

Editorial

Welcome to the first issue of the *Journal of Sustainable Energy Engineering (JSEE)*, an international quarterly journal that will publish peer-reviewed, original research seeking sustainable methods of worldwide energy production through engineering, scientific, and technological advances applicable to a worldwide audience.

The articles published in JSEE will introduce new and cutting-edge processes and technologies across all areas of energy production, transportation, and transmission, including fossil fuels and renewable energy. In the areas of fossil fuels, JSEE will present research and practical applications in the areas of oil, gas, and coal exploration and production, pipelines for oil, natural gas, and LNG transportation, refining, remediation, and many other topics central to the oil and gas and coal industries. In the areas of renewable energy, JSEE presents research and practical applications in wind and solar forecasting, transmission, and materials, such as wind turbines and solar panels.

There should be something for anyone who works in engineering in the energy sector. Theoretical issues, practical applications, policy, and many other subjects will be covered in JSEE, and the audience will be just as wide, including engineers, scientists, researchers, academics, and students.

In this first issue, we have chosen a selection of papers that reflect an accurate and realistic view of the state of the energy industry as it currently stands. Therefore, we have chosen as our first article a review of the state of the industry by Paul Meakin. In “Energy transitions in the early 21st Century,” Dr. Meakin covers not only where things stand in fossil fuels, but where renewable and “alternative” energy sources are now being used and what their future might be.

The second article, “Framing the Sustainability Dialogue in Research,” is the authors’ attempt, and ours, at presenting an opening statement on the tone and aim of this journal. One of the missions of JSEE is to investigate the possibilities and methods for creating an energy industry which is, in fact, “sustainable,” something which is not at all agreed upon by all scientists in this area. It is important, therefore, at the beginning of our endeavor, to lay a foundation for our ongoing debate. This article looks at how “sustainability” is framed, in our language, preconceptions, and processes. We hope that, as JSEE goes forward, we will be able to impact this framing in the scientific community through the research that is presented here.

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Hydraulic fracturing, or “fracking,” is one of the most controversial subjects of our time. It is, therefore, important to include an article in our first issue on this subject and to contribute to the ongoing debate. In “A Primer on Hydraulic Fracturing Concerning Initiatives on Energy Sustainability,” the authors take sides in this debate and offer both positive and negative arguments about the technology and the economic and environmental effects of the practice.

JSEE is also concerned with renewable energy and its growing use around the world. Our first issue, therefore, must contain an article on renewable energy, so we chose “Review of Wind Energy Utilization in Australia,” as an initial look into an important renewable energy and where it stands now. This article is important, not just for the utilization of wind energy in Australia, but how and where wind energy could be used throughout the world. Traditionally, wind has been the king of renewable energy technologies in the United States and in other countries, but wind energy has its future hurdles to clear. We thought it would be important for our first issue to include an article on the most mature, and arguably the largest, renewable energy industry.

Finally, one of the primary responsibilities of the energy industry and, by extension, government agencies which police it, is environmental concerns. Besides the hydraulic fracturing article, we thought it important to include a fascinating study on the effects of the 2010 oil spill in the Gulf of Mexico. “Modeling 3-D Transport and Dispersal of Oil Plume Released During BP/Horizon Accident in the Gulf of Mexico in 2010” contains a novel and revolutionary new approach for ocean modeling, with regard not only to oil spills, but other incidents, both man-made and natural, as well.

I think that this first group of articles is an outstanding representation of our core mission with JSEE, and I look forward to seeing your articles published in this exciting new journal.

Dr. James G. Speight
Editor