

**ERC Advanced Grant 2017
Research proposal [Part B1]¹**

**The Rise of Global Environmental Governance:
A History of the Contemporary Human-Earth Relationship**

GLOBEGOV

- Name of the Principal Investigator (PI): **Sverker Sörlin**
- Name of the PI's host institution for the project: **KTH Royal Institute of Technology**
- Proposal duration in months: **60**

GLOBEGOV is a historical study of humanity's relation to planetary conditions and constraints and how it has become understood as a governance issue. The key argument is that Global Environmental Governance (GEG), which has arisen in response to this issue, is inseparable from the rise of a planetary Earth systems science and a knowledge-informed understanding of global change that has affected broad communities of practice. The overarching objective is to provide a fundamentally new perspective on GEG that challenges both previous linear, progressivist narratives through incremental institutional work and the way contemporary history is written and understood.

GLOBEGOV will be implemented as an expressly global history along four Trajectories, which will ensure both transnational as well as transdisciplinary analysis of GEG as a major contemporary phenomenon.

Trajectory I: Formation articulates a proto-history of GEG after 1945 when the concept of 'the environment' in its new integrative meaning was established and a slow formation of policy ideas and institutions could start.

Trajectory II: The complicated turning of environmental research into governance investigates the relation between environmental science and environmental governance which GLOBEGOV examines as an open ended historical process. Why was it that high politics and diplomacy came in closer relations with environmental sciences?

Trajectory III: Alternative agencies – governance through business and civic society explores corporate responses, including self-regulation through the concept of Corporate Social Responsibility, to growing concerns about environmental degradation and pollution, and business-science relations.

Trajectory IV: Integrating Earth into History – scaling, mediating, remembering will turn to historiography itself and examine how concepts and ideas from the rising Earth system sciences have been influencing both GEG and the way we think historically about Earth and humanity.

Cross-panel motivation: GLOBEGOV is primarily a project in modern history. Its bold ambition is to forge a new kind of history for the contemporary period since World War II. A key point of departure is the assumption that this also is a period when the human enterprise is increasingly marked by a new kind of human-earth relationship where key conditions are derived from scientific knowledge of earth systems and global change. This relationship is also being institutionally and politically organized and a name for this organization is Global Environmental Governance, GEG. Hence, in this project I regard the writing of this history as an integrative undertaking where the science informed history of the earth-human relationship is inseparable from the emergence and growth of the GEG. As a consequence of GLOBEGOV's claim to write an integrative human/earth-governance contemporary history I find the project relevant to primarily modern historians but also to scholars in governance.

¹ Instructions for completing Part B1 can be found in the 'Information for Applicants to the Advanced Grant 2017 Calls'.

Section a: Extended Synopsis of the scientific proposal (max. 5 pages)

GLOBEGOV is a historical study of a comprehensive and complex governance issue in the contemporary world: humanity's relation to planetary conditions and constraints. *The key argument* of the project is that Global Environmental Governance (GEG), which has arisen in response to this issue, is inseparable from the rise of Earth Systems Science and a knowledge-informed understanding of global change. This process has now been ongoing for almost half a century since the UN Environment Conference in Stockholm in 1972. – *Yet no history of GEG exists.* GLOBEGOV *seeks to provide such a history*, although this can surely only be a beginning of work to occupy historians and environmental scholars for many years to come.

A guiding hypothesis for this project is that this history must be *integrative* and look at the deeper connections between Earth Systems Science, rising essentially since the 1980s, and GEG. It is through integration of knowledge from a very wide set of scientific practices and political experiences into a nexus of policy and global systems modelling that we find a new *Weltanschauung*, dealing with problems of governance and indeed the making of history on massive scales. These processes require long-term, concerted historical investigation to be fully understood and appreciated. Hence, the *overarching objective* of GLOBEGOV is to provide a fundamentally new perspective on GEG that challenges both previous narratives of the very recent past as well as the narratives of governance that have not paid full attention to it as an emerging empirical phenomenon that is already setting the conditions for the way societies work.

The project sets out from the new scientific knowledge that in recent years has challenged conventional understanding of the history of the post-war period. This new history coincides with what Earth System scientists call the Great Acceleration. Starting circa 1950 (Costanza et al 2007) this period is marked by remarkable increases in human impacts upon fundamental planetary functions, which could tip Earth processes beyond 'planetary boundaries' that prevailed throughout the Holocene (Rockström et al 2009). This history lies largely outside what historians would normally consider their realm of investigation, as many of the changes are detected with methods from natural science, not from history or the social sciences. Humans are however deeply entangled, both as agents of change and as subjects affected by global environmental change.

In GLOBEGOV I take much inspiration from the human species/Anthropocene debates and my own previous work over most of the present decade (see e.g. Sörlin 2017, Warde, Robin & Sörlin 2017). I will however move the question radically further: to the history of the governance of the Anthropocene world that we have now entered. This integrative history, that has yet to emerge, is the express mission of this research project. I assume its existence and I also would like to argue that it has relevance for a functional understanding of the contemporary human-earth relationship.

This provides the background rationale for GLOBEGOV – to rethink and expand what we mean by 'environmental governance' on the global scale. Instead of staying within a linear, largely diplomatic and policy history of governance institutions, GLOBEGOV will take into account what I propose calling the "real" or "historical" GEG. This consists of measures that human societies have already installed to organize Earth governance. These measures are equally global in reach and coverage. They are also often in relationship with officially-recognized institutions or legal regimes. They have developed in the Anthropocene as a response to effects of the Great Acceleration. Examples of this "real" GEG include geoengineering—in its widest extent of Earth Systems installations, technologies and terraforming; the reorganization of multinational corporations; the reformation of global memory and remembered sites; and, ultimately, also historiography and the narratives we have of the world and our place and fate in it as humans and societies.

From this stems a major hypothesis in GLOBEGOV, which is that the history of GEG cannot be separated from changes in the human-earth relationship. This hypothesis generates a range of interesting questions and ideas. To begin with: is it possible to conceive of contemporary history without also including knowledge about the changes in Earth systems, in particular as it is human societies that are the ultimate causes behind these changes? Many would say no, but in practice that is what most modern and contemporary history still does. This can be changed, as I argued in a journal precisely for contemporary history some years ago (Sörlin 2011). When this question is tested seriously, for example in the debates following Dipesh Chakrabarty's proposition that we

should write what he called a ‘species history’ (Chakrabarty 2009), there seems to be a certain reticence to this, although many also find arguments to support his idea (Adeney Thomas 2014).

Another question is about the role of natural knowledge in a reformed historiographical project. There can be no doubt that the sciences are gaining increasing influence over not only GEG but also the historical enterprise. The Earth Systems Sciences have provided us with concepts that guide our thinking and also influence policy. Significant concepts about time, change and directionality on the global scale are articulated by them: anthropogenic climate change, Anthropocene, Planetary Boundaries, resilience, and ecosystem services are among those. It is tempting to think of scientific concepts as a way of providing an evidence base for politics, but we should not forget to ask whether these concepts have a politics of their own. I would argue, therefore, that a species history – if we call it that – is even more interesting than the one Chakrabarty had in mind, but for a partly different reason. Namely, that the science that enters GEG is in and of itself historical and subject to debate and with a capacity to produce concepts that are malleable and that change over time. A science informed historiography is therefore no less political or social, or filled with human agency and intentionality, than any other history, and it is essential to develop since it touches upon what seem to be life-sustaining and fundamental processes.

Global Environmental Governance, despite its short existence as a concept (although with several forerunners; Biermann 2004), has already been theorized and articulated, mainly in the social sciences. There is by now a sizeable body of work on the evolution of GEG as a policy domain with excellent contributions (e.g. Biermann 2004, 2015), some linked to institutions in the UN (Conca 2015) or international NGO:s (Macekura 2015) or the sustainability discourse (Borowy 2013). GLOBEGOV builds on it and on work by historians of science and environmental historians (McNeill & Unger 2010, Bsumek 2013, McNeill & Engelke 2016, Kaiser & Meyer 2016, Finley 2017), Science and Technology Studies, STS and critical geography (e.g. Jasanoff 2004, Jasanoff & Long Martello 2001, Brockington et al 2008), some captured by the concept ‘planetary’ (Masco 2010, 2015, Hamblin 2013, Höhler 2015). Still it is odd how little this recent scholarship has been brought to bear on IR, geopolitics, diplomacy, or governance. While the environment as a global phenomenon has grown into a colossal policy arena where multiple issues meet and transform, a number of obstacles have prevented historians from engaging sufficiently in GEG as a policy nexus.

The institutional and legal history of conferences, treaties and regulations is rich with ideas and policy concepts, such as ‘sustainable development’ and ‘ecosystem services’ (Jolly, Emmerij & Weiss 2009). An important factor here is the role played by the historicization of ‘the environment’ (Sörlin & Warde 2007, 2009). A key finding from my previous research on this concept and on the history of environmental expertise is that ‘the environment’ has served as an integrative concept, bringing together wide-ranging issues (resource use, pollution, biodiversity, poverty, health, justice, etc.). This capacity explains its remarkable presence in this domain and its role in the forming of global governance, arguably the first issue ever to do so (Warde, Robin & Sörlin *fc* 2018).

Research agenda, work plan and methodologies

GLOBEGOV will follow the entire period from 1945 until 2022, fifty years after the Stockholm Conference. This period of almost eighty years will be chronologically and thematically structured into four interrelated “trajectories”. I have chosen the word to signal a process of open ended investigation and navigation rather than a set of rigid work packages. The themes are designed to cultivate curiosity on co-production of knowledge across the spheres of science, institutions, businesses, and what I prefer to call *communities of practice* that are essential for all of these.

Trajectory I: Formation attempts to recognize and articulate a proto-history of GEG. The core premise is that once the concept of ‘the environment’ in its new meaning was established in the immediate postwar years, a slow process started which over time led to the formation of policy ideas, concepts and functional institutions. Initially, there were few obvious ideas of how it would proceed. The UN (first through UNESCO and WMO) became a major arena where GEG could play out. Among our questions in GLOBEGOV is how “the environmental” in GEG was defined during this formative period, especially since the concept was hardly in use and climate change was not yet much of an issue. Equally important questions are how it could be defined as “global”, and what constituted “governance”, especially since that word was not yet in use? Departing from the

early definition of ‘the environment’ as a comprehensive ‘problem catalogue’ (Vogt 1948, Osborn 1948) we will look at a set of science areas as communities of practice, where international policy work was pursued. One such area is *conservation*, a very active field in UNESCO’s first two decades, with Director J. Huxley deeply engaged (Adams 2004, de Bont 2015a, 2015b, Schleper 2017). Another area of investigation will be *meteorology and geophysical sciences*, with WMO and the IGY 1957-58 in focus (Fleming 2016). *Erosion*—already a serious problem (Sears 1935) before becoming a central issue after WWII—represents a further research area.

Trajectory II: The complicated turning of environmental research into governance: A key objective here is to investigate the relationship between environmental science and environmental governance. In retrospect this may seem obvious, but it makes more sense to look at the relationship as the result of a historical process worthy of careful inquiry. How was it that high politics and diplomacy came in closer relations with environmental sciences? This Trajectory explores efforts before, around, and since 1972 for globalizing environmental research as part of GEG. Why did these sciences so readily come forth in these processes? Was it because this new object called ‘the environment’ seemingly provided status and resources, which the geophysical sciences had accumulated more of during the Cold War? New technologies of environmental data collection supported distributed computing, international arrangements of data sharing, processing and storage. Computing and forecasting efforts also resulted in popular world outlooks and games about the future of the planet and its expert design, most famously *The Limits to Growth* in 1972, supporting an imaginary of “planet management” (Elichirigoity 1999), with cybernetics as the ideal “universal” science (Bowker 1993). While the very optimistic cybernetic promises faded by the 1990s as Earth Systems Sciences prevailed, so did ideals of macro- or geoenvironmental engineering, strong since the 1960s (Hamilton 2013, Harper 2017). The past decades of global environmental change have seen a trend to put straightforward technological solutions before complicated political ones. We must therefore look into the discourse of environmental engineering and futures studies to understand the techno-scientific lining of GEG.

Trajectory III: Alternative agencies – governance through business and civic society explores private sector responses, including self-regulation through Corporate Social Responsibility, to growing concerns over environmental degradation and pollution. A particular question is to what degree business and industry organizations and actors sought to use publicity and other advertising strategies to improve their public image in such times of scrutiny. It is assumed that criticism of corporations and certain industries was heightened during exacerbated crises induced by industrial and environmental disasters such as Seveso in 1976, Bhopal in 1984, in Chernobyl in 1986, and Exxon Valdez in 1989. GLOBEGOV therefore explores how industries and business interests dealt with environmental disasters and problems, as well as claims of encroachment on the rights and lands of indigenous populations. Business and industrial interests were, moreover, often present when environmental legislation or norms were deliberated; from Stockholm in 1972 to Rio in 1992, corporate actors sought to gain a seat at the negotiating table where the environment and natural resources were discussed. The project will identify key moments and strategies over several decades, and thus assess the impact of business interests on environmental legislation at the international level as well as in national contexts.

Trajectory IV: Integrating Earth into History – scaling, mediating, remembering will turn to historiography itself and examine how concepts and ideas from the ascendant Earth Systems Sciences have influenced both GEG and the way we think historically about Earth and humanity, even suggesting the concept “Earth Systems Governance” (Biermann et al 2012). Not only do these ideas gain traction and contribute to a “naturalization” of governance, they provide compelling narratives of large environmental phenomena, suggesting dynamic alternatives to the “crisis of time” after 1989 (Hartog 2002/2015). “Anthropocene” is one of the concepts with narrative potential and implicit assumptions of how we understand time and periodization, something that has been called “political geology” (Swanson 2016). These and other Earth Systems Science ideas question established views of the Earth and the place of human societies on it. Nature, once regarded as an important but slow factor, *quasi immobile* in Fernand Braudel’s famous words (Braudel 1949), is in the Anthropocene narrative literally put on speed, producing more disaster and uncertainty and acquiring more agency; yet it is increasingly vulnerable, strangely reversing

the temporalizations and agencies (human, not natural) that historians always believed in and held dear (Paglia 2015, Quenet 2017, in press). This capacity of the Earth Systems Sciences to move into the realm of history is considerable, and I think it is an essential part of the understanding of GEG, and particularly its potential future, to rigorously analyze from where this capacity is derived and how it plays out in science, politics, and culture.

This is important also because this process is a key element of the continued rise of GEG as a global policy phenomenon. Earth Systems scientists forge alliances with historians and archaeologists through integrative global research programs and perform jointly a process of conceptual translation between different time scales. Many of the scientists are themselves skilled authors, bloggers, film makers, media personalities and engage in debates that increasingly reach across to the humanities. These communities function as practitioners of what Helge Jordheim (2014) has called “work of synchronization”, bringing geological timescales on a par with historical periodization and the time of environmental events, including climate change and species extinctions. At the same time this synchronization work contributes to a language reformation; one could think of what Reinhart Koselleck (1975/1997) called the “temporalization of concepts”. It is also an example of *scaling*, which these communities pursue with great skill, linking global warming in the Arctic to tropical monsoons (called “teleconnections”, Macis-Faura 2012) or El Niño-effects, that are now a de facto reality of human societies and need to be part of a “history for the Anthropocene” (Robin & Steffen 2006). The environmental change narratives also gain traction from media coverage and story-telling through film and social media, a field that is now drawing increased scholarly attention (Christensen 2013, Durham Peters 2015).

One could describe this as attempts to integrate Earth into History. With GLOBEGOV I will analyze this relationship as a set of scientific, cultural and political processes which occur in parallel. One version is the narratives of the earth and environmental sciences moving into the traditional realm of history through *mediating*. Another set of approaches are situated within historiography itself, where nature is playing an increasing part. This is where Chakrabarty’s “species history” comes in with explicit ambitions to move history as a discipline closer to the environmental sciences. I have myself used the concept of *environing* to historicize the Earth-affecting work of humans (Sörlin & Warde 2009), and I have taken it one step further with the concept “environing technologies” that refers to the multiple media through which we turn the outside world into the new category, e.g. seeing (monitoring, satellites), storing (museums, collections), writing (literary genres including scientific text), shaping (moulding through technologies), etcetera (Sörlin & Wormbs in progress). Another example of such processes of historicization is the social work of *remembering* and the major legacy that concerns the politics of the commemoration and forgetting of environmental issues, changes, and events, including losses. This work has also become increasingly globalized with the international and institutional projection of the environment as a scientific and cultural issue through the UNESCO World Memory and World Heritage programs.

GLOBEGOV will be *integrative*, as well as *transcultural* and *translational* and will engage with actors across the fields of science, business, policy, NGO and their *communities of practice*. It will also be expressly global, and include what I call *global fieldwork* in institutions and archives to ascertain first-hand experience of regional approaches to the globality of GEG. Bringing multiple strands of GEG—the diplomatic/institutional, science based, technological, and transitions/transformation oriented—into a comprehensive narrative, I am confident that GLOBEGOV will facilitate a more informed conversation on the future institutional and scientific GEG architecture. A methodological tool in our work is *prosopography*, following individuals within and across the institutional boundaries and systematically building their populations and networks. This information will be entered into *data assemblages* that we will in turn use for additional analysis and *digital visualizations* to further reinforce the realist approach to GEG institutions as worldly things set in time and space rather than parts of a teleological narrative of environmental progress.

Personalities that served as brokers between the different communities of practice are of great interest. In previous work (Warde & Sörlin 2015) I have used the concept “meta-specialist” to signify the leading scientists that used their prestige and double expertise, both contributive (to new knowledge) and communicative (in relation to users) (Collins & Evans 2007) to influence

GEG. These meta-specialists will appear frequently in GLOBEGOV (a Bert Bolin, a Paul Ehrlich, a Gus Speth, in our own time a Will Steffen, a Mike Hulme, a Naomi Oreskes), frequently in the role as advisors, science diplomats, or campaigners, and often with positions in global environmental science organizations, or even corporations or organizations such as OECD and UNEP.

Archival research and oral histories will be employed to identify and track the social carriers of these meta-competencies of *translation* and brokerage.. Concepts representing new scientific understanding (environment, sustainability, Deep Time, Great Acceleration, Anthropocene, Planetary Boundaries, ecological modernization, ecosystem services, etc.) are typically translated between GEG spheres by institutional actors themselves, a process we will study. But the translational work to integrate these concepts into the historical narrative will require methodological and theoretical ingenuity, and will be part of a conceptual history of GEG and the contemporary human-earth relationship that will be an ultimate outcome of GLOBEGOV.

The *transcultural* is key to GLOBEGOV methodologies. Our work will include investigating scientific institutions, governance organizations, and multinational corporations in different parts of the world. First of all because the politics of resources, climate and biodiversity vary between regions, but also because we can't assume the relationships between science, policy, governance and business are the same. Hence in addition to the integration between different scientific spheres and diverse communities of practice, GLOBEGOV will also work across cultural and political boundaries to achieve a realistic understanding of human-earth relationships embodied in GEG. GLOBEGOV will benefit from our regional presence in the Asia-Pacific including China (Sluga), and in North America/Pacific rim (Ogle, with additional fluency in Arabic), and I will hire three new PhD students making sure that there will be language skills to cover major world regions.

Research team and institutional platform

The methodologies are tightly linked to the operational logic of the project. Some empirical work will be conducted by young scholars who will be trained to become experts on global environmental institutions and their history. Three multi-year PhD projects and one 2-year postdoc project will be devoted to particular world regions and organizations. The project's senior scholars will provide support through supervision teams. Two senior scholars are based outside Europe, in Sydney (G. Sluga) and Berkeley (V. Ogle), one in Cambridge, UK (P. Warde). The PI (S. Sörlin) and one additional senior scholar (S. Höhler) are based at KTH. The project will include rotation. The PhD students and the postdoc will spend up to six months in one or several of the collaborating institutions, and all senior scholars will spend long stints at KTH in Stockholm.

Together with myself as PI, the GLOBEGOV team members all come with uniquely outstanding capabilities in modern international, institutional, economic, environmental and science history: *Sabine Höhler* has focused on Earth sciences and technologies in a global historical perspective, and the rise of planetary dimensions in politics and popular culture. *Glenda Sluga's* work has been on the history of international relations, nationalism, internationalism, and human rights. *Vanessa Ogle* recently published *The Global Transformation of Time 1870-1950* (Harvard UP 2015). Her current book project, *Archipelago Capitalism: A History of the Offshore World, 1920s-1980s* explores the emergence of tax havens and foreign trade zones as a history of capitalism and neoliberalism. *Paul Warde* (Cambridge) is an expert on energy history and economic history and his *The Invention of Sustainability* is forthcoming with Cambridge UP. The postdoc, *Eric Paglia* (PhD 2016), with a background in IR and security studies, has a double affiliation with KTH and Swedish Institute of International Affairs. He has worked on the concept of the Anthropocene, and the idea of global environmental crisis and is currently studying the role of scientific experts in shaping the 1972 Stockholm Conference agenda.

All team members will be employed in the Division of History of Science, Technology and Environment at KTH, Stockholm, Sweden, with its KTH Environmental Humanities Laboratory. Over the last decade the Division has developed, from our strong core in history into a unique and diverse multi-disciplinary center for work across the environmental humanities and social sciences. It has hosted a number of international projects in recent years, related to the history of environmental governance (funded by the Swedish Mistra agency), science policy (the Vinnova agency), and the Marie Curie Innovative Training Networks action on environmental humanities.

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