

Call for Papers:

# The Metrics of Energy: Accounting for Nature in the History of Social Science and Ecological Economics

June 15<sup>th</sup> and 16<sup>th</sup>, 2023

International workshop, organised by Anna Echterhölder and Marco Vianna Franco, [University of Vienna](#) (Key Research Area History of Science) in cooperation with the [Institute for Advanced Studies](#) IHS Vienna (research group Energy, Environment, and Sustainable Economic Structures)

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During the 19<sup>th</sup> century, several socio-economic thinkers considered energy as a unit of account. In Habsburg countries, Belgium, Rumania and beyond, accounting for economic demand and supply as well as stocks and flows of resources was tentatively rendered in metricized forms of energy. Consequently, this type of calculation began to rival monetary units of account, not without leading into comparable problems. Some argue that these initiatives were closely related to the consolidation of thermodynamics, with social dynamics being framed from the standpoint of the natural sciences (Daggett, 2019). Thermodynamics has especially been discussed with regards to economic theory (Mirowski, 1989) and, within ecological economics, with a focus on degrowth (Georgescu-Roegen, 1971; Mayumi, 2001; Röpke, 2004; Spash, 2011; Borowy and Schmelzer, 2017; Vianna Franco and Missemmer, 2023).

The role played by energy in the cultural development of human societies was seen as the basis for further theory- and policy-making. Social energetics, for example, applied energy-based theoretical frameworks and empirical data to social systems. It emerged in the early 1880s as a distinct scientific approach to understanding the interconnections between biophysical and economic issues by means of the study of energy stocks and flows. Similar developments have taken place in different branches of social science and represented the subjects of different historiographical threads, from ecological anthropology and currents within sociology and geography to social ecology and ecological economics (e.g. Martínez-Alier, 1987; Rosa, Machlis and Keating, 1988; Rabinbach, 1990; Fischer-Kowalski, 1998; Vianna Franco, 2020). However, with regard to the history of social science, this topic can still be seen as underexplored, particularly in the face of the aggravation of contemporary environmental challenges associated with the Anthropocene (Simon-Stickley, 2021).

Notably, there is an early strand of discussions around energetics emerging from Central Europe which will be central to the conference. Within an Austrian context, for example, social energetics was taken up at the turn of the twentieth century by figures such as Otto Neurath, Josef Popper-Lynkeus, and Rudolf Goldscheid. As early as the 1880s, Eduard Sacher developed a comprehensive theoretical framework in political economy centred on social energetics—roughly at the same time as Ukrainian physician and Marxist thinker Sergei Podolinsky published his landmark article on the topic ([1881] 2004). The application of resource accounting to the economy encompassed issues related to labour, cooperatives, moral and economic values, and various novel ideas on the role and method of economic planning (e.g. Belke, 1978; Tálos, 1989; Exner, 2004; O'Neill, 2004; Uebel, 2008; Neef, 2011; Nemeth, 2013; Müller, 2019; Wulz, 2022).

Nutrition represents another vital topic for a history of the metrics of energy. Ever since Wilbur O. Atwater measured the metabolism of a student in one of his calorimeters, the unit of calorie took on a nutritional meaning. Poverty, seafaring and war were specific fields of emergence in which vital minima and personal energy budgets were meticulously calculated (Cullather, 2007; Simmons, 2015; Glasman 2019).

In times of environmental peril and energy insecurity, the history of these calculations suddenly appears in a new light. In a scenario of political instability, social energetics looks less hopelessly holistic and new types of metricizing energy or entropy seem increasingly prudent. Against

this backdrop, the workshop sets the stage for a reappraisal of the biophysical, cultural, social and/or economic aspects of measurements, accounting techniques, and theories related to energy as a relevant issue in the history of social science and the social history of quantification.

This workshop will bring together scholars from different fields of knowledge interested in quantitative or qualitative assessments of energy from the standpoint of the history of social science. The two-day workshop will be composed of paper presentations of 25 minutes, which will leave time for discussions. The keynotes will be given by Joan Martínez-Alier (Universidad Autónoma de Barcelona) and Oliver Schlaudt (Cusanus Hochschule für Gesellschaftsgestaltung Koblenz). Confirmed presenters and discussants include Federico D’Onofrio (University of Vienna), Verena Halsmayer (University of Lucerne), Elisabeth Nemeth (University of Vienna), Daniela Russ (University of Leipzig), and Monika Wulz (ETH Zurich). The workshop is organised by the Key Research Area History of Science at the University of Vienna and hosted by the Institute for Advanced Studies (IHS) Vienna (research group Energy, Environment and Sustainable Economic Structures). We aim to publish presented papers in a special issue of a peer-reviewed journal.

Researchers are invited to submit proposals for a presentation on subjects related to this call. Please submit a short description of about 250 words no later than March 30<sup>th</sup>, 2023 via e-mail (wissenschaftsgeschichte.hkw@univie.ac.at). Decisions regarding invitations (including coverage of travel and hotel costs) will be communicated in mid-April.

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