Top 10 Takeaways for Alberta Policymakers

From **The Low-Carbon Playbook**: Policies to foster Alberta's competitiveness in a decarbonizing world.

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CLEAN PROSPERITY

The Transition Accelerator | L'Accélérateur de transition

Alberta's competitive advantage in a decarbonizing world is threatened by the US *Inflation Reduction Act* (IRA). Analysis by Clean Prosperity and the Transition Accelerator found that Alberta lags the US on incentives for low-carbon investment. However, new policy tools can help Alberta close the "bankable gap" — the difference between investment incentives in the US and Alberta that are clear *ex-ante*, like investment tax credits and production tax credits.

We recommend strengthening Alberta's TIER system using financial instruments called **carbon contracts for difference** (CCfDs) to help close the gap. A CCfD is like an insurance policy on the future value of carbon credits. CCfDs give firms and investors the confidence to make big investments in decarbonization, knowing that their carbon-credit revenues are guaranteed.

For more details, read The Low-Carbon Playbook: Policies to foster Alberta's competitiveness in a decarbonizing world.

1. **Recommendation: Take advantage of carbon contracts for difference — CCfDs — to make TIER a bankable asset for new low-carbon projects** and help Alberta become a destination of choice for low-carbon investment.

   Implemented correctly, CCfDs are low-cost, present minimal financial risk to the government, and can even offer financial upside. Without CCfDs, alternative measures to make Alberta a competitive destination for investment could cost billions of dollars.

2. **Recommendation: Apply 100% of present and future TIER revenues to support decarbonization.** This action would send a strong market signal that Alberta is committed to technological innovation and low-carbon growth.

3. **Recommendation: Develop a comprehensive low-carbon industrial strategy** based on the principles outlined in Alberta's Emissions Reduction and Energy Development (ERED) Plan. Target additional supports towards high-priority sectors.

4. **Key finding:** The US *Inflation Reduction Act* (IRA) offers a slate of "bankable" incentives for low-carbon investors. There is an urgent need for Alberta to develop new policy tools to help scale new technologies and become a low-carbon investment destination of choice. We model the incentives for investment in nine low-carbon technologies and assess Alberta's competitiveness with the IRA:

Alberta investment incentives are currently competitive with the IRA	• Wind • Solar
CCfDs can give Alberta a bankable advantage over the IRA	• CCUS (blue ammonia, cement, natural gas-fired electricity)
CCfDs plus additional policy supports are required to give Alberta a bankable advantage over the IRA	• Sustainable aviation fuel (SAF) • Direct air capture (DAC)
Technologies where Alberta should not compete with the IRA	• Green hydrogen • Advanced nuclear

5. **Key finding: All three carbon capture, utilization, and storage (CCUS) projects modelled face bankable gaps** — blue ammonia ($0.11/kg), cement ($28/tCO_2), and gas-fired electricity ($18/MWh). If investors and global capital markets were more certain that future revenues generated under TIER were "bankable," Alberta could draw in capital otherwise destined for the US. With CCfDs, Alberta could open up a bankable advantage for all three CCUS project types.

6. **Key finding: In the absence of CCfDs, we estimate that Alberta's forthcoming carbon capture investment program would require the equivalent of a 10-year PTC worth $27 per tonne of CO_2** to fully close the bankable gap for our modelled cement facility. A PTC for this facility, which would capture 1 MtCO_2 per year, would cost the government $25 million in year one, rising to $30 million in year 10, **for a total cost of $180 million over 10 years.**

A PTC for our modelled natural gas power plant with carbon capture and storage would cost $72 million in year 1, rising to $86 million in year 10, **for a total cost of $786 million over 10 years.**

7. **Key finding: Wind and solar power are technologically mature and do not require any additional policy incentives to be competitive.** While there is a small bankable gap in favour of the US, incentives are generous enough in both jurisdictions that the IRA premium is unlikely to steer investment away from Alberta.

8. **Key finding: Advanced nuclear projects face long construction timelines, unique financing requirements, and high regulatory hurdles in Alberta.** Without a concerted push from government, it is extremely unlikely that Alberta could bring a commercial nuclear reactor online before the IRA's incentives expire in 2034. Pursuing nuclear development as part of a larger industrial strategy may make sense, but that is beyond the scope of this report. Setting incentives aligned to the IRA is not appropriate due to the timelines.

9. **Key finding: Alberta cannot reasonably compete with the US for investment in green hydrogen production.** The $4/kg bankable gap is too large. If the US achieves its target of manufacturing green hydrogen at US$1 per kg by 2030, green hydrogen could become competitive with blue hydrogen in Alberta. Until then, Alberta's efforts are better focused on blue hydrogen.

10. **Key finding: Closing the bankable gap for two strategically significant emerging sectors in Alberta, direct air capture (DAC) and sustainable aviation fuel (SAF), would require both CCfDs and some form of production tax credit (PTC).** We estimate the full costs of PTC programs that would close the bankable gaps for both DAC ($61/t$CO_2$ over 10 years) and SAF ($0.53/litre over five years). Our estimate for SAF is somewhat uncertain; we optimistically assume that the project stacks multiple carbon credits across different carbon markets.

About Clean Prosperity and The Transition Accelerator

Clean Prosperity is a Canadian climate policy organization. We advocate for practical climate solutions that reduce emissions and grow the economy. Learn more at CleanProsperity.ca.

The Transition Accelerator is a pan-Canadian organization that works with others to identify and advance viable pathways to a net-zero, prosperous and competitive Canada in 2050. Learn more at TransitionAccelerator.ca.