



# RUCHE

Réseau Universitaire de Chercheurs en Histoire Environnementale

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## **Mobilising and Using Energy, from Antiquity to the Present Time**

**International conference organised by the RUCHE  
(French Network of Environmental Historians)**

**Bordeaux-Montaigne University  
8-10 September 2016**

### **Call for papers**

In a context where the consequences of the global warming are painfully weighing on the most exposed parts of the planet and their populations, where the catastrophe of Fukushima shatters the last hopes for a clean and cheap nuclear energy, where biofuels and shale gases hardly appear as a sustainable solution for the future, and where an umpteenth international climate conference will soon be held in Paris, nobody doubts anymore that energy issues are critical for our societies. On the other hand, the idea that humanities and social sciences might be relevant for such issues is far less consensual. However, the global warming and the necessity of a transition towards renewable, reliable and un-carbonated energy sources raise many problems, and the so called environmental or climatological sciences will not be able to face them without the help of human and social sciences, and not least, of history.

The evolution of humans' relationship with energy cannot be reduced to the linear account of the technical innovations that enabled to make use of some resource or other or to implement new converters more efficient than those available before. An energy system is always underpinned by structures and political, economic, social choices that must be brought to light. Only then can we understand how, beyond the mobilisation of the energy existing in nature, its conversion and implementation have very complex reasons and effects. Social, environmental, economic, cultural, political and geopolitical aspects are as important, maybe more important, than strictly technical and physical aspects. The mobilisation of energy implies choices, it brings into play financial or diplomatic interests, favours such or such social group, such or such country. It has consequences on the work of those who provide it and those who use it, on the distribution networks, on occupational and environmental health, on landscapes, ways of life, etc.: all these are issues that fall within the competence of social sciences, not of environmental sciences.

Until recently, history sadly showed little interest in energy issues. In France, only a small number of historians of technology or economy have shown some interest in a question seen by many as secondary or uninteresting whereas it is at the heart of any life, of any economy, and a factor of major inequalities too. If historians like Mathieu Arnoux, Alain Beltran, Paul Benoit, Christophe Bouneau, François Caron, Gabrielle Hecht, Serge Paquier, Jean-Pierre Williot or Denis Woronoff paid some attention to wood, electricity or gas, that is to specific sources of energy, a French-speaking literature dealing not with a specific form of energy but to energy in itself is very rare. The question of a possible shortage of wood at the end of the 18th century was taken up, some time ago, mainly from the point of view of the providing of fuel for industry. But most existing works deal with the 20th century and electricity. *Les Servitudes de la puissance. Une histoire de l'énergie* [*Servitudes of power, a history of energy*] (1992 and 2013), by the historian of sciences Jean-Paul Deléage (Jean-Claude Debeir et Daniel Hémerly, co-authors) is an exception. It endeavours to provide a global perspective, but two thirds of the book deal with the period after 1750.

The non-francophone historiography is richer and older — we can mention the reflections by Lewis Mumford in *Technics and Civilization* (1934)<sup>1</sup> or the pioneering book by Alfred Crosby, *Children of the Sun, A history of humanity's unappeasable appetite for energy* (1986), but also Vaclav Smil's work<sup>2</sup>. As in the French case, nonetheless, the researches are usually focused on one specific energy source rather than on an analysis of a national energy mix: see for instance John Nef's classic study *The Rise of the British Coal Industry* (1932)<sup>3</sup> recently discussed by Robert Allen<sup>4</sup>, or the *History of British coal industry*<sup>5</sup> for Great Britain; Keren Leenders's *Verdwenen veenen*<sup>6</sup> for the Netherlands; or Joachim Radkau's *Holz. Wie ein Naturstoff Geschichte schreibt*<sup>7</sup> for Germany. There's no need in this call for papers for a thorough bibliography, but there are two works on energy as a whole whose steps we would like this conference to follow: the conference proceedings (in four different languages) *Economia e Energia, Secc. XIII-XVIII*, edited by Simonetta Cavaciocchi in 2003 and the remarkable synthesis written by Astrid Kander, Paolo Malanima and Paul Warde, *Power to the People, Energy in Europe over the last five centuries* (2014).

Historical research on the mobilisation and the use of energy must go on and question energy systems, their making, their rigidities, their changes, their environmental, economic, social, cultural as well as political consequences. This is the reason why the RUCHE is organising, in 2015 and 2016, a series of five workshops dealing with the history of energy<sup>8</sup>:

- University of Valenciennes, 12 May 2015: "The animal as a source of energy, a survey in early modern and medieval Europe"
- Sorbonne University, 4 June 2015: "Renewable energies, carbon energies: double-way energy transitions"
- University Bordeaux-Montaigne, 25 September 2015: "Foreseeing energy shortages"
- University Blaise-Pascal Clermont-Ferrand (Spring 2016): "Hydraulic energy"

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<sup>1</sup> Marc Bloch also paid attention to medieval mills as soon as the 1930s.

<sup>2</sup> Smil has written a number of books on energy, such as *Energy in World History*, Westview Press, Boulder, 1994.

<sup>3</sup> London, 1932, 2 vol., 448 et 490 p.

<sup>4</sup> *The British Industrial Revolution in Global Perspective*, Cambridge, CUP, 2009. See also Edward Wrigley, *Energy and the Industrial Revolution*, Cambridge, CUP, 2010.

<sup>5</sup> 4 vol., Clarendon Press, 1983 à 1994.

<sup>6</sup> Gemeentekrediet, Brussel, 1989.

<sup>7</sup> München, Ökom Verlag, 2007. English translation: *A History of Wood*, Cambridge, Polity Press, 2011.

<sup>8</sup> More on <http://leruche.hypotheses.org/category/activites-scientifiques-du-ruche>

- University Pierre Mendès-France Grenoble (Spring 2016): “Business and Energy”

The present conference must therefore be understood as the high point of this series of workshops. Beyond, or as a complement to, the themes that will already have been approached, several issues seem to us particularly relevant, and we would like to encourage proposals that deal with them.

### **1) Considering long-term evolutions**

The organisers wish that, according to the RUCHE principles, the conference does not focus only on modern times but fully integrates **research dealing with older periods**. Elements taken for granted for a long time, as the nature of antic or medieval energy mixes have currently been called into question by archaeology: the use of hydraulic mills, for instance, that was believed to be a medieval innovation, has now gone backward to Antiquity<sup>9</sup>, and underground charcoal ovens to proto-historical times<sup>10</sup>. **Proposals coming from historians and archaeologists of all periods will therefore be most welcome.**

### **2) Economic system, social system, energy system**

The European case certainly shows it: the weight of socio-economic structures is decisive in the mobilisation of energy. **One should then question the links between the uses of energy, economic growth** (at the time of the industrial revolution, but not only) **and social structures**. One might, for instance, analyse the organisation of energy ‘production’, the respective role of supply and demand, the place of markets and the nature of the social relationships they imply, the role played by the modes of transport<sup>11</sup>. Issues of ownership seem also particularly relevant as regards energy, whether we talk about wood, water<sup>12</sup>, or coal, with the problem of ground and underground ownership. **Can we show that different ways were used to answer the same challenge** using different resources - or even when similar resources existed (see for instance the case of Sweden and Norway who, with similar hydraulic resources, have a very different mix)?

### **3) Energy shortages and transitions**

Particularly important to us is the issue of energy shortages, whether real or expected, partial or complete, and the transitions they sometimes induced. What were the energy crises experienced by past societies? How did they deal with them? Did energy transitions originate from shortages, or from other reasons? Can we trace the chronology of a transition? How does a society shift from one energy system to another, if such a “shift” does indeed exist? How is an energy mix reorganised with the use of new sources of energy or previously marginal or local ones? How do the means of energy conversions evolve, and under which constraints, and what is their role in the transitions? Who would push towards a change in energy sources, and why? Were past energy transitions the outcome of deliberate policies, and by whom? Who profited from these transitions?

### **4) The issue of the transition to fossil fuels**

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<sup>9</sup> See the works by Jean-Pierre Brun on water mills.

<sup>10</sup> Archaeological research in Aix-en-Provence has brought to light such ovens dating from 800 BC.

<sup>11</sup> Alain Beltran, Christophe Bouneau, Yves Bouvier, Denis Varaschin, Jean-Pierre Willot (dir.), *État et Énergie, XIX<sup>e</sup> - XX<sup>e</sup> siècle*, Paris, Editions du Comité pour l’histoire économique et financière de la France, 2009.

<sup>12</sup> See for instance Stefania Barca, *Enclosing Water: Nature and Political Economy in a Mediterranean Valley 1796-1916*, Cambridge, The White Horse Press, 2010.

The explosion of energy consumption is one of the main features of the 20<sup>th</sup> century, and we deem it worthwhile to dwell on the period of the massive use of fossil fuels, sometimes called “anthropocene”<sup>13</sup>. Nonetheless, we would like this concept of “anthropocene” to be discussed and not taken for granted. Some light must be shed on the ways that led to the generalised use of coal and oil, and we will favour proposals based on empirical research. We encourage proposals dealing not only with the disruptions but also with the continuities of energy systems. For instance, coal was used in numerous regions far earlier than we thought<sup>14</sup>, and is still used in the 20<sup>th</sup> and even the 21<sup>st</sup> century as an alternative to nuclear energy. Beyond the types of energy sources, one must also pay attention to the variety of the converters, the conditions for their efficiency, and the economic and social issues they carry (coal is not used today as it was in the 19<sup>th</sup> century and comparisons must take into account the nature, the energy efficiency and the drawbacks of the converters in use).

### 5) The European area

Proposals dealing with all areas will be considered, but it seems interesting to question the possibility of **specific European features** as regard energy mobilisation and use. What about the exchange of resources, but also of knowledge and technology throughout Europe, over centuries? What about the recurrent debate about the European origins of the use of fossil energy<sup>15</sup>? What are the links between possession of fossil fuels and economic growth, between energy and colonisation<sup>16</sup>? What about the integration of European energy networks in the 20<sup>th</sup> century, and particularly after 1945? It seems to us that we need more economic, social and environmental works on the consequences of the energy choices made by nation-states and European agencies. For example, it is worthy to explore the great energy equipment, whether hydraulic, thermic, or nuclear, their efficiency (announced and real), the protests against them, that some books have already begun to explore<sup>17</sup>. History will probably meet here current political issues.

### 6) A cultural history of energy

The cultural dimension of energy seems to us insufficiently studied. How was energy, its use and its waste, perceived? How does it influence the way we relate to the world? Research in England and Scotland has shown that changes of attitudes not only stem from rational decisions or price evaluation, but also from appearances (some energies are more fashionable than others<sup>18</sup>) or traditions (the open coal fire in England<sup>19</sup>). Political cultures can

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<sup>13</sup> See, in French, Christophe Bonneuil and Jean-Baptiste Fressoz, *L'événement Anthropocène*, Paris, Le Seuil, 2013.

<sup>14</sup> Catherine Verna et Serge Benoit (ed.) *Le Charbon de terre en Europe occidentale avant l'usage industriel du coke*, Anvers, Brepols 1999.

<sup>15</sup> See Peer Vries's recent answer to Kenneth Pomeranz's research : Peer Vries, *State, Economy and the Great Divergence*, London, Bloomsbury, 2015.

<sup>16</sup> These questions are related at the same time to the debates on the « Great Divergence » and to the book *The Subterranean Forest* by RP Sieferle, who raised as early as 1982 some of the main questions.

<sup>17</sup> Virginie Bodon, *La modernité au village : Tignes, Savines, Ubaye... La submersion de communes rurales au nom de l'intérêt général, 1920-1970*, Grenoble, PUG, 2003. Sezin Topçu, *La France nucléaire. L'art de gouverner une technologie contestée*, Le Seuil, 2013. Pablo Corral Broto, *¿Una sociedad más ambiental? Historia de los conflictos ambientales bajo la dictadura franquista en Aragón (1939-1979)*, thèse d'histoire 2014, EHES/Université de Grenade (ed. Massard-Guilbaud et Ortega Santos), or Nathalie Blanc and Sophie Bonin (ed.), *Grands barrages et habitants, Paris et Versailles*, Éditions de la MSH et éditions Quae, 2008.

<sup>18</sup> Richard Oram, « Social inequality in the supply and use of fuel in Scottish towns c.1750-1850 », in Geneviève Massard-Guilbaud and Richard Rodger, *Environmental justice in the city. Historical Perspectives*. Cambridge, The White Horse Press, 2011, p. 211-231.

also be analysed through energy choices: in dictatorships, such as Spain under Franco or the USSR, the gigantism of hydroelectric plants and the feats of the nuclear sector are part of the usual promises for a better future needed to gain the support of the masses.

There are naturally more interesting issues to consider than the few we have just presented. It will be clear nonetheless that this conference aims at questioning all the dimensions of energy, whether economic, social, environmental, technical, cultural or political, and we will welcome any proposal as long as it adopts a historical approach.

Proposals of no more than one page, completed with a short presentation of the author, must be sent to Geneviève Massard-Guilbaud and Charles-François Mathis

[cfmathis@hotmail.com](mailto:cfmathis@hotmail.com)  
[massard@ehess.fr](mailto:massard@ehess.fr)

**Deadline for the submission of proposals: 15 October 2015**

Proposals will be examined by the scientific committee before the end of the year.

The organisers are at the moment gathering funds for the conference. They hope to be able to pay for the transport and the accommodation of the participants.

## Scientific Committee

**ARNOUX Mathieu**, histoire médiévale, professeur à l'Université de Paris-Diderot et directeur d'études à l'EHESS, LIED.

**BELTRAN Alain**, histoire contemporaine, directeur de recherche au CNRS, IRICE.

**BOUNEAU Christophe**, histoire contemporaine, professeur à l'Université Bordeaux-Montaigne.

**BOUVIER Yves**, histoire contemporaine, maître de conférences à l'Université Paris-Sorbonne.

**BECK Corinne**, histoire et archéologie médiévales, professeur à l'Université du Hainaut-Cambrésis (Valenciennes), directrice du Laboratoire CALHISTE.

**DALMASSO Anne**, histoire contemporaine, professeur à l'Université Pierre Mendès-France (Grenoble), LAHRHA.

**DURAND Aline**, histoire et archéologie médiévales, professeure à l'Université du Maine (Le Mans), CREA AH.

**FRIOUX Stéphane**, histoire contemporaine, maître de conférences à l'Université Lyon 2, LAHRHA.

**KNOLL Martin**, histoire régionale de l'Europe, professeur à l'Université de Salzburg.

**MASSARD-GUILBAUD Geneviève**, histoire contemporaine, directrice d'études à l'EHESS, ancienne présidente de la Société européenne d'histoire de l'environnement (ESEH), CIRED.

**MATHIS Charles-François**, histoire contemporaine, maître de conférences à l'Université Bordeaux-Montaigne, CEMMC.

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<sup>19</sup> Stephen Mosley, *The Chimney of the World. A History of Smoke pollution in Victorian and Edwardian Manchester*, Routledge, 2008.

**MORERA Raphaël**, histoire moderne, chargé de recherches au CNRS, CERHIO.  
**RAINHORN Judith**, histoire contemporaine, maître de conférences à l'Université du Hainaut-Cambrésis (Valenciennes), CALHISTE.  
**ORAM Richard**, histoire médiévale, professeur à l'Université de Stirling (UK).  
**WARDE Paul**, histoire moderne et contemporaine, maître de conférences, Université de Cambridge.

## **Research centres and institutions contacted for a scientific and/or financial support**

### **Caisse des Dépôts et Consignations**

**CALHISTE** (Cultures, Arts, Littératures, Histoire, Imaginaires, Sociétés, Territoires, Environnement) – EA 4343 (Université du Hainaut-Cambrésis)

**CEMMC** (Centre d'Etudes des Mondes Moderne et Contemporain) – EA 2958 (Université Bordeaux-Montaigne)

**CERCEC** (Centre d'Etude des mondes russe, caucasien et centre européen) – UMR 8083 (EHESS / CNRS)

**CIRED** (Centre International de Recherche sur l'Environnement et le Développement) UMR 8568

### **Comité d'histoire de la Fondation EDF**

**IRICE** (Identités, relations internationales et civilisations de l'Europe) – UMR 8138 (Universités Paris 1 Panthéon-Sorbonne / Paris-Sorbonne / CNRS)

### **Labex Ecrire une Histoire Nouvelle de l'Europe**

**LARHRA** (Laboratoire de Recherche Historique Rhône-Alpes) – UMR 5190 (ENS Lyon / Université Lyon 2 / Université Lyon 3 / Université Pierre Mendès France / CNRS)

**LIED** (Laboratoire interdisciplinaire des énergies de demain) UMR 8236