Environmental damage cause costs to society. These costs have to be estimated if they are to be included in (quantitative) political and economic decision making. In the context of climate effects extensive research already exists. This research can roughly be divided in two categories:

- Estimates of damage costs resulting from climate change;
- Estimates of abatement costs resulting from mitigating climate change.

The models that have been developed in order to estimate climate costs according to these two cost concepts yield numerous results. But they also raise many questions, e.g. regarding the underlying assumptions, the scenarios employed, the variance of the results and their appropriate context of application.

In this project the literature on global climate cost models (IAMs) and on global and regional (Germany or European Union) abatement cost models is to be assessed, analysed and presented in-depth. The results are intended to be used i.a. in determining the climate cost rate of the UBA Methodological Convention on Environmental Costs. For this purpose the results shall extend and significantly deepen the discussion papers (Sachstandspapiere) on climate costs existing in the context of the Methodological Convention.

In addition to a well structured presentation of the analysed studies and study results the following issues and questions have to be addressed, among others:

- On which normative, economic, social and climate political assumptions are the respective studies based? How are these assumptions motivated and are they still justified from today’s perspective? How are they evaluated in the recent scientific discussion? To what extent do they reflect the development in politics?
- Existing studies yield result in a broad range both for damage costs and for abatement costs. Which share of these ranges can be attributed to the
different assumptions? Are there scientific agreements that harmonize assumptions and thereby decrease these ranges? Do damage cost and abatement cost models differ in this respect?
- How do models differ regarding their mechanisms (e.g. regarding the optimization algorithms) and regarding how they consider the biophysical background? To what extent are these differences responsible for the variance of the modelling results?
- For which areas of application (local/ regional/ global, business/ economy/ politics etc.) are the models appropriate? Do the model assumptions (e.g. global vs regional optimization, choice of discount rate) reflect these areas of application?

**Suitability criteria**

The research question make it necessary that the tenderer already possess extensive scientific experience in the evaluation of climate costs. As the requirements of the project’s objectives are very heterogeneous the tenders of national or international cooperations of researchers/ institutions are explicitly welcomed, where experts on the respective fields research the different questions.

In order to determine suitability, performance and reliability, the tenderers shall provide the following evidence:

1. **Suitability**
   - Documentation of experiences and competence of the persons to be involved in the project.
     - Documentation of references separately in each of the following areas:
       - Conducting scientific meta studies on environmental topics (at least three successfully completed pertinent reference projects or at least three pertinent publications or research articles; not older than five years);
       - Modelling climate costs, both global damage cost models and abatement cost models (at least one successfully completed pertinent reference project or at least one pertinent publication; not older than three years);
       - Expertise on climate policy and the national and international discussion (at least three successfully completed pertinent research projects, or at least three pertinent publications or research articles; not older than three years);
     - proof by job profiles and qualifications;

2. **Performance**
   - Documentation of the organizations profile, incl. proof of performance
(technical, staff, business, financial) to ensure the proper conducting of the project and the professional fitness of the organization;
- Documentation of successfully completed reference projects and experiences in conducting of scientific projects comparable in type and magnitude;

3. Reliability
   - Self-declaration (payment of taxes and fees and social security contributions).