statistics) at Lund university and Dr Lisa Emberson, University of York (air pollution) in the BECC environment at the University of Gothenburg.

Recrutitments within the administration to support BECC and CEC at Lund University have been made see C1b.

FRÅGA 25

b. Describe career opportunities offered by the strategic research environment to young researchers.

Unfortunately, no decision has yet been taken concerning the future career pathways for young scientists at Swedish universities. However, as stated already in the 2010 report, a significant proportion of the scientists affiliated with the BECC environment are early-career senior scientists. To support the careers of these scientists, the BECC board has during 2011 taken the following initiatives:

- Co-funded 10 positions including researchers (forskare, forskarassistenter) and Associate Senior University lecturer. Sixty percent of them are women.

- Promoted the involvement of early-career scientists in the leading of BECC activities including the ClimBEco research school and workshops.

- Three of the young PIs (all women) are participating in the Lund University leadership programme.

Based on the decisions taken in November 2011, BECC-Lund has initiated the recruitment of four new postdoctoral positions. They are intended for candidates who have completed their degree not more than three years before the last day of application. At the University of Gothenburg BECC supported two younger scientists during 2011, one as a postdoctoral research fellow (“forskarassistent “) and one Associate Senior University lecturer.

FRÅGA 26

c. Describe the strategy/plan for staff mobility between the university (universities) and business or public sector (e.g. staff exchange program).

Together with Prof. Frank Wätzold, who visited Lund as a guest researcher during 2011, we are applying for the EU-FP7 initial training network on "Economics and Ecology of Market-based Instruments for Biodiversity Conservation", which will include internships for PhD-student at relevant businesses and public authorities.

FRÅGA 27

B5. Education

Only changes since 2010 are to be stated. If the answer from 2010 need clarifications, it should be clearly stated that these are clarifications (as opposed to changes).

FRÅGA 28

The integration of education, research and innovation needs to be strengthened (knowledge triangle). Describe how curricula, teaching and examination, at all levels of education including doctoral level, are developed in relation to the strategic research environment.

During 2011 the undergraduate education has been further strengthen by the research environment as new researchers provide new resources of knowledge for teaching and learning in both Lund and Gothenburg. In the study programs within the BECC environment there are also interactions among future employers from society and private enterprises. A new master program with focus on applied climate change strategies has been finalized that attracts students and aims for cross disciplinary solutions on applied climate adaptations.

To promote cross-disciplinary interactions between economists and ecologists our guest researcher professor Frank Wätzold developed and carried out a course in ecological-Economical modelling for PhD students during spring 2011.

In the post graduate educations the Graduate research school ClimBEco (www.climbeco lu.se), a joint initiative of and resource for the BECC and MERGE strategic research areas, started in September 2011. 30 PhD students from Lund University, Gothenburg University, Chalmers and the Linnaeus University have been admitted. Nine PhD courses are offered during the first year. As part of our aim to support the students in their career development, the kick-off meeting in September 2011 focused on how to develop, maintain and take advantage of their professional networks. To promote longer (1-3 months) research visits to foreign institutes or laboratories, we have established a research stay grant program for the PhD students.

FRÅGA 29

B6. Industrial and Societal problems addressed.

Only changes since 2010 are to be stated. If the answer from 2010 need clarifications, it should be clearly stated that these are clarifications (as opposed to changes).

FRÅGA 30

a. Describe industrial and/or societal problems and needs that are addressed.

The problems and needs addressed in 2011 are the same as in 2010. However, the landscape of actors of importance and relevance, within society, to the research within BECC is developing continuously. One example is the increased focus in society on adaptation to a changing climate. Since 2010 the County administrative boards have been appointed to coordinate the adaptation within its county. The coordinators have accentuated an increased need in knowledge on biodiversity and ecosystem services in relation to e.g. forestry, land use, agriculture and health. BECC has used this opportunity to develop a starting point for dialogue on the research findings with the coordinators of adaptation, in order to support the development of sustainable future planning in Sweden.

Another examples which have been addressed in 2011 is the discussions on the CAP at the EU level, where BECC researchers have been invited speaker to the to the EU parliament (see B2b, and D2f).

FRÅGA 32

C. PRECONDITIONS

FRÅGA 33

C1. Organization and leadership of the strategic research environment in 2011

Only changes since 2010 are to be stated. If the answer from 2010 need clarifications, it should be clearly stated that these are clarifications (as opposed to changes).

FRÅGA 34

a. Describe how the strategic research environment is organized, including the set-up with co-applicant Higher education institutions (if any), and collaborating research institutes (if any) Specify the main bodies in the environment with an organization chart (please upload the organization chart below).

BECC has the same organization as 2010, please see organization chart.

FRÅGA 35

Upload organization chart here

Antal bifogade filer: 1. Filen/filerna kan ses i resultatöversikten (webb).

FRÅGA 36

b. Describe the leadership and management (the main strategic and operative bodies) of the strategic research environment, including number of men and women in the management team, the decision-making procedure, and who is in charge. Also uppload the excel file "C1 b List of personnel in management" that was sent out together with the instructions for reporting. The excel file should include name of person, name of institution/organization, gender and role in management (refer to the organization bodies in the organizationchart) for those active within the management during 2011.

The leadership of the BECC is unchanged since 2010. Recruitments have been made in the management of the Centre for Environmental and Climate Research, and now comprises of a communication officer, a research administrator, a financial controller and a research coordinator which supports the management of the strategic research areas BECC and MERGE.

FRÅGA 37

Upload excel file "C1b List of personnel in management" here

Antal bifogade filer: 1. Filen/filerna kan ses i resultatöversikten (webb).

FRÅGA 38

C2. List of participating personnel in the strategic research environment in 2011

FRÅGA 39

a. Please upload the Excel-file "C2 a List of personnel" that was sent out together with the instruction for reporting. The Excel-file should include name of person, name of institution, gender, position, role in research environment etc for those participating more than 10 percent of full time in the environment during 2011.

Antal bifogade filer: 1. Filen/filerna kan ses i resultatöversikten (webb).

FRÅGA 40

Please also state the number of relevant personnel (female and male) participating more than 10 % of full time in strategic research environment (regardless of financing) during 2011. The number should be the same as the number of personnel that has been listed in the excel-file C 2 a Number of personnel.

	Female	Male
Number of personnel	72	128

FRÅGA 41

b. If the principal investigators differ from 2010, please comment.

No changes since 2010.

FRÅGA 42

C3. Economic report for year 2011

FRÅGA 43

a. Specify the income during 2011 to the strategic research environment. Include "in-kind contributions" and specify such contributions in question D3 (other comments). Use the same delimitation of your stretegic research environment as i the last follow-up [year 1], when specifying incomes.

	Government strategic research funding	Co-funding from main applicant Higher education institution	Co-funding from co-applicant Higher education institutions	Funding from collaborating research institutes	Funding from other collaborators	Other external funding
Funding in SEK	16000000	27184013	5741088	0	0	76786683

FRÅGA 44

b. Specify how the strategic research funding from the Government in 2011 (box one above) has been used. The use of funding shall include the use at co-applicant higher education institutions. "High cost equipment" is investments in infrastructure and shallbe reported as purchase value or depreciations. Use the same model as in follow-up for year 1. "Infrastructure running costs" are costs for using infrastructure e.g. electricity, premises, rents and so on. "Other costs shall be specified in question D3 (other comments).

	Personnel	Running costs	High cost equipment	Infrastructure running costs	Other costs
Costs in SEK	8832874	2692398	0	0	2904174

FRÅGA 46

C3. Economic report for year 2011

FRÅGA 47

d. Specify the distribution of the Government funding 2011 to the strategic research environment.

	Share allocated to co-applicant Higher education institutions	Share allocated to collaborating research institutes	Share allocated to other collaborators
Share (in percent of Government funding)	22		

FRÅGA 48

e. If the share allocated 2011 to the co-applicant Higher education institutions (if any) do not correspond to the one given in the application, please comment.

The allocation is the same as given in the application. There have been no changes in the research program motivating a change of the allocation.

FRÅGA 49

f. If collaboration with research institutes was intended in the application; does the share allocated or the amount of money spent on collaborative efforts 2011 correspond to the one given in the application? Please comment.

Collaboration with research institutes was not intended in the application.

FRÅGA 50

C4. Use of research infrastructure

This question regards the use of research infrastructure within the environment in 2011. For more information see the document FAQ 2011.

FRÅGA 51

a. Please upload the Excel-file "C4 a Research infrastructure" that was sent out together with the instruction for reporting. The Exel-file should include the name of each infrastructure used within the environment 2011, what type of infrastructure (national/international), the objective for using the infrastructure (what the infrastructure is used for, free text, max 20 words), the extent of usage (alternatives: minor usage, some usage, extensive usage) and the relevance of the infrastructure for the environment (alternatives: for convenience, important, critical).

Antal bifogade filer: 1. Filen/filerna kan ses i resultatöversikten (webb).

FRÅGA 54

D. RESULTS FROM THE STRATEGIC RESEARCH ENVIRONMENT IN 2011

FRÅGA 55

D1 Scientific quality in international comparison

FRÅGA 56

a. Describe the most important results during 2011, including development of new methods.

Increasing demands for food and energy is a driver of agricultural intensification. We determined consequences of this for biodiversity and linked ecosystem services. Long term experiments showed that soil carbon declines in agricultural soils in Europe. We developed economic models to value soil-related ecosystem services and showed that this influence farmers' economy negatively when intensifying agriculture. We deepened the understanding of mechanism behind loss of above-ground biodiversity resulting from loss of farmland heterogeneity, by demonstrating effects on wild pollinator traits both within species and as a result of changed community composition. However, agri-environmental measures could alleviate negative effects of agricultural intensification and benefit crop pollination. In a major review, we concluded that it is unknown how the European agri-environmental budget for conservation on farmland contributes to the policy objectives to halt biodiversity decline. Using functional meta-analysis, we have identified a potential threat to food security through the rise of atmospheric carbon dioxide concentrations as wheat exposed to elevated carbon dioxide caused a significant reduction in grain protein concentration.

Mechanistic modelling is a possible way to predict consequences of climate change on species and ecosystems beyond the range of historical experience. Ongoing developments of the LPJ-GUESS regional vegetation-ecosystem model combined with improved methods to record and date pollen and macro fossil data, have provided a new tool for simulating shifts in tree-species distributions in the historical and prehistoric past. An application of this tool across Europe in the Holocene suggests that land use during the Holocene may have had only a minor effect on migration speed for wind-dispersed seeds. Progress has also been made in integrating the ability to simulate managed lands (forests and croplands), ecosystem-atmosphere fluxes of non-CO2 trace gases, tropospheric ozone impacts on plant growth, and emissions of biogenic volatile compounds (BVOCs) with the structural and compositional dynamics of vegetation. For example, we have shown that improved modelling of dynamically changing vegetation better account for changes in emissions of BVOCs, with potential implications for atmospheric aerosol loads and climate change.

Total soil organic matter (SOM) corresponds to more than three times as much carbon (C) as that contained in the atmosphere or within terrestrial vegetation. During 2011, we have conducted several studies both in the laboratory and field that increase our understanding of the underlying processes that control SOM stability, thereby improving predictions of the SOM response to global warming. We have shown that the carbon allocated by plants through root exudates results in a massive stimulation of the decomposition of SOM and the release of nitrogen. We have demonstrated that ectomycorrhizal fungi could at least partly degrade recalcitrant SOM, which suggest a new and unanticipated role of these fungi in the forest C cycle. We have used novel spectroscopic methods to characterize the SOM that are released from terrestrial ecosystems into surrounding freshwater systems leading to brownification and eutrophication. Results from show that these changes can have a detrimental effect on the foraging performance and growth of piscivorous fishes.

Empirical data indicate that climate change leads to phenological mismatch across trophic levels. We have developed a novel model for how plant and animal phenological strategies evolve as a result of environmental variation and competition for limited resources, which shows that ecological interactions can explain these apparent mismatches.

We approach carbon accounting as a mitigation strategy that is enabled through a precise 'counting of carbon' (measuring, quantifying, demarcating and statistically aggregating stocks and flows of carbon) in, for example, forests. Previous analysis of carbon accounting have only focussed on its technical dimensions without realising that certain forms of climate governance becomes only possible after carbon has been established as something that can be governed (such as a carbon sink).

We have also developed a framework for understanding the institutional interplay between forest, climate and biodiversity governance in Sweden.

FRÅGA 57

b. Describe briefly the development since the start and the standing of the strategic research in an international context (state of the art).

Development

Based on initiatives from our thematic research clusters, and discussions at workshops and the annual meeting, we have initiated and funded a number of projects in the fall of 2011. These were e.g.:

Norway spruce pests and pathogens in a changing climate which combines modelling and empirical ecology to understand environmental conditions triggering pest outbreaks in forest in a changing climate.

Predicting climate-driven changes in phenology and their effects on populations using eco-evolutionary models, to study adaptive changes in phenology in relation to climate change.

Species response in a changing climate, an approach across study systems, that combines modelling and past and recent empirical sources to determine environmental factors and biotic processes defining the spatial pattern of range shifts.

Multi-level decision making and implications for forest sector adaptation in Sweden, using agent-based modelling as a tool to define and evaluate alternative adaptation strategies for Swedish forestry under climate and global change.

Adaptation and genetic variation at expanding range margins in relation to on-going climate change, to understand to what extent populations and species can adapt to new environmental conditions triggered by recent climate change.

Characterization of organic matter using spectroscopythat will develop novel methods based on synchrotron and conventional light sources to characterize the structure and properties of organic material in terrestrial and aquatic environments.

The activities of the thematic research clusters (workshops, seminars) and the initiation of new projects have resulted in a considerably increased number of interactions and collaborations between researchers from different universities, disciplines and research groups.

In addition, BECC decided to contribute to the development of common research infrastructure, such as a project assistant in bio-informatics to make better use of a new DNA sequencing facility and a research engineer to make efficient use of a new IRMS for analyses of stable isotopes.

Standing

The standing of the research environment after the first year of development was described in detail in our 2010 report. As a result of the development over the last year, BECC has consolidated the positions of our established, internationally competitive research groups at Lund and Gothenburg Universities. Our work remains frequently cited and many of the groups have attracted large grants from national and international research councils. BECC is increasingly recognized, both nationally and internationally, not only for our high-quality disciplinary research, but for the cross-disciplinary research environment in the climate, biodiversity, ecosystem service field. This has assisted us in our efforts to recruit guest researchers and highly qualified young researchers.

FRÅGA 58

D1. Scientific quality in an international comparison

FRÅGA 59

c. Please upload the Excel-file "D1 c List of degrees" that was sent out together with the instruction for reporting. The Excel-file should include name of person, gender, type of degree obtained in 2011.

Antal bifogade filer: 1. Filen/filerna kan ses i resultatöversikten (webb).

FRÅGA 60

Please also state the number of obtained doctoral and licentiate degrees (male and female) during 2011, from the strategic research environment. The numbers in the boxes below should be the same as the number of degrees that have been listed in the excel-file D 1 c.

	Female	Male
Number of PhD degrees	2	4

FRÅGA 61

	Female	Male
Number of Lic degrees	0	1

FRÅGA 62

D.1 Scientific quality in an international comparison

FRÅGA 63

d. Publications 2011

Please only list articles published during 2011, not submitted papers or manuscripts. Please upload the Excel-file "D1 d i-iii List of publications" that was sent out together with the instruction for reporting. All sheets in the excel-file should be filled in with information on the following areas before uploading.

i. Scientific peer-reviewed publications in refereed journals. Including: Authors, Title, Journal, Volume, Issue, Pages (x-y) and Year of Publication.

ii. Peer-reviewed conference papers.

iii. Other scientific publications (books, theses etc).

Antal bifogade filer: 1. Filen/filerna kan ses i resultatöversikten (webb).

FRÅGA 64

Please also state the number of publications in 2011 from the strategic research environment. The number should be the same as the number of publications that has been listed in the excel-file D 1 d i-iii.

	Number of scientific peer-reviewed publications	Number of peer-reviewed conference papers	Number of other scientific publications (books, thesis etc.)
	156	21	40

FRÅGA 65

D.1 Scientific quality in an international comparison

FRÅGA 66

e. Conferences, research visits and visiting researchers in 2011

Please upload the Excel-file "D1 e i-iii List of conferences etc" that was sent out together with the instruction for reporting. All sheets in the excel-file should be filled in with information on the following areas before uploading:

i Major conferences and seminars arranged.

ii Visiting researchers (not included in C2a) and duration (more than 2 weeks). (Name, position, home university etc).

iii Research visits by personnel in the strategic research environment (included in C2 a) and duration (more than 2 weeks). (Name, position, host university, department etc.).

Antal bifogade filer: 1. Filen/filerna kan ses i resultatöversikten (webb).

FRÅGA 67

Please also state the number of conferences, visiting researchers and research visits during 2011. The number should be the same as the number that has been listed in the excel-file D1 e i-iii.

	Number of conferences	Number of visiting researchers	Number of research visits
	15	12	7

FRÅGA 68

D.2 Strategic importance for the business sector and society

It needs to be stressed that there is a significant time-lag between the production of results and their impact on the business sector and society.

FRÅGA 70

b. Innovation impact in 2011

Some research has an impact on industry and society e.g. concerning improved methods for treatment, improved effectivenes etc.

i. Please state names and business registration numbers (only for Swedish organizations) of the organizations that during 2011 have utilized results and competence from the strategic research environment in the development of improved methods etc.

Start by specifying the number organizations utilizing results and competence from the strategic research environment in the development of improved methods etc. Click on OK and the specified number of rows will be created. Fill in the created table by stating name of organization, business registration number and comments (if any).

Number of organizations

Name of organization	Business registration number	Comments (e.g. type of innovation)

FRÅGA 71

D2. Strategic importance for the business sector and society

FRÅGA 72

b. Innovation impact in 2011 (cont.)

Some research has an impact on industry and society e.g. through supporting the development of new goods, services or processes.

ii. Please state names and business registration numbers (only for Swedish organizations) of the organizations that during 2011 have utilized results and competence from the strategic research environment in the development of goods, services or processes.

Start by specifying the number of organizations utilizing results and competence from the strategic research environment in the development of goods, services or processes. Click on OK and the specified number of rows will be created. Fill in the created table by stating name of organization, business registration number and comments (if any).

Number of organizations

Name of organization	Business registration number	Comments (e.g. type of innovation)

FRÅGA 73

D2. Strategic importance for the business sector and society

FRÅGA 74

b. Innovation impact in 2011 (cont.)

iii. Have new or improved products/groups of products such as services or goods been utilized by public organizations during 2011?

Yes	○
No	◉

FRÅGA 75

iv. Have new or improved products/groups of products such as services or goods been introduced in the market during 2011?

Yes	○
No	◉

FRÅGA 76

D2.Strategic importance for the business sector and society

FRÅGA 77

b. Innovation impact in 2011 (cont.)

v. Were new private or public companies established during 2011 as a consequence of research and activities related to the strategic research environment?

Yes	○
No	◉

FRÅGA 78

D2.Strategic importance for the business sector and society

FRÅGA 79

b. Innovation impact in 2011 (cont.)

vi. If new private or publiccompanies where established during 2011 ("yes" on pervious question). please list names and business registration numbers of the new companies in 2011.

Start by specifying the number of new private or public companies. Click on OK and the specified number of rows will be created. Fill in the created table by stating name of organization, business registration number (only for Swedish organizations) and comments (if any).

Number of new companies

Name of organization	Business registration number	Comments

FRÅGA 80

D2. Strategic importance for the business sector and society

FRÅGA 81

c. Immaterial property rights in 2011

i. Has there been any application for immaterial property rights (IPR) during 2011? (Immaterial property rights consist of patents, design patents and trade mark protection).

Yes	○
No	◉

FRÅGA 82

D2. Strategic importance for the business sector and society

FRÅGA 83

c. Immaterial property rights in 2011

ii. If there has been any applications for for immaterial property rigths (IPR) during 2011 ("yes" on previous qusetion), please list the applications below. Immaterial property rigths consists of patents, design patents and trade mark protection.

Start by specifying the number of applications for immaterial property rights (IPR) during 2011. Click on OK and the specified number of rows will be created. Fill in the created table by stating patent/ID-number and type of IPR.

Number of immaterial property rights

Patent/ID-number

FRÅGA 84

D2. Strategic importance for the business sector and society

FRÅGA 85

d. Mobility in 2011

Please upload the Excel-file "D2 d i-iii Mobility" that was sent out together with the instruction for reporting. All sheets in the excel-file should be filled in before uploading. The Excel-file should include name of person, gender, name of organization etc in the following areas:

i. List of persons from industry who have been employed or engaged within the framework of the strategic research environment during 2011. (By employed we mean at least 10 percent of a full time employment. By engaged we mean e.g. in kind contributions. By industry we mean privately and publicly owned companies active in a market.)

ii. List of persons from organizations outside of academia other than industry, who have been employed or engaged within the framework of the strategic research environment during 2011. (By employed we mean at least 10 percent of a full time employment. By engaged we mean e.g. in kind contributions.)

iii. List of researchers from the strategic research environment who have been employed or engaged by industry or industrial research institutes during 2011. (By employed we mean at least 10 percent of a full time employment. By engaged we mean e.g. in kind contributions.).

Antal bifogade filer: 1. Filen/filerna kan ses i resultatöversikten (webb).

FRÅGA 86

Please also state i) the number of persons from industry, ii) the number of persons from organizations outside of academia other than industry, and iii) the number of researchers from the research environment who have been employed or engaged by industry/industrial research institutes during 2011. The number should be the same as the number of persons that has been listed in the Excel-file D 2 d i-iii.

	Number of persons from industry	Number of persons from organizations outside of academia other than industry	Number of researchers from the research environment who have been employed or engaged by industry/industrial research institutes
	0	0	0

FRÅGA 87

D2. Strategic importance for the business sector and society

FRÅGA 88

e. Education in 2011

i. Has the strategic research environment carried out contract education on behalf of external clients during 2011?

Yes	○
No	◉

FRÅGA 89

D2.Strategic importance for the business sector and society

FRÅGA 90

e. Education in 2011

ii. If the strategic research environment has carried out contract education during 2011, please list clients on whose behalf the strategic research environment has carried out contract education.

Start by specifying the number of clients. Click on OK and the specified number of rows will be created. Fill in the created table by stating name of external client, subject area of contract education, number of participants of the contract education and extent of contract education (days).

Number of clients

Name of external client	Subject area of contract education

FRÅGA 91

D2. Strategic importance for the business sector and society

FRÅGA 92

f. Policy impact in 2011

Some research has impact in the public realm, e.g. through supporting government in setting policy or standards. Please, list any such impacts during 2011.

Start by specifying the number organizations where these impacts have taken place. Click on OK and the specified number of rows will be created. Fill in the created table by stating name of organization, area of activity, role and kind of impact.

Number of organizations

31

Name of organization	Area of activity	Role	Kind of impact
SMHI, Regeringskansliet, Naturvårdsverket	Climate change and air pollution	Oral presentation by H Pleijel at seminar: Kortlivade klimatpåverkande ämnen, SLCF, Stockholm, Sweden, March 8, 2011	Communication of science to policymakers

Name of organization	Area of activity	Role	Kind of impact
Long-Range Transboundary Air Pollution convention	Transboundary air pollution and its effects	Ozone Pollution: A Hidden Threat to Food Security. H Pleijel co-author.	Report of scientific evidence for policy makers and the public
European Parliament	Round table debate at the European Parliament, (www.lu.se/soil-ecology-group/research/soilservice/dissemination) to promote decisions on the new CAP in the EP, together with several DGs.	Researcher in a Soilservice project coordinated by Lund University (K. Hedlund)	Communication of research to policymakers.
Global Research Alliance	Agricultural Greenhouse Gases. Annual meeting and Senior Officials meeting in Versilles28th February to 3rd March 2011.	Å Kasimir Klemedtsson, the Swedish representative in the croplands group. Sharing co-ordination of component 2 (peatlands) with Norway and Finland.	Providing research, synthesis and overview as support to policymakers.
The Swedish research Council Formas	Presentation of evaluation of Swedish Biodiversity Research 2 February 2011	Invited speaker (H.G. Smith)	Contribution to research policy in relevant areas
World Bank	Climate Change and discounting	Oral presentation by T. Sterner about climate change and discounting.	Communication of science to policymakers
Mistra Council for Evaluation of Environmental Research	Environmental policies	Member of Executive committee(H Smith)	Science-based policy support
The County Administrative Board, World Wildlife Fund (WWF), The Sami Parliament in Sweden, National Association of Swedish Sami, and several Sami villages.	Responses to reindeer grazing and climate change in the Swedish mountains	Stakeholder meeting	Communication and of science and feedback from stakeholders
Convention on the Biological Diversity	SBSTTA 15 meeting, 7 -11 Nov 2011, Montreal, Canada	U. Molau, member of the Swedish delegation to CBD, negotiator for Sweden under the agenda item Arctic Biodiversity. Molau was speaking on behalf of the Arctic Council, its eight member states and six major indigenous peoples organizations (Sweden is chair of Arctic Council 2011-2013). Drafting of decision texts for COP17	Communication of science to policymakers

Name of organization	Area of activity	Role	Kind of impact
Swedish Scientific Council on Biological Diversity (Vetenskapliga Rådet för Biologisk Mångfald)	National focal point for Convention on Biological Diversity	U. Molau, nominated delegate of the board since 2006	Communication of science to policymakers
North Sea Region Climate Change Assessment (NOSCCA)	Climate change assessment	G. Wallin is member of the steering committee	Supporting policy makers with environmental assesment
The Swedish Energy Agency	Climate Change and green energy; a round table discussion of social science about wind power	Oral presentation by J. Coria: Policy Instruments to Foster Green Technologies	Communication of science to policymakers
The Swedish Energy Agency	Compiling synthesis on environmental effects of forest fuels	Member of the synthesis group, working on acidification and nitrogen leaching (C.Akselsson)	Communication of science to policymakers
The Swedish Environmental Protection Agency	Evaluation of environmental effects of CAP 2013 reform	Expert modelling M. Brady	Communication of science to policymakers
The Swedish Environmental Protection Agency	Work on the environmental objective “Natural Acidification Only” and “Zero Eutrophication”	Contributing with material to “Fördjupad utvärdering” to the Swedish Environmental Protection Agency(C. Akselsson)	Communication of science to policymakers
The Swedish Government	Commenting on the proposed future Swedish governmental strategy on production of biogas in Sweden	Researcher (K. Hedlund)	Communication of research
The Swedish Environmental Protection Agency	Contributing to the national environmental policy.	K. Bäckstrand member of the Scientific advisory group	Communication of science to policymakers
The Swedish Environmental Protection Agency	Workshop about: JordbruksmarkBiologisk mångfald och Sveriges nollvision för växthusgasutsläpp till 2050. Effekter av markanvändning inom jordbruket relaterat till andra policyområden, Stockholm 1st November	Å Kasimir Klemedtsson, expert invitation	Communication of science to policy makers
Intergovernmental Panel on Climate Change (IPCC) emission factor editorial board	LULUCF greenhouse gas emission factors, Mumbai meeting 17-20th October 2011.	Å Kasimir Klemedtsson elected member of the LULUCF EF group. Task force on national Greenhouse Gas inventories	Communication of science to policy makers and public

Name of organization	Area of activity	Role	Kind of impact
Intergovernmental Panel on Climate Change (IPCC)	WG2 Lead Author Meeting #1, 10-14 Jan 2011, Tsukuba, Japan	U. Molau, nominated lead author of IPCC WG2, Chapter 18 “Detection and attribution of change”. Chapter author meeting, plenary interactions with WG1	Communication of science to policy makers and public
Intergovernmental Panel on Climate Change (IPCC)	WG2 Lead Author Meeting #2, 11-15 Dec 2011, San Francisco, CA, USA	U. Molau, nominated lead author of IPCC WG2, Chapter 18 “Detection and attribution of change”. Chapter author meeting, plenary interactions with WG1 and WG3, cross-chapter collaborations within WG2	Communication of science to policy makers and public
Intergovernmental Panel on Climate Change (IPCC) emission estimations	Creating a new “good practice handbook” for wetlands for IPCC	L. Klemedtsson lead author and contributing author to different part of the work. Task force on national Greenhouse Gas inventories	Communication of science to policy makers and public
Intergovernmental Panel on Climate Change (IPCC)	Contributing author to the chapter "Policy Financing and Implementation)	Contributing author (K. Ericsson) in the IPCC report on Renewable energy sources and climate change imitation	Communication of science to policy makers and public
Swedish Board of Agriculture	Compilation of current knowledge and prodicung the report "Kunskapssammanställning-växtskydd och klimat. Modellering av klimatets påverkan på produktion och risk för skadegörare inom jordbruket".	Authors of the report (A M Jönsson, O. Anderbrant, J. Holmér, B. Pulatov, G. Schurgers, G. Svensson.)	Knowledge support for government agency.
Swedish Board of Agriculture	Field demonstration of research on promotion of biodiversity in farmland for the Analytical Unit of the Swedish Board of Agriculture at Torup, Scania 12 September 2011	Researcher and project leader H. Smith	Knowledge support for government agency.
Swedish Board of Agriculture	Research compilation "Åtgärder för att gynna biologisk mångfald i slättbygder – en kunskapssammanställning. Lunds Universitet"	Authors of the report Smith, H.G., Jönsson, A.M. & Rundlöf, M. (2011).	Knowledge support for government agency.

Name of organization	Area of activity	Role	Kind of impact
Swedish Board of Agriculture	Research compilation "Nattfjärilsdiversitet i jordbrukslandskapet: markanvändning som en nyckel till ökad mångfald i slättbyggd". Lunds universitet	Author of the report: Pettersson, L. B. 2011. Moths in the agricultural landscape – land management as a key to increased biodiversity in intensively farmed landscapes. SJV Rapport 2011:45, 52 pp.	Knowledge support for government agency.
Swedish Environmental Protection Agency	Running nationwide biodiversity monitoring adn predicting biodiversity indices.	Heading the Swedish Bird Survey- the nation wide monitoring Scheme (Å.Lindström)	Environmental assessment for policy support.
Swedish Environmental Protection Agency	Establishing nationwide biodiversity monitoring	Heading the Swedish Butterfly Monitoring Scheme(L.Pettersson)	Environmental assessment for policy support.
Riksdagens utredningstjänst at the Swedish Parliament	Speaker at “Klimatforskningen vid Lunds universitet” (Climate research at Lund university) and "How long will the bees work for free?" (Climate change and ecosystem services) 13 September 2011	Oral presentation (H.G. Smith)	Communication of research
Swedish Meteorological and Hydrological Institute	Research compilation "Uppdatering av den vetenskapliga grunden för klimatarbetet" in Klimatologi 4, SMHI 2011	Authors of the report (Rummukainen, M., Johansson, D.J.A., Azar, C., Lagner, J., Döscher, R., Smith, H.G.)	Knowledgebase for decisions makers in government.

FRÅGA 93

D2. Strategic importance for the business sector and society

FRÅGA 94

g. Public impact in 2011

Please list public impacts through for instance media, textbooks, conferences, popular science presentations and policy lobbying etc during 2011.

Start by specifying the number of activities. Click on OK and the specified number of rows will be created. Fill in the created table by stating type of activity, purpose of activity, name of activity and reference (e.g. http://www.xxx.yy)

Number of activities

44

Type of activity	Purpose of activity	Name of activity	Reference
Popular Science presentation	Inspiring children's interest in plants	"Tree Johan"	Johan Uddling
Radio interview	Communication to the public	Thomas Sterner interviewed by Jonas Hägglund, concerning taxes on gasoline, Radio P4 Feb 10 2011 for Västekot.	Thomas Sterner
TV interview	Communication to the public	Thomas Sterner interviewed by French international news channel, is dedicating its debate today to Carbon tax, the day before Michel Rocard (former French Prime minister) presents his report on carbon tax to the French government	Thomas Sterner
Open seminar speaker	Communication of science	Edwin Muchapondwa, Research Officer for EFD, Environment for Development initiative and Thomas Sterner invited speakers at Chalmers December 15, seminar on sustainable development with the theme of Africa	Thomas Sterner
Open seminar speakers	Communication of science	University of Gothenburg and IPCC researchers Thomas Sterner presentation in the Climate seminar series at the University of Gothenburg (November 2011)	Thomas Sterner, Ulf Molau
Popular Science presentation to landowners	Research and knowledge communication	Landowner meeting with information on consequences climate change and greenhouse gases at the research site Skogaryd near Uddevalla.	Robert Björk
Interview in newspaper article after press release	Communication of science	Article in Göteborgs-Posten	Håkan Pleijel, Maria Grundström
Radio interview	Communication to the public	Leif Klemedtsson interviewed by Pelle Zettersten, concerning GHG from terrestrial and limnic ecosystems. Radio P1 Science.	Leif Klemedtsson
Popular Science Articles	Communication and dessimination of science	Soil research communication	Håkan Wallander (Natur och Trädgård)

Type of activity	Purpose of activity	Name of activity	Reference
Popular Science Article	Communication and dessimination of science	Popular Science paper: Jordbruksfåglar blir skogsfåglar?	Green, M. & Lindström, Å. 2011. Jordbruksfåglar blir skogsfåglar? - Lewander, M. (red.) Skog & Mark 2011 - om tillståndet i svensk landmiljö, pp. 10-12.
Popular Science Article	Communication and dessimination of science	Svensk Fågeltaxering 2010(Presentation of monitoring work for amateur Ornithologists)	Lindström, Å., Green, M. & Ottvall, R. 2011. Svensk Fågeltaxering 2010. – Vår Fågelvärld, suppl. 51, pp. 9-21.
Public lecture	Communication and dessimination of science	Konferens om hotad biologisk mångfald i skogen	“Konferens om hotad biologisk mångfald i skogen” (Sveriges ornitologiska, botaniska, entomologiska och ykologiska föreningar i samarbete), Örebro 12–13 november 2011. (Å. Lindström)
Public lecture	Communication and dessimination of science	Hur länge jobbar bina gratis?(Skånes Miljöprisdag)	Ola Olsson
Popular Science presentation	Communication and dessimination of science	Behöver vi stater? Kommuners roll i miljöpolitiken	Seminar Almedalen Gotland July 7 2011 arranged by Malmö Stad (K. Bäckstrand)
Popular Science presentation	Communication and dessimination of science	popular Science presentation: Seminar on Politics and Policy of Carbon Capture and Storage	Mistra Seminar on Politics and Policy of Carbon Capture and Storage, September 29, Stockholm. (K. Bäckstrand)
Popular Science presentation	Communication and dessimination of science	Rio+20 Regional Science and Technology Workshop for Europe	http://www.tsv.fi/international/akatemiat/Rio+20/rio+20.html (K.Bäckstrand)
Radio interview	Communication and dessimination of science	Soil research communication	Ekko-Abels torn 2/9-11 (Norwegian radio) K.Hedlund
Daily news paper	Communication and dessimination of science	Varför är Ätran så brun? Hallands Nyheter	Emma Kritzberg
Popular Science Article	Communication and dessimination of science	Vattnet ser mer ut som Coca-Cola än Ramlösa? (Fokus)	Emma Kritzberg
Radio interview	Communication and dessimination of science	Sjöarna tre gånger brunare på 40 år (Radio Kristianstad)	Emma Kritzberg
Popular Science presentation	Communication and dessimination of science	Invited speaker at research conference Kristianstad vattenrike: Brunare vatten - i Helgeå och världen	Emma Kritzberg

Type of activity	Purpose of activity	Name of activity	Reference
Popular Science presentation	Communication and dessimination of science	Invited speaker at county board, Lagandagen: Brunare vatten - i Lagan och världen	Emma Kritzberg
Popular Science presentation	Communication and dessimination of science	Bin – viktiga kuggar i ett viktigt system. Varför är biodiversitet viktigt och vad är det värt – exemplet pollinering.	Invited talk at the conference ”Blommor och Bin Lyfter Landsbygden” arranged by the Board of Agriculture: Bin – viktiga kuggar i ett viktigt system. Varför är biodiversitet viktigt och vad är det värt – exemplet pollinering. (Smith, H.G. 2011.)
Popular Science presentation	Communication and dessimination of science	How long will the bees work for free?(Lunds kommun)	Celebration Lecture at the international climate conference Global Problems – Local Solutions 2011-09-07, Organized by Lunds kommun: How long will the bees work for free?(Smith, H.G. 2011.)
TV interview	Communication and dessimination of butterfly monitoring	Swedish butterfly monitoring	SVT, Gomorron Sverige (L. Pettersson)
Popular Science Article	Communication and dessimination of science	Mångfald i ekojordbruk (Miljöforskning April 2011.)	http://miljoforskning.formas.se/sv/Nummer/April-2011/Innehall/Temaartiklar/Mangfald-i-ekojordbruk/ (J.Bengtsson, H. G. Smith, I. Öborn)
Popular Science presentation	Communication and dessimination of science	Hur länge jobbar bina gratis?	Smith, H.G. 2011. Talk at the public seminar series about climate change organized by Lunds kommun, Lund University and the Society for Nature Protection in Scania: Hur länge jobbar bina gratis? (Smith H.G. 2011)
TV interview	Communication and dessimination of science	Humlans existens är hotad(TV4-Nyhetsmorgon)	http://www.tv4play.se/nyheter_och_debatt/nyhetsmorgon?title=humlans_existens_ar_hotad&videoid=1329920(A. Persson)

Type of activity	Purpose of activity	Name of activity	Reference
Popular Science Article	Communication and dessimination of science	Biologiska landskapsprocesser i odlingslandskapet.	Smith, H.G. & Öckinger, E. 2011. Biologiska landskapsprocesser i odlingslandskapet. In: Almstedt Jansson, M ., Ebenhard, T. & de Jong, J. (eds). Naturvårdskedjan – för en effektivare naturvård. CMB:s skriftserie 48. Centrum för Biologisk Mångfald, SLU, Uppsala.
Popular Science presentation	Communication and dessimination of science	Conservation of biodiversity – do we really need more science?	Compére and panel member at discussion “Conservation of biodiversity – do we really need more science?“ during the Crafoord Price Cermony in Lund 2011 -05-11. (Smith H.G. 2011)
Seminar	Stakeholder interaction/Communication and dessimination of science	Tillväxt, risk för skador, ekonomi och anpassningsutrymme - hur påverkar ett förändrat klimat den svenska skogen?"	http://www.mistra-swecia.se/program/mistraswecia/home/events/events/tillvaxtriskforskadorekonomiochanpassningsutrymmehurpaverkarettforandratklimatdensvenskaskogen (A.M. Jönsson)
Popular Science presentation	Communication and dessimination of science	Wildfires a global review	V.Lehsten
Stakeholder interaction seminar/Popular Science presentation	Communication and dessimination of science	Försurning – var inte problemet löst?	http://www.slu.se/aciduperseminar2011 (C.Akselsson)
Popular Science Article	Communication and dessimination of science	Till klöverfröets räddning	Ekologiskt Lantbruk 2011(7)(O. Anderbrant)
Popular Science presentation	Communication and dessimination of science	Grasslands in Öland	Honor C. Prentice
Popular Science presentation	Communication and dessimination of science	Presentation of ongoing palaeoecological research in Kamchatka for Travelers Club	Dan Hammarlund
Radio interview	Communication and dessimination of science	Comment on paper in Science about possible migration of early modern humans across the Red Sea around 130,000 years ago.	Vetenskapsradion (Sveriges radio) Dan Hammarlund

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Popular Science presentation	Communication and dessimination of science	Annual Report	http://www.dagfjarilar.lu.se/sites/default/files/pdf/sebms_2010.pdf (L. Pettersson)
Web site	Dessimination and Communication of Science	Site Development	http://www.dagfjarilar.lu.se (L. Pettersson)
Radio interviews	Dissemination and communication of Science	Swedish butterfly monitoring	National radio (P1 Morgon, Studio Ett, Naturmorgon) and Regional Radio (P4 Malmöhus, Skaraborg, Dalarna) (L.Pettersson)
Popular Science presentation	Communication and dessimination of science	COST action meeting on "Ozone, climate change and forests".	Oral presentation by J. Uddling: Ozone flux-response relationships for aspen and aspen-birch forests in the Aspen FACE experiment
Documentary movie	Communication and dessimination of science	Mandelblom, kattfot och blåviol	http://svt.se/2.149941/1.2460953/mandelblom_kattfot_och_bla_viol (Sven G. Nilsson)
Web-site	Communication and dessimination of science	Up close Climate	http://www.lunduniversity.lu.se/o.o.i.s/25048
Popular Science Article	Communication and dessimination of science	Klimatforskare knöt kontakter med riksdagens utredare	http://www.cec.lu.se/o.o.i.s?id=12344&news_item=7286

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D3. Other comments

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Other comments

Comment to C3. During 2011 90 % of the Governmental strategic research funding for 2011 has been used, thus the expenditures was in line with the funding.

Comment to C3a external funding. The reduction in external funding compared to 2010 is to a large extent caused by a major infrastructure grant received in 2010.

Comment on C3b costs. Other costs corresponds to the indirect costs according to the normal accounting systems at the universities/institutes involved.