



Institute of Environmental Science
and Technology

UAB
Universitat Autònoma
de Barcelona

The Institute of Environmental Science and Technology (ICTA) of the Universitat Autònoma de Barcelona supports a range of research and educational lines that are at the centre of the Institute's commitment to the study of global environmental change. ICTA promotes basic and applied research into the relations between the changing environment and society. In addition, it runs Master and Doctoral programmes in Environmental Sciences.

Currently we offer **3 doctoral and 2 post-doctoral research positions** on the following themes, supported by a combination of EU and Spanish funding:

1. **Biodiversity loss, policy instruments and economic incentives**
(2 *PhD students* and 1 *Post-doc* – contact: Prof. van den Bergh, jeroen.bergh@uab.es).
2. **Sustainability transitions, economic crisis and renewable energy**
(1 *Post-doc* – contact: Prof. van den Bergh, jeroen.bergh@uab.es).
3. **Urban biodiversity and ecosystem services: a tool for integrated policy evaluation**
(1 *PhD student* - contact: Dr. Gómez-Baggethun, erik.gomez@uab.es).

Interested candidates should send a CV including graduate and undergraduate degree qualifications, a description of research interests (300 words), and names of two referees **before the 1st of December 2011** to the relevant investigator mentioned in between brackets above. Interviews with short-listed candidates will be conducted in mid-December and contracts can **start by January 2012**.

Excellent candidates with high bachelor degree grades may also apply for PhD research scholarships from the Spanish and Catalan governments. In this case the topic is open and can be discussed with the investigator.

Background information on the projects outlined above can be found below and information about the research group can be found here: <http://www.eco2bcn.es> and <http://icta.uab.cat>.

*Institut de Ciència i Tecnologia Ambientals, Universitat Autònoma de Barcelona
Edifici Cn - Campus UAB, E-08193, Bellaterra (Cerdanyola del Vallès), Spain*

Background information about the projects

1. Biodiversity loss, policy instruments and economic incentives

This project aims to develop a framework and provide practical guidelines for the design and implementation of biodiversity conservation and ecosystem services policies, including incentive-based instruments such as carbon offsets and other Payments for Ecosystem Services, based on a scientific understanding of the relationship between ecosystem services and biodiversity. The research is part of two larger EU projects (i.e. INVALUABLE and CONNECT) led by **Dr. Esteve Corbera** and **Prof. Jeroen van den Bergh**, which in turn bring together teams from various countries and with complementary expertise.

Many biodiversity policies and their associated instruments are partial in that they do not take well into account all kinds of indirect effects on the economy, society and the environment. The research aims to assess unintended indirect effects and resulting potential ineffectiveness of biodiversity conservation policies. It further accounts for potential trade-offs between ecosystem services and the various determinants of biodiversity loss, as well as across other environmental decision-making dimensions like efficiency, equity and legitimacy. This is intended to culminate in an evaluation of suitable policies and instruments employing a range of methods and performance criteria.

The research includes conceptual-theoretical and empirical-case study research to learn about biodiversity and ecosystem services policies and instruments. Fieldwork will be conducted in Spain and Mexico, exploring initiatives of biodiversity conservation in Mediterranean and sub-tropical landscapes, respectively. In addition, the study will learn from and synthesize lessons from other cases studies. The research will also involve the organisation of and participation in international policy and civil society workshops, as well as attending meetings with the partners within the overall EU projects.

Positions advertised and required skills

Two full time junior researchers at PhD student level, for a period of three years, with a strong background in environmental science, geography, biology and/or environmental and ecological economics. Applicants *must* have an internationally recognised Master degree and show proof of outstanding English and of at least basic Spanish levels (both written and spoken). Candidates with high undergraduate and postgraduate qualifications will be favoured. The two junior researchers will work with Dr. Corbera and Prof. van den Bergh towards the consecution of their PhD degree in Environmental Sciences at ICTA.

One full time senior researcher at postdoc level, for a period of three years, with a strong background in environmental science, geography, biology and/or environmental and ecological economics. Applicants *must* have internationally recognised Master and Doctoral degrees in the previous highlighted areas and show proof of outstanding English and of at least basic Spanish levels (both written and spoken). Candidates with high undergraduate and postgraduate qualifications, as well as those with PhD dissertations addressing biodiversity and ecosystem services policy related themes, will be more positively considered. The postdoc will work on the projects' conceptual framework, conduct some empirical research on fieldwork sites and support the principal investigators in management tasks and the organisation of policy and project workshops.

2. Sustainability transitions, economic crisis and renewable energy

Europe is currently faced with a relatively poor economic perspective, characterized by low growth, a high rate of unemployment and growing public budget deficits. On top of this, peak oil and climate change are posing threats to future well-being. This study aims to examine the conditions under which a smooth transition is possible to a sustainable economy with a reasonable level of social welfare and employment.

The research will pay much attention to undesirable impacts of transition strategies and policies, through two focal points: (1) behaviour of individuals and groups beyond rationality and self-regarding approaches; and (2) various types of leakages of energy conservation, such as rebound, green paradox and carbon leakage. A policy model will be developed to include the interaction between all these complicating factors.

Another theme that will receive attention is how much technological diversity will be required to allow for a smooth transition to a more sustainable economy. This means taking into account increasing returns to scale on demand and supply side of markets, learning speeds in R&D versus in market application of renewable energy technologies, and keeping options open.

The ultimate outcome of this research will be more insight about the policy package that can foster a transition to a development path for Europe characterized by high welfare, equality and environmental and resource sustainability. The project is part of the WWWforEurope EU project, which combines expertise from various disciplines to address these questions. This means that although the questions are ambitious, the research can benefit from the interaction and cooperation with partners in other countries.

Position advertised and required skills

A senior researcher at post-doc level, either halftime for 3 years or fulltime for 1.5 years. Suitable candidates have a background in macroeconomics, environmental economics or econometrics but highly motivated candidates with other educational backgrounds will be considered as well. Note that the project also includes a PhD student (already hired). So the research will involve a local team, where intense cooperation with the PhD student is foreseen.

3. Urban biodiversity and ecosystem services: a tool for integrated policy evaluation

More than 50% of the world's population and more than 75% of Europeans live in cities. The continuous increase in the number and size of urban regions, and the ensuing transformation of landscapes at different scales, pose great challenges for reducing the rate of biodiversity loss and for ensuring the quality of life in urban areas. Important ecosystems for human well-being in cities include microclimate regulation, sewage treatment, air quality, and recreational services from green areas. However, these services are often taken for granted and their multiple values tend to be overlooked in decision-making processes for urban planning.

The goal of this research is to develop a multi-criteria evaluation framework to assess the ecological, societal and economic values of urban ecosystem services. This framework will provide practical guidelines for the implementation of policies aimed at maintaining and restoring ecosystems to improve the sustainability and quality of life in cities.

The research will be led by **Dr. Erik Gómez-Baggethun** and **Dr. Giuseppe Munda** and is part of a larger EU project (URBES) involving nine top research institutes in Europe. The project will address gaps in scientific knowledge on urban biodiversity and pioneer the development of ecosystem services policies in an urban context. It is innovative in terms of integrating monetary and non-monetary valuation techniques to support decision-making processes for urban planning.

The project will link to important international policy initiatives such as the Convention of Biological Diversity (CBD), The Economics of Ecosystems and Biodiversity (TEEB), the International Panel on Biodiversity and Ecosystem Services (IPBES), and the post-2010 EU Biodiversity Strategy and the Thematic Strategy on the Urban Environment. It includes theoretical and empirical-case study research to learn about policies protecting biodiversity and ecosystem services in cities. The research will also involve the organisation of and participation in international policy and civil society workshops.

Position advertised and required skills

One full time junior researcher at PhD student level, for a period of three years, with a strong background in environmental science, biology, geography, ecological economics or environmental economics. Applicants must have an internationally recognised Master degree and show proof of outstanding English and of at least basic Spanish levels (both written and spoken). The junior researchers will work with Dr. Gómez-Baggethun towards the consecution of their PhD degree in Environmental Sciences at ICTA.