

Call for Papers
The 45th International
Technical Conference
on Clean Energy
June 7 to 12, 2020
Sheraton Sand Key
Clearwater, Florida, USA

If You Want To Learn More About Innovations That Are Meeting The Challenges to Energy Utilization From The World's Key Planners, Leading Experts and "Super Scientists" In The Most Comprehensive Program on Energy Technologies With Representatives From Six Continents, Then You Must Attend.

THE CLEARWATER
CLEAN ENERGY CONFERENCE



Technical Sessions Areas and Topics

POWER OPERATIONS FROM EXISTING PLANTS

Area Chair: Tom Flynn, The Babcock & Wilcox Company

PC Fired Units	<i>J.J. Letcavits, AEP, and Alan Paschedag, Covanta</i>
Gasification for Power and Chemicals	<i>Massood Ramezan KeyLogic Systems and Kunlei Liu, University of Kentucky</i>
Digital Twin, Data Analytics/Machine Learning and Advanced Control	<i>Larry Shadle, National Energy Technology Laboratory, U.S. Department of Energy; Rick Kephart, Emerson; Dr. Martin Gascon, Intertek Engineering Consulting; Rob Hovsopian, NREL Debangsu Bhattacharayya, WVU</i>
Biomass and Biomass Cofiring	<i>Les Marshall Ontario Power Generation, Canada</i>
Coal Preparation/Handling/-Beneficiation	<i>Dr. Dave Osborne Somerset International Australia Pty Ltd., Australia</i>
Energy From Waste	<i>Alan Paschedag, Covanta</i>
Case Studies in Plant Conversions	<i>Brian Vitalis, Babcock Power; and Tom Flynn, Babcock & Wilcox</i>
Fluidized Bed Units	<i>Fredrik Lind, Chalmers University</i>
Emissions (SO₂/NO_x/CO₂/Hg/Particulates)	<i>Edmundo Vasquez, Consultant Boiler Combustion and Emission Controls, and Byron Burrows, TECO</i>

ADVANCED TECHNOLOGY

Area Chair: Massood Ramezan, KeyLogic, Inc.

Oxy-Combustion	<i>Dr. Klas Andersson (Chalmers University, Sweden) and Dr. Andrew Fry, Brigham Young University</i>
sCO₂ Coal Direct Combustion System Heat Transfer	<i>Prof. Subith Vasu CATER, University of Central Florida, Josh Stanislawski, UNDEERC, and Bhupesh Dhungel, Air Liquide</i>

Chemical Looping Carrier Development Component Development Systems Analysis Chemical Production	<i>Andrew Tong, The Ohio State University; JoAnn Lighty Boise State University; and Robert Stevens, National Energy Technology Laboratory, U.S. Department of Energy</i>
Advanced O₂	<i>Dr. Lawrence E. Bool, Praxair, Inc.</i>
Energy Storage for Coal Hybrid Plants	<i>Fred Vitse, GE</i>
Recovery of Rare Earth Metals	<i>Prof. Eric Eddings University of Utah</i>
CO₂ Capture & Utilization	<i>Dr. Erik Meuleman ION Engineering, and David Hopkinson, National Energy Technology Laboratory, U.S. Department of Energy</i>

FUNDAMENTALS

Area Chair: Prof. Ashwani Gupta, University of Maryland

Combustion and Gasification	<i>Weihong Yang, KTH Royal Institute of Technology, Sweden; and Prof. Ashwani K. Gupta, University of Maryland</i>
Radiation	<i>Brad Adams Brigham Young University</i>
Modeling Applied or Fundamentals?	<i>Edmundo Vasquez, Consultant, Boiler Combustion and Emission Controls</i>
Innovative and Low Carbon Fuels	<i>Prof. Dongke Zhang The University of Western Australia</i>
Transportation Fuels Production	<i>Dushyant Shekhawat, National Energy Technology Laboratory, U.S. Department of Energy</i>
Upgrading Natural Gas to Chemical Feedstock	<i>Evan Granite, National Energy Technology Laboratory, U.S. Department of Energy</i>
Coal Upgrading for Value Added Products	<i>Prof. Gerardine Botte Ohio University</i>
Advances in Analytical and Testing Techniques	<i>Dr. Dave Osborne, Somerset International Australia Pty Ltd., Australia</i>

THE CLEARWATER CLEAN ENERGY CONFERENCE HIGHLIGHTS

MISSION STATEMENT – Increased demand – coupled with energy security issues, uncertainty in the oil sector, and tightening environmental regulations – **make this conference a must for those involved in all aspects of power generation** who must meet the competitive pressures and environmental concerns in the 21st century.

The **current Administration continues to** bring in many more challenges and opportunities for the energy sector. We plan to cover all the proposed programs and policies. As changes and additions occur, we will cover them.

Through the Technical Sessions, Short Courses, and Panels, cutting-edge developments dealing with **technical solutions to problems; specific strategies; projects; innovations; industry trends; and/or regulatory compliance** will be offered. The program presents an extensive overview of emerging, evolving, and innovative technologies, fuels and/or equipment in the power generation industry. We seek papers

The Panels, Short Courses and Technical Sessions are works in progress and additional titles will be added after the January 15th deadline for abstracts.

Technical Sessions The conference presents topics of the greatest interest to the industry in the technical sessions. In some instances, energy leaders organize technical sessions on their area of expertise. The conference will offer at least 30 technical sessions on the topics listed above.

Panels To provide our attendees with the most comprehensive and up-to-date information from the world's energy leaders, we offer panel presentations covering an overview of emerging, evolving, and innovative technologies, fuels, policy and/or equipment in the power generation industry.

Short Courses On Sunday, we offer Short Courses on a wide variety of topics important to the energy community. **Participation is optional; is included in the registration fee; and open to all conference registrants.** The Short Courses are offered on Sunday, June 7th.

Themed Luncheon – A conference favorite is the Themed Luncheon. Industry leaders host tables of 8 where a specific topic is chosen by the host for discussion during lunch.

from all countries worldwide.

The **Clearwater Clean Energy Conference** offers participants about 150 technical presentations in four days. Buffet style luncheons in the Exhibit Center (an area dedicated for the use of attendees all day), refreshment breaks and a fabulous beach reception offer numerous networking opportunities.

CONFERENCE HIGHLIGHTS

International Programs – Technical Developments – Policy Issues

Papers from the international community are strongly encouraged. In the 2019 conference 16 countries were represented at the conference. In addition, one-third of all attendees were from the international community. The international papers were related to energy/environmental developments throughout the world.

BACKGROUND

At the direction of the Conference Committee, it was decided to broaden the scope of the conference to include some new and exciting technologies

Exhibit Center An **Exhibit Center** showcasing 24 booths also provides opportunities to highlight accomplishments and achievements. In addition to the exhibits, we offer tables for Information Display. Those signing up for this are included in the write-ups and could include an ad in the Official Program.

Field Trips

Polk Power Plant Tour – Friday, June 12, 2020

Tampa Electric Company planned, engineered, built, and operates the Polk Power Plant Unit #1 Integrated Gasification Combined Cycle (IGCC) Power Plant. The project was partially funded under the Department of Energy's Clean Coal Technology Program pursuant to a Round III award.

Best Student Paper Award – Over the years the conference has benefitted from the many excellent papers given by students. To give these exceptional students well-deserved recognition, the Conference Committee now presents the **Clearwater Clean Energy Conference Best Student Paper Award**.

currently on the horizon. Industry professionals representing nearly all the major players in the electric utility industry were in Clearwater, Florida, USA for the **44th Clearwater Clean Energy Conference.**

This conference has earned a reputation for excellence as one of the premiere conferences on energy technologies as it grows in size and scope since its inception in 1975.

CONFERENCE

HEADQUARTERS – Sand Key is one of the 20 Best Beaches, according to many travel and tourism organizations. **Sheraton Sand Key**, 1160 Gulf Boulevard, Clearwater, Florida – ^[1]_[SEP]Phone: 727-595-1611^[1]_[SEP]FAX: 727-596-8488^[1]_[SEP] offers the conference \$196/night for Single or Double accommodations. Identify as a conference participant and use code **XXXX**

<http://www.beachsand.com> for information about the Sheraton Sand Key

The 45th International Technical Conference on Clean Energy

**June 7 to 12, 2020
Sheraton Sand Key, Clearwater,
Florida, USA**

**The abstract
(one page in length),
required by
January 15, 2020,
must be submitted via email.**

Visit
www.ClearwaterCleanEnergyConference.com
for complete conference details



CALL FOR PAPERS^[SEP]

2020 CLEARWATER CLEAN ENERGY CONFERENCE

The 45th International Technical Conference

on Clean Energy

June 7 to 12, 2020

Sheraton Sand Key, Clearwater, Florida, USA

ABSTRACT REQUIREMENTS

The **ONE PAGE ABSTRACT**, required by January 15, 2020, must be submitted via email and include:

- The Proposed Paper with Exact Title and one page of information (no equations and no figures) must summarize the objective and current status of the work; and provide the committee with an accurate scope of the paper. **Please indicate under which Technical Topics this paper falls.**
- Principal Presenter Listing (name, title, company, address, phone, FAX and email). Email addresses are required since this will be the primary mode of communication. Please include Complete Listings for all Co-Authors (name, title, company, address, phone, FAX and email).

The Principal Presenter is the person to whom all correspondence will be sent and who must meet the deadlines and obligations of the conference: making a presentation at the 2020 conference; submitting a manuscript; and paying a conference fee.

The non-refundable registration fee of \$795 is due before January 31, 2018. There is no reimbursement for time spent or expenses incurred in preparing manuscripts or illustrations, or for transportation to, and

The Clearwater Clean Energy Conference does not provide financial support to authors. The registration fee covers one technical paper; authors submitting more than one paper must include an additional \$100 per paper.

Notification of acceptance will be made immediately. A manuscript for inclusion in the Proceedings and for distribution on thumb drive (not to exceed 12 pages in length, with illustrative material) is required by **APRIL 16, 2020**.

Instructions for preparation of manuscripts will be sent with letters of acceptance. Presentations will be scheduled in Panels and Technical Sessions, as determined by the Conference Committee. The **ONE-PAGE** abstract should be sent via email to BarbaraSak@aol.com.

Best Student Paper Award — Over the years the conference has benefitted from the many excellent papers given by students. To give these exceptional students well-deserved recognition, the Conference Committee awards the best paper from a student with the **Clearwater Clean Energy Conference Best Student Paper Award**. The student will be evaluated in the quality of the paper, grasp of the topic presented and quality of the presentation at the conference. The student must be present to win.

expenses at the conference.

THE CONFERENCE COMMITTEE The dedicated efforts and expertise of each Committee member result in the excellent Technical Program offered each year. They reach out to all segments of the energy industry so that the state-of-the-art (and beyond) is presented. Through their hard work, we offer a world-renowned conference each year. This year's Conference Committee members are:

- **Praxair, Inc.**, Dr. Lawrence E. Bool III (Co-chair)
- **University of Maryland**, Dr. Ashwani Gupta (Co-chair)
- **U.S. Department of Energy, National Energy Technology Laboratory**
- Dr. Ronald Breault (Co-Chair)
- **Energy & Environment**, Prof. Dr.-Ing. Klaus R. G. Hein (Chairman Emeritus)

Adelhi University, Dr. John Dooher

AEP, J.J. Letcavits

AECOM, Dr. Guisu Liu

Air Liquide, Bhupesh Dhungel

Arizona State University, Dr. Klaus S.

Lackner

The Babcock & Wilcox Company, Thomas

Flynn

Babcock Power Inc., Brian Vitalis

Boiler Combustion & Emissions Control

Consultant, Dr. Edmundo R. Vasquez

Boise State University, Prof. JoAnn Lighty

Brigham Young University, Prof. Bradley

Adams and Prof. Andrew Fry

CANMET Natural Resources Canada, Dr.

Ligang Zheng

Chalmers University of Technology

Prof. Klas Andersson and Fredrik Lind

Covanta, Alan Paschedag

CSIRO, Dr. Louis Wibberley and Dr. David

Harris

Mitsubishi Hitachi Power Systems Europe

GmbH, Gosia Stein-Brzozowska

Monash University, Dr. Sankar Bhattacharya

Northeastern University, Dr. Yiannis A.

Levendis

Ohio University, Dr. Gerardine G. Botte

Ontario Power Generation, Les Marshall

Pennsylvania State University, Bruce G.

Miller

Reaction Engineering International, Kevin

Davis

Ruhr-University Bochum, Department of

Energy Plant Technology, Prof. Viktor

Scherer

Somerset Pty Ltd., Dr. Dave Osborne

Tampa Electric Company, Yogesh M. Patel

and Byron Burrows

Tsinghua University, Dr. Yao Qiang

University of Alberta, Dr. Rajender Gupta

University of Kentucky, Dr. Kunlei Liu

University of Newcastle, Prof. Terry Wall

Electric Power Research Institute, Horst
Hack

Energy & Environmental Research Center,
University of North Dakota, Christopher J.
Zygarlicke and Josh Stanislawski

EverSource, Bonnie Courtemanche

Gas Technology Institute, Howard Meyer

GE – Alstom Power Inc., Frederic Vitse

Huazhong University of Science

Prof. Chuguang Zheng

ION Engineering, Dr. Erik Meuleman

Jiangnan Environmental Technology, Inc.
(JET), Robert Nicolo

KeyLogic Systems Inc., Massood Ramezan

Korea Advanced Institute of Science and
Technology, Assoc. Prof. Jeong Ik Lee

Lehigh University, Dr. Edward K. Levy

University of North Carolina at Charlotte,
Dr. Nenad Sarunac

University of South Carolina, Prof. Jochen
Lauterbach

University of Utah, Prof. Eric Eddings, and
Kevin Whittey

Wrocław University of Technology, Poland

Halina Pawlak-Kruczek Ph.D., D.Sc., and Dr.
Janusz Lichota

**45th International Technical Conference
on Clean Energy
June 7 to 12, 2020
Clearwater, Florida, USA**

Endorsing Organizations:

- **American Institute of Chemical Engineers**
- **American Public Power Association**
- **CANMET Natural Resources, Canada**
- **China Coal Research Institute**
Ministry of Coal, People's Republic of China
- **Edison Electric Institute**
- **Export Assistance Center, U.S. Commercial Service**
- **International Energy Agency: Coal Research**
- **Japan Coal Energy Center (JCOAL)**
- **National Mining Association**
- **National Rural Electric Cooperative Association**
- **Ohio Coal Development Office**
- **U. S. Geological Survey**

**The Clearwater Clean Energy
Conference**

**Deadline for Abstracts:
January 15, 2020**

Post Office Box 1130

Louisa, VA 23093

240-751-0900

www.ClearwaterCleanEnergyConference.com

Email: Barbarasak@aol.com