OERA Energy Update

Keeping you in the loop on OERA's active RFPs and upcoming webinars, as well as noteworthy energy news happening close to home and around the world.

Funding Opportunities

We're currently inviting proposals for the following:

RFP - The Maritimes' Net-Zero Future: A Feasibility Study of Hydrogen Production, Storage, Distribution and Use in The Maritimes

• Deadline: Friday, July 3, 2020 at 5:00 pm (Atlantic Time)

OERA, in collaboration with Heritage Gas, the Nova Scotia Department of Energy and Mines, the Atlantic Canada Opportunities Agency and Liberty Utilities, is seeking proposals for a feasibility study of hydrogen production, storage, distribution and use in the Maritimes.

Knowledge gaps related to a possible hydrogen future represent a significant impediment to business planners, government regulators and the public at large. This study will provide a broad understanding of the technical and economic constraints and opportunities that hydrogen presents to the Maritimes, with an emphasis on the evolving economic picture over time (2020 – 2050).

This RFP will close on July 3, 2020 at 5 pm Atlantic Daylight Time. Full information on the Request for Proposals and how to apply is available here.

RFP - Ship Charter and Equipment:2021 Cruise

• Deadline: Monday, July 20, 2020 at 4:00 pm (Atlantic Time)

OERA, in partnership with the Nova Scotia Department of Energy & Mines (NSDEM), is leading the planning for a research cruise over portions of the Scotian Slope during the summer of 2021. Proposal are being sought from companies with the capability to conduct the cruise and undertake the ROV and coring activities described in the RFP. This work had been the subject of a previous RFP and a decision had been issued by the Canadian Transportation Agency (CTA) that would have allowed the importation of a foreign flagged vessel to conduct this work in 2020. Due to the ongoing requirements arising from the COVID-19 pandemic, OERA and NSDEM determined that conducting the work in 2020 would not be feasible. As a result, we are again requesting proposals to undertake this work.

The vessel required for this RFP will provide a platform for a scientific team to collect samples and data, and to carry out preliminary analytical work. The scientific team will consist of approximately 12 individuals. The vessel owner and any subcontractors will provide all ship crew as well as operators for the ROV and coring equipment. The charterer will appoint a chief scientist who will act as the principal liaison between the scientific team and the ship captain and officers. The ship equipment to be provided is expected to be fully capable of enabling the attainment of scientific outcomes from the cruise as set out in the RFP. The maximum budget for the scope of work set out in the RFP has been set at $1.45 million (Canadian). This has been established based on the total budget for the research program of which this is a component. Bids in excess of this amount will be deemed non-compliant and not considered.

This RFP will close on July 20, 2020 at 4 pm Atlantic Daylight Time. Full information on the Request for Proposals and how to apply is available here.

RFP - Paleogeography-to-Petroleum Systems: Research Innovations for Offshore Nova Scotia (PaGeo2)

- **Deadline: Friday August 28, 2020; 4:00 pm (Atlantic Time)**

OERA, in collaboration with the Nova Scotia Department of Energy and Mines, is seeking proposals from service companies, academic groups, or collaborative combinations thereof to provide fundamental advances and insights on the general geological factors that impact Nova Scotia's offshore petroleum resources through a reassessment of basic basin-

forming and petroleum system-forming constraints and processes.

PaGeo2 projects will address the basic boundary conditions for basin formation and petroleum system evolution in offshore Nova Scotia. Proposals should emphasize how increased rigour, increased breadth, increased focus, or increased innovation have the potential to significantly advance the analysis of Nova Scotia's offshore hydrocarbon potential beyond that available in present models.

This RFP will close on August 28, 2020 at 4 pm Atlantic Daylight Time. Full information on the Request for Proposals and how to apply is available here.

Please note, OERA may, at its sole discretion, reject any and all, or parts of any and all, proposals; postpone or cancel at any time these RFP processes; waive any minor irregularities in the RFPs or the responses received as a result of these RFPs.

Building Knowledge and Capacity

Our focus at OERA is on empowering impactful energy research and sustainable resource and economic development in Nova Scotia. On an ongoing basis, the research teams we collaborate with are building and sharing intellectual property around renewable energy technologies, cleantech initiatives and geoscience. Here are some of the most recent outcomes of work we support:

- Summary of workshop: Passive acoustic monitoring in high flow environments
- Final Report: Data Analysis Component of Comparative Passive Acoustic Monitoring (PAM) Technology Assessment
- Predictive Modeling of Sandstone Reservoir Distribution in the SW Scotian Basin

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Supporting Critical Clean Growth Conversations and Collaboration

Clean growth R&D and how it can contribute to our province's objective of sustainable prosperity was on the agenda earlier this month, as university researchers and leaders and provincial and federal government representatives came together for a virtual workshop.

Clean growth entails transitioning to stronger economic outcomes with a smaller negative environmental impact or more sustainable use of resources. The Clean Growth Workshop was designed to support innovation and economic opportunities initiatives in alignment with Nova Scotia's new Sustainable Development Goals Act (SDGA). The SDGA sets ambitious new goals to fight climate change and will continue advancing Nova Scotia's economic, social, and environmental wellbeing. OERA developed and facilitated the workshop on behalf of the Nova Scotia Department of Energy and Mines (NSDEM).

During this online event, representatives from each of Nova Scotia's primary research-oriented academic institutions shared details of work currently underway and discussed opportunities for collaboration and evolution moving forward. Leaders from NSDEM, Nova Scotia Environment (NSE) and the Atlantic Canada Opportunities Agency (ACOA) shared details of their clean growth strategies and initiatives. Together, the workshop participants agreed to continued collaboration and exploration of next steps and new opportunities.

New Pathway Program Report Captures International Expertise

The Pathway Program – a multi-year collaborative initiative between OERA and the Fundy Ocean Research Centre for Energy (FORCE) supported by the Nova Scotia Department of Energy and Mines and Natural Resources Canada – has released a new report incorporating international expertise on passive acoustic monitoring (PAM) in high tidal flow environments.

The report suggests that recent advances in data collection and processing techniques allow for effective monitoring of harbour porpoises and other marine mammals in highly energetic tidal stream environments. The report advocates the need for open dialogue between regulators and the research community, noting it is a key part of designing effective, achievable, regulator-approved monitoring programmes.

The report was compiled following an online workshop in April which brought together over 40 PAM experts from Canada, Denmark, UK and USA. Facilitated by the European Marine Energy Centre (EMEC), the online workshop enabled information-sharing about PAM work being completed as part of the Pathway Program and elsewhere in the world. The event facilitated knowledge sharing between research institutes, industry and stakeholders to build future collaboration opportunities in the sector. The Pathway Program aims to improve the understanding of fish and marine mammal interactions with tidal energy devices by defining, testing and validating an environmental monitoring solution for the

instream tidal energy industry and increasing regulatory confidence in monitoring capabilities.

Free Online Education

We work to create opportunities for researchers, people working with industry and government and students to connect, share knowledge and information and learn. Everyone is welcome to attend our live webinars, and new sessions are offered each month. Here's what's coming up next:

Oil & Gas 101

Natasha Morrison, Nova Scotia Department of Energy & Mines
July 23, 2020, 1:00 - 2:00 p.m. ADT

How does a company explore for oil and gas and, more importantly, how are hydrocarbons even formed? This presentation will provide an overview of petroleum geology and oil and gas exploration and production, drawing on examples from our own backyard.

Register here for webinar

Past webinars available online

You can also check out our library of past webinars. Watch any of them here, on demand anytime. In case you missed it, a recording of **"Are there Active Petroleum Systems in the Central North Atlantic, deep water offshore Nova Scotia and Morocco?"** featuring Dr. Martin Fowler of Applied Petroleum Technology is available here.

Watch Here

Researcher Spotlight

This month, we're featuring **Jordan Kamga**, a recent research associate in Dr. Etienne Mfoumou's Applied Research Engineered Technologies Lab, where he has focused on the Developing Enhanced Marine Operations (DEMO) in High Flow Tidal Environments research project. Through his work in the lab, Jordan provided critical support to the research team and gained hands-on experience while also earning his Bachelor of Engineering Degree in Mechanical Engineering from Dalhousie University. The work of Jordan and the rest of the DEMO project research team supported technical innovation to reduce barriers to developing energy resources – one of OERA's areas of focus.

Learn more here about the DEMO project and Jordan's involvement in it.

OERA Online Exchange

This online event offers an opportunity to gather for a facilitated discussion featuring energy thought leaders. If you missed our live sessions, you can catch up on some of the great conversations we've had in recent months by tuning in to the recordings below.

Energy Transition: What's the role of innovation in the shift to a greener economy?

Featuring special guests:

- Dr. Richard Florizone, International Institute of Sustainable Development
- Helen Mountford, World Resources Institute

Listen Here

How will COVID-19 change our energy future: A perspective on what's next for oil & gas

Featuring special guest:

- Dr. Brad Hayes, President, Petrel Robertson Consulting Ltd.; Adjunct Professor - Earth and Atmospheric Sciences, University of Alberta; Director, Canadian Society for Unconventional Resources

Listen Here

How will COVID-19 change our energy future? Perspectives on challenges and opportunities for renewables

Featuring special guest:

- Julia Attwood, Head of Advanced Materials, Bloomberg NEF.

Listen Here

How will COVID-19 change our energy future: A perspective on GHG emissions and climate change

Featuring special guests:

- Scott Skinner, Clean Foundation President & CEO
- Kate Sherren, Professor and Academic Program Coordinator with Dalhousie University's School for Resource and Environmental Studies.

Listen Here

Stay Tuned – Upcoming OERA Exchanges

Our next OERA Online Exchange is in the planning stages for fall 2020. Please stay tuned for further details.

In the News

We've gathered up a few of the news items we found most interesting in recent weeks.

- Investment decision delayed, takeover offer withdrawn for local LNG projects
- Alton Gas plan won't hurt bass, study concludes
- Marine renewable energy 'poses minimal risk to sea life'

- Vattenfall resumes construction of ‘world’s largest offshore wind farm’
- Ocean electricity takes 'big step' with baseload project

Note that subscriptions may be required to access some publications.

Who we are

At OERA, our focus is on ensuring a sustainable energy future for Nova Scotia. To help achieve that, we facilitate research into renewable energy technologies, cleantech initiatives and geoscience. We help meet energy sector research needs by facilitating collaborative, made-to-order teams of experts.

Contact us to find out more.

Comments?

We’d appreciate hearing from you at update@oera.ca.