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Energy Subject Aid

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Description

A short guide to some key resources and readings on the topic of energy ethics.

Body

The Greek philosopher Aristotle used the word “energy” to indicate the ability to act to reach a goal, whereas the modern view of energy indicates the capability to undertake work. In science and engineering disciplines today, energy has precise technical meanings. Today also, energy is embodied in complex systems that have consequences for individuals, societies, and the environment. It is commonplace to hear people talk about “the energy sector,” referring to the socio-technical systems that deliver electrical power to homes or gasoline to the filling stations that service their automobiles. All industrial societies and their members depend on reliable, interconnected energy sources with technical and social components that transcend national boundaries.

Current issues about energy research, development, production, distribution, and use include ethical dimensions and raise ethical questions. Although energy growth and human wellbeing do not progress in tandem, energy systems play a critical role in economic development and social sustainability. Access to them at reasonable

prices or for life sustaining purposes raises important issues of justice. Without this access, it will be difficult or impossible for persons to participate effectively in the political or social life of their communities. Energy production, transportation, and consumption almost always involve externalities, costs or benefits that are not captured by pricing, and raise ethical questions about the distribution of benefits, costs, and risk across different groups and different periods of time.

See also subject aids for Environmental Justice, Social Justice.

Subject Overviews

Robert, Jean and Sajay Samuel. 2005. Energy. *Encyclopedia of Science, Technology, and Ethics.* Carl Mitcham, Editor in Chief, v2: 619-622. USA: Thomson-Gale.

> This entry provides a brief overview of energy as a basic concept in science, as a resource, and as an ethical issue.

Jones, BR; BK Sovacool & RV Sidortsov. 2015. "Making the ethical and philosophical case for 'energy justice'". *EE* Summer, 37:2, 145-168.

> This article develops a new framework for energy justice using four fundamental assumptions and two key principles. A prohibitive principle requires that energy systems do not "unduly interfere" with persons' abilities to acquire basic goods for which they have just claim; and an affirmative principle requires provision of energy services when basic goods can only be acquired through those services.

Miller, Clark A. 2014."The ethics of energy transitions." *IEEE International Symposium on Ethics in Science, Technology, and Engineering.* Posted with permission the OEC on December 21 at: http://www.onlineethics.org/?id=39660.

> Energy transitions raise significant questions of ethics and justice, particularly today as the US and the world contemplate large-scale transformations of energy systems: the greening of energy production, the construction of smart

grids and the rise of big data in energy services, the creation of electric and hybrid-electric vehicles, and the rise of unconventional oil and gas. These transitions can influence not only energy production and delivery but also the social, economic, and political organization of the energy sector. More fundamental issues may arise as individuals and communities reconfigure values, behaviors, relationships, and institutions around new energy technologies. This article defines the ethics of energy transitions, examines its major components, highlights the relationship between ethics, energy, and human thriving, and suggests strategies for the energy sector to use to factor ethics more fully into the design and planning of energy change.

Miller, Clark A., Alastari Iles & Christopher F. Jones. 2013. Guest introduction - The Social Dimensions of Energy Transitions, Special Issue: Science as Culture Forum on Energy Transitions. *Science as Culture* 22: 2, 135-148. Published online May 30. Available on the OEC at http://www.onlineethics.org/Topics/Enviro/Energy/28100.aspx. Accessed July 11, 2013.

Societies invest major resources in development, production, and use of energy, and the systems once in place require continuing investment and are not easily nor quickly modified. This special issue argues that societies have underinvested in the deliberations that are needed to identify and promote the values that should have priority for a just and sustainable energy future. Three major factors that need to be recognized and addressed are energy infrastructures – the material aspects often unnoticed but deeply constitutive of our energy systems, energy epistemics – questions as to what knowledge and whose knowledge is brought to bear in energy choices, and energy justice – how to transform energy systems so as to diminish substantially negative effects on the most vulnerable members of society.

Mitcham, Carl and Jessica Smith Rolston. Energy Constraints. *Science and Engineering Ethics* 19 (2):313-319. From Phil Papers, abstract at https://philpapers.org/rec/MITEC.

Building on research in anthropology and philosophy, one can distinguish between type I and type II energy ethics as a framework for advancing public debate about energy. Type I holds energy production and use as a fundamental good and is grounded in the assumption that increases in energy

production and consumption result in increases in human wellbeing. Conversely, type II questions the linear relationship between energy production and progress by examining questions of equity and human happiness. The type I versus type II framework helps to advance public debates about energy that address broad questions of profitability, regulation, and the environment, and in the process poses fundamental questions about the reverence for energy growth in advanced technological societies.

O'Neill-Carillo et al. 2008. Advancing a Sustainable Energy Ethics Through Stakeholder Engagement. *IEEE Energy 2030 Conference,* 17-18 November. Atlanta, Georgia.

The world's dependence on fossil fuels and the need to move to more beneficial energy alternatives pose daunting challenges to humanity. Historically, economic and political rationality has driven the exploration, development and management of natural resources in the search for stable energy supplies. The continuing unsustainable consumption patterns of developed countries have jeopardized human rights, political stability, environmental quality, and sustainable improvement for vulnerable communities. Single-minded pursuit of economic rationality pushes aside a more beneficial, holistic sustainability framework that integrates environmental, ethical and social value with economic and practical considerations. This paper responds to the challenge by advancing a new energy ethics founded on solid environmental, social and ethical principles. It presents a new vision of ethical and practical excellence in energy that will translate readily into new and implementable energy policies.

Schneider, Jen and Jennifer Peeples. 2018. The Energy Covenant: Energy Dominance and the Rhetoric of the Aggrieved. *Frontiers in Communication* 3 (5). doi: 10.3389/fcomm.2018.00005.

The Trump Administration has adopted "energy dominance" as its guiding principle for energy policy, marking a notable shift from decades of "energy security" rhetoric. This paper analyzes how Secretary of Interior Ryan Zinke, one of the administrations key spokespeople for energy dominance, uses "energy covenant renewal" to frame the importance of energy dominance for the conservative base. Covenant renewal is a modified form of the jeremiad; Zinke uses it to unite conservative identities around energy politics and

policies. Energy dominance thus invites those who feel aggrieved under Obama Administration regulatory policy and multicultural identity politics of the left to renew their commitment to fossil fuels, American exceptionalism, and a restored social order and privilege.

Policy or Guidance

The National Academy of Sciences, National Academy of Engineering, National Research Council. 2009. *America's Energy Future*. Washington, D.C.: National Academies Press.

This report examines the potential for developing and implementing changes to the US energy system over the next two or three decades that could "increase sustainability, support long-term economic prosperity, promote energy security, and reduce adverse environmental impacts. It identifies eight findings to pursue these goals.

Department of Energy. 2016. The Quadrennial Energy Review. http://energy.gov/epsa/quadrennial-energy-review-qer. Accessed November 22, 2016.

On January 9, 2014, President Obama issued a Presidential Memorandum directing the administration to conduct a Quadrennial Energy Review (QER) which enables the federal government to translate policy goals into a set of analytically based, integrated actions — executive actions, legislative proposals, and budget and resource requirements for proposed investments — over a four-year planning horizon. The White House Domestic Policy Council and Office of Science and Technology Policy jointly chair an interagency QER Task Force, while the Secretary of Energy provides support to the QER Task Force, including coordination of activities related to the preparation of the QER report, policy analysis and modeling, and stakeholder engagement.

International Energy Agency. 2016. The World Energy Outlook 2016. http://www.iea.org/newsroom/news/2016/november/world-energy-outlook-2016.html.

The summary of this 2016 report is available on line; the current report can be

purchase, but prior year reports are available for free. As a result of major transformations in the global energy system that take place over the next decades, renewables and natural gas are the big winners in the race to meet energy demand growth until 2040, according to the 2016 edition of the outlook.

Bibliographies

The two bibliographies listed below provide broad and inclusive lists of materials about energy production and use. They focus mainly on issues of sustainability.

1. The Energy Production Ethics Bibliography addresses general issues of energy production along with specific articles about Biofuels, Carbon Capture and Storage, Conservation, Fuel Cells, Geothermal Energy, Hydrogen, Hydroelectric Power, Nuclear Power, Solar Power, Tidal and Wave Power, and Wind Power. Added May 5, 2011. Accessed on the OEC, July 11, 2016.
2. This bibliography on Energy Use Ethics covers the ethics of energy use in agriculture, community planning, construction, electricity delivery, manufacturing, transportation, and the home. It also includes a list of relevant centers and web sites. Added May 5, 2011; Accessed on the OEC July 11, 2016.

The next two bibliographies include more publications that identify and examine ethical issues for energy and for energy policy:

3. The Energy Ethics in Science and Engineering Education Bibliography contains articles that address research ethics education in science and engineering, energy education and policy, and energy ethics. It was compiled as part of a collaborative project between the National Academy of Engineering and Arizona State University developing energy ethics education for science and engineering graduate students. Added May 23, 2012; Accessed on the OEC July 11 and November 30, 2016.
4. The NIEES Energy Ethics Background Readings Bibliography provides the background readings for the National Institute on Energy Ethics, and Society (NIEES) held at Arizona State University in April 2013 as part of the collaborative project mentioned above. Added April 1, 2013; Accessed on the OEC July 11 and November 30, 2016.

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