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From Land Management to Sustainability

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In recognition of the measures required to mitigate climate change, the Government of Canada is proposing ambitious objectives to meet and exceed its greenhouse gas reduction commitments under the Paris Agreement and achieve net zero emissions by 2050, tabling the *Canadian Net-Zero Emissions Accountability Act* in November 2020 (Government of Canada, 2020). Decarbonisation of the energy sector is required to meet these commitments and it is recognized that increased renewable energy development is a significant contributor to this energy transition (IRENA, n.d.). In Alberta, the province's *Renewable Electricity Act* legislates that 30% of the province's electricity supply is to be generated by renewable energy resources by 2030 (Government of Alberta, n.d.). Due to its abundant energy resources, pro-innovation ethos and skilled workforce with transferable expertise in energy development, I feel Alberta is well-positioned to be a leader in the energy transition and have been exploring how I can use my education, skills, and experience to contribute.

As a third generation Calgarian, my oil and gas roots run deep. My parents were both employed in the upstream oil and gas industry, my late father was in road and lease construction, spending days and weeks in the field, while my mother worked in various land administration roles including surface acquisition and divestiture. This apple did not fall far from the tree and I have been employed in the upstream oil and gas industry since 2003, spending half of my career at a land consulting company and the balance in the land department at a junior E&P. My experience includes progressive responsibilities in many aspects of upstream surface and subsurface land asset administration and management from acquisition through closure.

I am also a University of Calgary alumna. I obtained a Bachelor of Commerce degree from the Haskayne School of Business in 2005 and recently graduated from the interdisciplinary Master of Science in Sustainable Energy Development (SEDV) program. Admittedly, my knowledge of renewable energy sources such as solar, wind, hydro and geothermal energy was limited when I started the SEDV program however a growing interest in sustainable development and awareness of the impacts of climate change and environmental degradation motivated my pursuit of the graduate degree. Throughout the program, I learned about many facets and complexities

presented by the global energy transition in addition to the important role that non-renewable resources continue to play due to the intermittent nature of some renewable energy resources and evolving storage technologies.

Combining my oil and gas industry experience and knowledge gained through the SEDV program, my SEDV capstone research project investigated the opportunities and barriers to re-purposing inactive oil and gas sites in Alberta for renewable energy generation through the deployment of small-scale solar photovoltaic installations (solar PV). I analyzed the influences of formal institutions, such as regulatory and policy frameworks, as well as informal institutions, such as personal values (North, 1990), on the expansion of the re-purposing concept. My academic supervisor for the capstone project was Dr. David Ince and my partner organization representative was Keith Hirsche, President of Elemental Energy (Alberta 2003) Inc. and key member of the RenuWell Project team. As Keith details in his story above, the RenuWell Project team and its partners recently received over $2 million in funding from the Municipal Climate Change Action Centre's (MCCAC) Municipal Community Generation Challenge, supporting pilot deployment of solar PV on unreclaimed wellsites in the Taber area (MCCAC, 2020). As costs of solar PV continue to decline and consumer interest in micro- and distribution-connected electricity generation increases, I am excited about the potential that re-purposing inactive oil and gas sites presents to mitigate some of the cumulative effects of energy development.

I find myself at a crossroads in my career and my eyes have been opened to the many parallels between renewable and non-renewable energy development as well as the various skills within oil and gas land asset administration and management that could be leveraged for renewable energy development projects, whether infrastructure and lands are being re-purposed or the development is occurring on greenfield land area. Some specific examples include: knowledge of the land tenure systems, jurisdictional land use plans and desired environmental outcomes, understanding and application of land use and environmental assessment legislation and regulations throughout the project life cycle, coordination with land surveyors, engaging Indigenous rights holders, landowners and other interested stakeholders, executing public participation programs, acquiring surface access rights, researching regulatory approval requirements, preparing and submitting regulatory approval applications, negotiating and drafting contracts with landowners, third parties, joint venture partners, etc., collaborating with field construction representatives, finding access to market opportunities, maintaining contractual and regulatory approval documentation and fulfilling obligations, and supporting the completion of closure and reclamation requirements. Specific to re-purposing legacy infrastructure and previously disturbed land, additional transferable skills include an awareness of timing for when a site could be considered for re-purposing and an understanding of the existing infrastructure on site, supporting recognition of the opportunity to re-purpose.

Understanding that decarbonising the energy sector is not an either-or proposition, I strongly believe Alberta can be a global leader in renewable energy development while continuing to innovate and responsibly develop its non-renewable resources. I hope that my story and thoughts on transferable upstream oil and gas land asset administration and management skills inspire you to reflect on your own story and envision opportunities to transfer and apply your industry expertise in support of the energy transition.

About the Author(s)

Alyssa Bruce has over fifteen years of progressive experience in subsurface and surface land asset administration and management in the upstream oil and gas industry. A recent graduate of the M.Sc. in Sustainable Energy Development program at the University of Calgary, she is currently exploring opportunities to leverage her skills and experience in Alberta's growing renewable energy sector. Fuelled by her lifelong passion for outdoor adventures, Alyssa enjoys spending her free time pedalling in the Canadian Rockies with her husband, Tim, and newly adopted rescue pup, Saint.

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Appendices

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