

## **The Value Isobars Project:**

### **Improving EU Governance of S&T through Value-based Governance**

#### **Second Communication to End-users:**

##### **On the general starting assumptions and orientation of the project**

It is realized that the European Commission in particular has already relatively advanced ideas on governance of science and technology (S&T), and that this is reflected in the content and profile of various Framework Programs for research. The White Paper on Governance (2001) and the Science and Society Action Plan (2002) marked important steps forward. At the same time it is realized that the governance schemes and tools employed so far only to a limited extent achieve the goal of bringing S&T policy more in tune with legitimate societal concerns and needs. In addition there is also still a gap between expert's priority setting and societal acceptance and trust. Thus emerges a need for governance improvements in this area.

This project has taken the position that a major improvement of governance should be based on the insight that the core of societal debates of S&T is to be found in different and partly clashing "*values*" and "*value sets*". The project sees values as something connected to, but distinct from desires, attitudes and preferences. Preferences can indicate values, and values can shape preferences, but they are not the same. Values involve a meaning dimension and hermeneutic framework which mere preferences and attitudes do not have. When we see something as one of our values we imbue it with meaning and importance, and we more or less explicitly place it in a "value set" or in relation to several other values. Values do not directly tell us what to do, as norms and principles do. But we rely on our values and value sets when evaluating our desires, preferences and actions. When we affirm something as a value, as opposed to seeing it as a mere preference or matter of taste, we tend to think that others should value it too. Values and value sets are thus closely connected to our various roles and identities, and they provide a normative framework for judging things as acceptable or unacceptable.

The project sees it as important that policy makers acknowledge the plurality and heterogeneity of values in Europe, as well as different groups' unequal opportunities to communicate their value stances. Improved governance should integrate better knowledge on these values, but also create new fora for more direct value debates. This should be part and parcel of a new social contract on science and technology.

Effects of neglecting the value dimensions can be found in apparent difficulties between scientific/technological research on the one hand, and social science/humanistic research on the other hand. In spite of efforts to combine these multiple disciplines in larger research projects, the ethics and social science parts all too often act as an addendum rather than as an integrated part of the whole. We also see that participatory methods and exercises typically address the values of interest groups or stakeholders, rather than addressing people as citizens and their values more generally. Furthermore, while upstream involvement to shape robust technology is the pronounced goal, reality is lagging far behind.

The project assumes that values enter into the process of shaping S&T continuously. Different sectors and groups like industry, the science community, different NGOs, the European Commission etc. promote different sets of values in this process. However, the sectors' different standing makes it necessary to identify sectors whose value concerns are not sufficiently taken into account in important policy decisions shaping S&T, like decisions shaping new research frameworks and programmes at the EU level. The Value Isobars project is particularly concerned with bringing awareness of what we refer to as "citizens' values" into these processes. By this we mean two things: On the one hand an increased awareness of the value concerns of ordinary citizens who do not act through organized groups whereby they can efficiently channel their concerns and priorities into the policy shaping of S&T. These publics in particular tend to realize too late how much S&T affects their lives. In this public there is also a common perception that "there is no alternative" and that they have no say in these processes anyway. On the other hand we also want to bring in an explicit focus on the value concerns of citizens reasoning *as* citizens. This goes hand in hand with emphasising that EU as a sector is not only promoting values such as international competitiveness, economic growth and efficiency. Recently the EU has in a series of documents committed itself to what it calls "European Values" (which includes citizen's rights, solidarity and justice). The Value Isobars project also seeks to investigate

ways of bringing these civic values into the discourse on the policy framing in S&T at the EU level in a more efficient way.

A project focusing on citizens' values and on how policymakers can understand them better can be suspected of merely trying to contain conflict over emerging technology and research. By putting a particular emphasis on citizens' values and the proclaimed "European Values" we not only hope to make more accurate descriptions of the European value landscapes, but also to bring these values and concerns into the discussion more vividly and at an earlier stage. We believe that this would significantly enhance the democratic legitimacy of EU S&T policy process.

The difficulties and complexity in bringing out the explicit value dimension should not be underestimated. There is already a major research effort on European values and values in Europe, going back to the 80s. In addition important data on attitudes to policy matters in the EU is gathered from Eurobarometers and national surveys. However, it is the understanding of this project that existing studies and surveys have not been able to secure a sufficiently value based governance of S&T in Europe. We believe there are several reasons for this, as you will see below. We also find that extra efforts are needed to draw out the value attitudes of citizens not represented by a particular stakeholder groups, and the civic values of citizens reasoning *as* citizens.

This project wants to address these problems for policy-makers interested in a more value-based governance of S&T. We have chosen to primarily aim at European actors and targets involved in S&T policy making. This does not imply that national, regional or other levels are not intended users, rather it means that our communication will be framed with the European target in mind and that adjustments might have to be made when transferring our ideas to other levels and actors.

This document is not the place to elaborate on all issues of governance, nor to review the extensive literature on this topic. Partly this will be done in the different WPs and their documents. What we want to do in this communication is to focus on the intended outcome of our project and to highlight some of the core ideas about how to improve governance by a better integration of value perspectives. We want to present some of our current and still preliminary ideas of value-based governance, and what new actions and tools we might end

up proposing. By doing so we hope to get feed-back from you at a stage where new ideas can still be introduced.

## **Specific suggestions for a Value-based Governance**

### **Target group 1: EU policy makers in S&T (DG Research, European Parliament, Member state research officers)**

*- Governance tools with an explicit value basis*

This project works on the assumption that explicit reference to value dimensions of science and technology is useful in a policy context. However, as shown in our different work-packages, these value dimensions are often poorly represented and poorly understood, and very little reliable knowledge is available on what the values are that actually matter for people when assessing science and technology. These concerns are the core of the Value Isobars project. We want to propose new methods for elucidating European value dimensions that matter for S&T policy. In the following we list some specific, but tentative, suggestions of how to bring out the value dimension. The main target group for our suggestions in this section is i) The EU Commission (here specifically DG Research), (ii) The European Parliament, and (iii) Project coordinators under FP7 or higher.

We believe that there should exist a forum where policy makers at different levels can get reliable knowledge on values in their European context and a forum where these can be discussed. There are a few existing studies, surveys and on European values in addition to Eurobarometers and national surveys. There are also a number of webpages on European values although most of these are partisan. We see several problems for policy makers who seek to be informed by these studies in their S&T policy making. First of all, the sheer amount, the different forms and the varying quality of these studies and surveys represents a problem for a policy maker. Secondly, few of the surveys and studies focus explicitly on values and concerns relating to new and emerging sciences and technologies. Thirdly, many of these studies, and in particular the quantitative surveys, focus on singular preferences and fail to bring out the value sets of the respondents in their questions and data analysis. To address these kinds of problems we consider making the following suggestions.

- 1.a "European S&T Value Atlas": We propose that the EC and the European Parliament should routinely be informed by a "European S&T Value Atlas" (EST-Value Atlas) that is adjusted to typical problems for S&T policy making.<sup>1</sup>

We propose that a European S&T Value Atlas could have the following features:

- A short booklet presenting findings of various European and national value studies and value surveys with particular relevance for S&T policy makers. The findings should be presented in easily understandable graphic representations, like various types of maps, charts, tables and graphs. These graphical representations should be accompanied by a short analysis, commentaries and list of further reading.<sup>2</sup>

- We propose that the first section presents the findings of central value studies and value surveys with particular focus on, or relevance for, S&T generally. We hope that this part can provide an overview of historical trajectories of value changes and value conflicts with regard to S&T in Europe, analyzed along different dimensions.

- Other sections should have a narrower focus. One proposal is to single out specific areas of S&T, like Nano, Biometrics or GMO, and present particular relevant findings from various value surveys and value studies for each area. Again this should take the form of various graphical representations with a short analysis.

- Another possibility is to have sections where different "S&T value hypothesis and questions" are tested against the data available: E.g. testing the hypothesis that "Religious values are the most determining factor in the attitude to cloning among ordinary citizens", or questions like "What value conflicts do we find surrounding GMO in various groups/countries?." Not all interesting hypothesis will be possible to test with the available data, but we believe that for several such hypothesis available data can shed light on their validity.

- The EST-Value Atlas should be updated every 3-5 years. Longitudinal studies are important for enabling comparisons and identifying trends.

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<sup>1</sup> The idea of an European S&T Atlas of Values is inspired by *Le Monde Diplomatique's* influential Atlas.

<sup>2</sup> See for example the format of presentation in *Le Monde Diplomatique's* Atlas: <http://www.monde-diplomatique.fr/cartes/atlas-dechets>

- A web-based version of the EST-Value Atlas should include interactive features allowing policy makers to go into further detail and examine the exact numbers and methodologies of the various surveys and studies. However, we propose that there should be a relatively short and printed version of the EST- Value Atlas widely disseminated.

The primary purpose of gathering graphical representations of data on values in relation to S&T in an EST-Value Atlas is to aid policy makers in the following tasks: (i) designing long term S&T policies; (ii) setting priorities and specific calls in FPs; (iii) identifying needs for engagement in public dialogue and participatory exercises; (iv) designing special formats for S&T projects in order to meet societal challenges; (v) provide guidance for identifying sensitive value dimensions in specific research areas, (vi) advise when e.g. the European Group of Ethics should discuss ethical issues in a new technology in some detail.

The EST-Value Atlas has the advantage of providing different types of policymakers with the same information about relevant values in an accessible and non-technical form of presentation, thus providing a common point of reference in discussions among policy makers at different levels and from different disciplines.

Because of the short format and the non-technical form of presentation of the data this policy making tool can also be made accessible to other sectors or groups. Insofar as the scientific communities, NGOs and ordinary citizens also engage with the EST-Value Atlas, it can become a policy tool that is discussed, criticized, contested and improved. As such the Value Atlas could potentially increase the transparency of the policy-making process, or at least spark debate and engagement around S&T and value issues (see further recommendations with regard to this below).

- *1.b A new type of value survey.* We propose that a new type of value survey should complete the existing value surveys and value studies as the basis for a value-informed governance of S&T. We see the need for a value survey on an European scale with the following features:

- A value survey focusing specifically on S&T value questions, where some questions are of a more general nature allowing for longitudinal studies, and others pertain to novel or particularly contested S&T areas.
- A value survey with questions and a sampling that allows for sector segmentation across countries: We see the need for surveys unearthing the differences in value sets between a) people who are acting as various types of stakeholders (“policy makers”, “the scientific community”, various NGOs etc.”), and b) the value sets of those acting as “ordinary citizens” not affiliated with an organized stakeholder group, and c) the value sets of citizens reasoning in their role *as* citizens with a particular focus on their political value sets. We are currently working on how this might flesh out in a specific study.
- The value survey should focus on values at the center of disputed new S&T, like “security”, “autonomy”, “sustainability”, “democracy”, and should be able to reveal the extent to which different groups and sectors emphasize these values differently.
- Moreover we also want to know whether different groups and sectors typically connect these values to a particular “value set” (e.g. set of “religious values” “political values”, “family values”, etc.) when conflicts arise over S&T issues. A value like “autonomy” takes on a particular meaning and weight for a person who thinks of it primarily a political value, and this differs from the understanding of a person who thinks of “autonomy” primarily as a self-realization value. To better understand S&T value conflicts it is thus not sufficient to merely ask different groups which values they emphasize in the particular case. New sciences and technologies are likely to trigger different value sets for different groups, and we think it is important to get a better grasp on these dynamics. Ideally the value survey should also allow us to see how susceptible or suspicious a particular sector (e.g. “ordinary citizens”) is to what they perceive to be the other sectors’ priorities and value sets.

Only studies of this level of specificity can render hope of a better insight into the kinds of value conflicts that new S&T projects might elicit. Further research is needed to decide whether data of this kind can be obtained through different and broader sampling, different questions and new forms of integrative analysis in existing value surveys at an European level, or whether it requires the use of new methods.

- *1.c. The European S&T- Value web page.* We propose that the European Commission in collaboration with the European Parliament and DG Research should run an interactive web-page on S&T and values in Europe.

We see it as a problem that many S&T projects have project web-pages through which they attempt to engage publics in discussions about societal and value issues, but very often fail to engage both with the broader publics and with other projects in the same field. We therefore propose that EU funded S&T projects should be linked up to the same S&T-European Values web-page. This web page could group projects according to their field(s) e.g. “Biometrics” or “Nano technology”, thus providing a venue for projects to learn about other projects in their field, discuss the value issues they are confronting and coordinate their public outreach attempts. The S&T-Value Atlas could have a central function as a centering point of departure for value discussions in these groups.

There is already a strong focus on risk and legislation (regulative frameworks) in the EU and in its member states. NGOs often stress the need of precaution though it is often misrepresented as abstaining from innovation and aiming at zero-risk. We see a need of a richer spectrum of policy tools that is not solely based on hard law. In particular we feel policy tools for S&T need to be somewhat flexible and adapt quickly to new developments. We also believe there is a benefit in appealing to the responsibility and critical thinking of social actors themselves.

- *1.d. Update of White paper on Governance.* We propose that the EU should work out an update of the 2001 White Paper on Governance, but now with explicit discussion of soft law as governance tool.
- *1.e. Introduce soft law instruments in more areas of S&T.* We furthermore propose that the EU should extend the use of soft law instruments like “codes of conduct” in the S&T field from the current “Nano code of conduct” to other fields.

## **Target group 2: The broader public of citizens**

*- Participation and engagement in S&T by ordinary citizens*

Innovation activities, as well as S&T, typically seek upstream involvement of stakeholder groups in order to provide for robust technology development and user-oriented design. The groups invited to take part in these legitimizing upstream engagement exercises are typically recruited from NGOs or other organizations believed to represent users and various societal interests. We believe that this is only of limited use, since modern (post-industrial, information etc.) societies show that people arrange themselves along very different lines. We therefore propose to adjust this activity along the following paths:

- *2.a. Increased focus on engaging people as citizens rather than as stakeholders* defending special interests. There are participatory methods that appeal to providing policy advice across interests that should be utilized here.
- *2.b. Seek out methods of participation* that elicit the value views of people, and make them discuss possible value change and value conflicts in relation to S&T.
- *2.c. Utilize new fora for citizen involvement in S&T-debates* that emerge through new electronic communication channels, e.g. Facebook groups, twitter, or other networks. These communication channels may counterbalance some of the traditional stakeholder groups and thus increase representativity.

One of the major problems today is that the publics realize too late how much S&T affects their lives. In part this is due to the self-presentation of science towards the publics which often underscores simple expected benefits without context and discussion. While it is often claimed that the old model of “Public understanding of science” has been replaced by a dialogue model, one has to take note of the fact that most activities, like science museums, science fairs, science weeks etc., are informed by the old model. By this we mean that there is largely a one-way communication from “science” to the “public”, even when conducted through modern interactive media. In our opinion, aiming for better dialogue would imply discussing science and technology on the common platform of values. This can be achieved with modest means:

- *2.d. The S&T-Values web-site should have a social network group.*

Many citizens are concerned with particular emerging technologies, but feel overwhelmed by the amount and the technical and partisan nature of available information on new and emerging technologies. The above proposed web-page on S&T-Values could be a venue not only for scientists and policy makers in the EU, but also have a part where ordinary citizens could get an overview of past and on-going S&T projects within particular fields like “Nano technology”, “stem cell research”, “biometrics” etc. Giving the proposed EST-Value Atlas a prominent place on this web-page could both spark and center debates about S&T value concerns. This web-page is also one of the channels through which the EST Value Atlas’ outline and content could be challenged by stakeholders and ordinary citizens. The S&T-Values web-page, its sub-groups, and even the EST-Value Atlas could have their own social network groups (e.g. Facebook, twitter) to ensure dissemination and easy access for ordinary citizens.

- *2.e. Value discussions at “Researchers’ Night”.* The EU funded researcher’s night which often is embedded in national week of science presentations, could demand that e.g. the “European Corner” includes a section with “Value visions for European S&T”, and a Philosophical Café for value debates in relation to science. Presentations and discussions of the S&T Value Atlas can be an integral part of these activities.

### **Target group 3: The Scientific Community**

*- Research incentives and capacity building for a new science*

We believe that social values should inform research in S&T. This has so far been attempted by coupling social science research to scientific and technological research projects, yet all too often only as an addendum and not as a truly integrated part of the overall research. There often arise problems of communication between different fields. We believe that these existing problems can be overcome through learning and through better organizational models. There are some examples of successful integration, yet they remain isolated. We think that best practice models should be elaborated on these experiences.

- *3.a. Best practice models for S&T research projects* that truly integrate techno-scientific research and social science research.

We also think that awareness about value issues needs to be raised among researchers and that researchers should be encouraged to make the implicit value dimensions of the research more explicit and visible. As an equivalent to the standard “keyword list” we could imagine a “keyvalue list” of values potentially harmed by the project and its intended outcome, and possibly also a separate list of keyvalues potentially enhanced by the project. The requirement of providing such a keyvalue list would provide an incentive to conduct value discussions in the project, both at an early stage and as the project develops. We propose that the EST-Value Atlas can be used as a guide in a project’s discussions of how to formulate such a keyvalue list. The S&T Value-website is one of the places where a project’s keyword lists can be made public.

- *3.b. S&T-projects should provide a “keyvalues list” of the research.* The discussion about how to formulate a keyvalues lists can be informed by an EST-Value Atlas , and can be published on the S&T-values web site, where it can be discussed and challenged by other projects, stakeholders and by ordinary citizens.

Since the 1990’s there has been much talk about a new social contract for science. A major component of this is assumedly a recognition of the social responsibility of science and technology. How this is to be implemented is not quite clear. However, it seems to us that this also requires a new type of researcher, more specifically a scientific training that goes beyond mere specialties and sub-specialties and embraces the social context of science and technology. Such training is not currently encouraged by universities. It could however easily be the result of collaborations between universities as an additional qualification to a subject specific doctorate, e.g. flagged as a European doctorate (thus including science and society courses).

Another issue that needs attention is the management of scientific uncertainty. Uncertainty is often neglected in scientific presentations while it is of great interest for policy makers who want to utilize scientific information. Often the degree of uncertainty is one of the most important factors in policy-making. When weighing different values connected to different possible advantages and disadvantages the degree of uncertainty of the scientific information is decisive. This has among other things implications for the application of the precautionary principle. Work on mapping of scientific uncertainty has made substantial

progress since the mid 1990's, particularly in the Netherlands where such information is now routinely conveyed to administrators of the environment. Work on mapping uncertainties in science needs to make further progress and the first achievements should be more widely distributed to scientists.

- *3.c. Funding for a European doctorate.* We propose that the EU provides seed money for building networks among European universities to offer training courses and certificates for a European doctorate in the sense specified above.
- *3.d. Teaching uncertainty mapping.* We propose to offer funding for methodological research into *uncertainty mapping* in various disciplines and fields.
- *3.e. Courses in science for policy.* We furthermore propose to offer European wide *courses on science for policy* where methods to map uncertainties are taught.

**Questions to the end-user group:**

Your comments on:

1 Suggestions for target group 1 (EU policy makers) :

- 1.a. The European S&T Value Atlas.....
- 1.b. A new type of Value Survey with sector segmentation and focus on competing value sets.....
- 1.c. The S&T-Value web-page.....
- 1.d. Update of the White Paper of Governance.....
- 1.e. Introduce soft law instruments in more areas of S&T.....

2. Suggestions for target group 2 (Ordinary citizens):

- 2.a. Increased focus on engaging people as citizens.....
- 2.b. Seek out methods of participation that elicit the value views of citizens.....
- 2.c. Use of e-fora for citizen involvement.....
- 2.d. The S&T-Values web-site should have a social network site .....
- 2.e. Value discussions at Researchers' Night.....

3 Suggestions for target group 3 (The scientific community):

- 3.a. Best practice models for integrated S&T projects .....

- 3.b. S&T projects should provide a “keyvalues list” .....
- 3.c. Funding for a European doctorate.....
- 3.d. Teaching uncertainty mapping.....
- 3.e. Courses in science for policy.....

4 Do you find the conceptualization of “values” and “value sets” under section 1 clarifying for the purposes of this project?.....

5 What is (still) missing if governance of S&T is to be improved?.....

6 What do you see as a particular strengths of the proposal(s): .....

7 What do you see as a particular weakness of the proposal(s): .....

8 What do you think is still unclear, which parts or perhaps all? : .....

**Thank you for your kind cooperation!**

**The Value Isobars Project Team.**