

## Session 2 Panel: Funding and Innovation

- 5 major gaps in the way of technology deployment
  - A Systematic approach to articulate the challenges
  - Time taken to articulate challenges associated with deployment
  - The valley of death
  - Lack of technology deployment programs from provincial and federal governments
  - Slow uptake of technologies
- Large scale deployment and execution
  - Industry is not in a position to fund large scale deployment and there's a lack of execution. Implementing emissions reduction technologies at a large scale is not typically within an operator's skill set.
  - The AB ecosystem needs to do a better job at funding entrepreneurs who can deploy at scale.
  - ERA has a mandate to facilitate first-of-a-kind deployment of GHG reductions solutions in Alberta and is looking at field-demonstrated technologies to broaden commercial deployment.
    - In 2016, ERA launched its Methane Challenge.
    - By 2030, 7 million tonnes of CO<sub>2</sub>e reductions are expected as a result of the 12 projects funded by the challenge.
  - It's important for ERA to collaborate with the AER to ensure regulations are not a barrier to deployment for projects submitted to ERA funding programs.
- Energy Efficiency Alberta (EEA) just released its first annual report, showing that for every dollar Albertans invest in energy efficiency, they get back three dollars.
- Meeting the 45% reduction goal: Key pieces include funding, developing the right technologies, business supports, customer identification, and collaborating with industry partners.
  - For every dollar invested by ERA, \$6 is invested by other funders
  - ERA is now working to take project proposals outside their typical 'call for proposals' process to accelerate funding and project commencement.
  - By sharing successful projects with one another, innovators are able to continue developing their concepts
  - Alberta Innovates' Climate Change Innovation and Technology Framework (CCITF) aims to support clean technology development and economic development and diversification.
    - To date, Alberta Innovates has funded 30 projects through CCITF, many of which are still in the final contract stage
      - Among those projects, approximately 6 of them are related to methane emissions reduction
      - A second clean technology development competition will be starting soon.
    - AI is also creating a methane emissions reduction testing facilities competition.
      - While it's not yet open, there is a project underway to map out the methane capability landscape across Canada to inform the test facility program for making meaningful investments.
- Closing comments
  - It's important to emphasize that industry can meet emission reduction targets. Great solutions can already be found in the field, the process just needs to be accelerated.
  - Dissemination and learnings are an important outcome of the projects ERA funds. ERA is trying to better disseminate project learnings and host workshops to obtain feedback on the learnings.

## **Questions from the audience**

**Question: We talk about how scalability and deployment are big challenges. How do you think our innovation system can support both deployment of technologies and scalability?**

Part of the challenge is that companies who excel at deployment are not part of the conversation. Alberta has the resources, they just may not have been invited or realized that the opportunity was there.

Both AI and ERA are looking at business risk and companies who are set up for success from a business model stand point to ensure that programs are not wasting money. Organizations like Tech Edmonton or Calgary Technology are tools that can assist with business scale up.

**Q: Are we now at the point where we need to start pivoting away from technology developments to invest more in deployment?**

It would be the wrong approach to only look at deployment, because change is always a possibility and we need to adapt accordingly.

Carbon intensity and competitiveness is important now. Industry needs to be deploying technologies and my perspective is that the focus needs to be on technology installation. Funding transformative technology projects is positive, but doing so doesn't move the needle today.

**Q: How is financing deployment different than financing innovation?**

Financing innovation is a technology risk where companies are looking to see if the technology proves itself in the long run. Funding deployment is about execution.

ERA programs are designed to step in where other areas fail to address technology risk and help operators take on that risk. The magnitude of investment for scale-up purposes is a challenge, as it takes a village to address the different pieces.

**Q: What are the biggest technical and economic challenges of methane mitigation?**

Industry currently has a lot of work at the lab scale technology level, but we need to access field scale facilities.

When we look at AB targets in comparison to Ontario, Ontario's largest GHG production came from mothballing and seven coal power plant facilities. Methane has roughly 29,000 sites that need to be regulated and hundreds of thousands of pieces of equipment.

Operators have difficulty identifying locations where they can implement technology options. We need incremental innovation to overcome those hurdles.

**Q: How has collaboration within AB's innovation ecosystem evolved? What are we doing well? What could be better?**

Collaboration with other funders to avoid funding the same types of initiatives.

The end-users of funding programs need to provide feedback to advise where funders can improve.