Our

E²SG Advantage

TransAlta Corporation
2020 Annual Integrated Report Summary
**E²SG is more than simply a business strategy at TransAlta, it’s a competitive advantage.**

Sustainability, or ESG, is one of our core values: it is part of our corporate culture and is a top priority. We strive to integrate sustainability into governance, decision-making, risk management and our day-to-day business processes, while balancing growth considerations and the economy, and that’s why we put the extra E in ESG — E²SG. The outcome of our sustainability focus is continuous improvement on key ESG issues and ensuring our economic value creation is balanced with a value proposition for the environment and for people.
The events of this year were unexpected and challenging, bringing with them moments of deep concern over what the future might hold. Yet step by step and hour by hour, the TransAlta team faced into every fact we could gather and took the necessary measures to keep the company strong, our people safe and our customers served.

As shareholders, you can be proud of how we are handling the COVID-19 pandemic and how we have positioned the Company for 2021 and beyond. We finished 2020 with strong financial and operational performance and we made significant progress to deliver on the strategies that are transforming our future.

On February 4, 2021, our Board of Directors announced my retirement from TransAlta effective March 31, 2021, and the appointment of John Kousinioris as our new CEO effective April 1. I am thrilled that the Board appointed John as our new CEO and supported his appointment wholeheartedly. John and I have worked together for over eight years and he has proven himself to be a respected and well-rounded leader capable of deftly navigating the ship over the next decade. He is ready to take the company into what will be an exciting time as clean electricity takes on an even more prominent and important role in fuelling our lives.

The year was marked by the resilience of our people, the performance of our diversified portfolio of investments and progress on our E2SG (economic, environment, social and governance) goals. Growing our investments in TransAlta Renewables and continuing with our investments in the transition off coal in Alberta have strengthened TransAlta’s overall E2SG framework. Together, our strategic investments, ownership of the hydro assets in Alberta and positioning in competitive gas-fired generation have set us up as a strong E2SG holding in your portfolio.

Strong Performance
Despite the challenges of the year, the TransAlta team delivered strong free cash flow of $358 million, proving once again the value of our diversified portfolio. This year, exceptional performance by our US operations and our trading floor offset the impact of COVID-19 on our Alberta operations.

Our free cash flow results of $1.31 per share were excellent, especially considering that our Alberta thermal business was down $159 million on a free cash flow basis compared to 2019 due to the province’s economic downturn. In 2020, we returned $61 million of capital to shareholders by purchasing and cancelling 7.35 million common shares at an average price of $8.33 per share through our normal course issuer bid program.

Our share price climbed from $9.28 to over $9.67 this year and continued upward in early 2021 as investors realized that TransAlta has tremendous value in its portfolio. We also grew the dividend by six per cent for the second year. In October, we received our second instalment of the Brookfield financing and repaid $400 million of 2020 debt maturity. Now that we have completed our deleveraging program, the future is about returning capital to shareholders and funding our growth.
Our key indicator for safety performance is Total Injury Frequency and we set our 2020 goal as 1.17 — which is top-quartile performance. We achieved 1.67 — much higher than planned — where higher means worse performance. We set a goal and missed our target. Failures like these at TransAlta motivate all of us to do better, and we will diligently pursue improvement in 2021 for our safety culture. On a positive note, for Total Safety Reporting we recorded 40 per cent more observations for hazard and near miss reporting compared to 2019. Adjusted availability was 90.3 per cent, ahead of our 2019 performance of 90 per cent.

As I mentioned above, we experienced massive demand destruction in our Alberta business as COVID-19 profoundly impacted the provincial economy. By mid-March, almost 450 MW of load disappeared as businesses shut down and people went home to work. Into May, the loss of load grew to 1,000 MW as the drop in oil prices led to oil and gas production shut-ins as the sector tried to protect margins. Annual Alberta merchant market prices were $8 per megawatt hour lower than expected due to this demand destruction, and sales of megawatts to the grid were hit hard. But we continued to maintain a strong financial position through 2020 due to terrific hedging work by our team and strong performance at Centraila and in our energy marketing segment. Our diversified portfolio paid off, and by November 2020, all but 150 MW of load had come back in Alberta.

In May, we decided to pull back on our growth goals, primarily so we could conserve cash in case the impacts of COVID-19 affected our customers harder than expected. Luckily, through the year, all customers paid their bills on time and we were only hit slightly on our collections. However, we ended 2020 with much stronger liquidity than expected and by year-end we had access to $2.1 billion in liquidity, including $703 million of cash and cash equivalents.

**Delivering Strategy**

We have reduced our greenhouse gas emissions by 61 per cent since 2005, which is more than any country in the world on a percentage change basis. Our gas conversion strategy means our greenhouse gas emissions are now down to just over 16 tonnes from 42 million tonnes in 2005. By the end of 2030, our emissions will be 12.5 million tonnes, an approximate 70 per cent reduction from our 2005 levels. TransAlta has made significant progress on reducing greenhouse gas emissions, which puts us at the top of the list for ESG investors.

The team delivered on our strategy in 2020. We continued to advance our conversion to gas program, and on February 1, 2021, we announced the final return to service for Sundance Unit 6, which now fires exclusively on gas. At the end of 2020, we retired Unit 1 at our Centraila facility in Washington to uphold our commitment under the Energy Transition Bill with the state. The deal that was struck in 2011 allowed us to keep both units running, free of carbon liability, in return for certain shutdown dates of the end of 2020 for Unit 1 and 2025 for Unit 2. Unit 1 ran for 20 years under our ownership, logged over 9.2 million person-hours and kept hundreds of people employed over two decades.
In November, we affirmed our commitment to proceed with the Sundance 5 repowering project in Alberta, which will convert an existing thermal coal unit into a highly efficient combined-cycle natural gas generating facility. The Sundance Unit 5 repowering project received approval from the company’s Board of Directors and is on track to reach commercial operation by the fourth quarter of 2023.

We announced that we will discontinue mining operations at our Alberta Highvale coal mine at the end of 2021. This means that Keephills Unit 1 and Sundance Unit 4 will no longer run on coal, and will only run on gas after December 31, 2021. The federal government announced its intention in December 2020 to raise the carbon tax in Canada to $170/tonne by 2030. This announcement confirmed that our decision to accelerate our off-coal strategy to the end of 2021 was prudent.

We saw significant progress in our renewables portfolio this year. In October, we announced that our 10 MW WindCharger battery storage project began commercial operation. This project had a total capital cost of approximately $14 million, with approximately 50 per cent being funded through the support of Emissions Reduction Alberta. It is located behind the fence at the Summerview wind facility and is a first-of-its-kind example of firm, truly green electricity. It is a test of a future where batteries back up renewable and intermittent renewable energy sources.

In December, we acquired a 49 per cent interest in the Skookumchuck wind facility in Washington State. We combined this interest with our Alberta Windrise wind project and our Ada cogeneration project to complete a dropdown of these three highly contracted assets to TransAlta Renewables. This transaction was a win/win for TransAlta and TransAlta Renewables shareholders. TransAlta Renewables shareholders received $439 million of assets from TransAlta and TransAlta continues to own a 60 per cent interest through our ownership in TransAlta Renewables. The transaction extended the contracted cash flow horizon at TransAlta Renewables and provides stability and sustainability to our $150-million annual dividend earned from our ownership in TransAlta Renewables. This transaction gave us the confidence to also concurrently announce a dividend increase of six per cent for our TransAlta shareholders.

In December, we announced a small investment in a company called EMG International LLC, which has a technology that biologically cleans wastewater in the food processing industry. We believe that water conservation will become a key pillar of sustainability and that working with EMG to both expand their business and also market clean and renewable energy to their customer base is a low-risk and low-cost way to expand our reach to US industrial customers for ESG offerings in cogeneration, wind, solar and now, water.

Overall, our Clean Energy Investment Plan is on track and is the right strategy for the trends ahead where customers are demanding clean, low-cost and reliable electricity. By the end of 2021, Keephills 2 and 3 will be running on gas, Sundance Unit 5 will be under construction and our coal mine will be shut down and transitioned to reclamation only. As the capital needs of our Clean Energy Investment Plan reach completion, more cash will be available to TransAlta
shareholders for re-investment, share buyback and dividends. The $150 million of cash that TransAlta Renewables annually pays in dividends to TransAlta shareholders is a stable and consistent source of cash flow for investors that, when combined with excess cash from our Alberta business and our energy marketing team, gives us a strong base of cash flow for opportunities that are emerging in the broader energy transition.

**Resilient People**

For a business that prides itself on serving the community, a pandemic is a difficult challenge, but is in no way insurmountable. Our people quickly organized to protect those essential employees who had to continue to work from our facilities throughout the pandemic. By June, those who had been working from home were able to return to our offices with strong medically approved protocols for social distancing, masking and wiping all surfaces that we touched. It was disappointing to have to return to our home offices in December in Canada and the US, and 2021 will be another year of adapting to what comes with the pandemic. Yes as we have seen in 2020, the team has outstanding practices for running the company and will continue delivering on our strategy no matter what.

In 2020, we demonstrated that we are One TransAlta made up of many parts. We are truly stronger together. We achieved top-quartile results in our Organizational Health Index, a survey where our people assess TransAlta’s performance and results are measured against three million other employees assessing the organizational health of their companies. It has taken us four years to move from fourth quartile to first, an achievement that could only be done thanks to the consistent commitment from leaders across the company.

I am incredibly proud that we have adopted a Diversity, Equity and Inclusion Pledge that commits the company to advance diversity and inclusion in the workplace. By undertaking this pledge, we will seek to remove systemic barriers that may prevent diverse employees from thriving, including visible minorities, Indigenous peoples, members of the LGBTQ+ community, persons with disabilities and women. For us, diversity and inclusion are about ensuring belonging for all our employees. In 2021, our plans and results will be reported to the Board of Directors.

**Looking Forward**

As the team looks ahead, they see a number of opportunities to expand our gas and renewables fleet in Canada, the US and Australia. While we are not the only organization pursuing such projects, we find that customers highly value the skills and capabilities that companies who specialize in electricity bring to the table. TransAlta will continue to be a company focused on technology and innovation while exploring the viability of E2SG investments in carbon capture and storage, hydrogen, pumped storage, batteries and the like. The team has over 3,000 MW in its growth portfolio, including the innovative Brazeau hydro pumped storage facility. As governments and companies align to the idea of net zero by 2050, projects like Brazeau that can store a reliable source of green energy become that much more valuable. TransAlta is poised to accelerate and deliver new EBITDA growth in 2021 and beyond.

We also expect increasing investor and stakeholder pressure to continue to reduce our emissions and green our fleet. TransAlta is incredibly well positioned to lower greenhouse gas emissions while continuing to provide low-cost, reliable electricity to our customers. Our strategy is simple and focused, our performance is consistent, and our people are exceptional.

As always, we thank you for your investment in the company and your support. I am especially grateful for our hard-working board who worked side-by-side with me over the last three years so that we could transition the leadership of TransAlta to a new CEO and a strong management team without missing a beat. Despite a worldwide pandemic and exceptional impacts to the Alberta economy, 2020 was a strong year for TransAlta. That’s 100 per cent on the shoulders of our tough and resilient workforce who do their work without fanfare and by leading from every corner of the organization.

Dawn L. Farrell
President and Chief Executive Officer
March 2, 2021
Message from the Chair

I have had the great honour and privilege to serve as the Chair of the Board of Directors of TransAlta Corporation for the past year. To say that the last year has been eventful for TransAlta would be a tremendous understatement. The COVID-19 pandemic has disrupted every sector of the Canadian economy, resulting in significant energy demand destruction, including in the electricity sector.

As a result of the talent and preparedness within the organization, the teams at TransAlta ensured that we weathered this unforeseen storm with strength and pivoted where required with precision. It was, of course, the biggest obstacle we had to overcome in 2020. The pandemic accelerated at a time when we had just commenced a major construction project that required significant effort to maintain a safe and healthy work environment. As an essential service, it was imperative that we secure our normal course supply chain as well as acquire substantial personal protective equipment for which there was a worldwide shortage. Through it all, the project was completed on time and on budget and the TransAlta team was able to keep all operations running efficiently to ensure there were no supply disruptions to our customers. More importantly, the COVID-19 virus barely found its way into our numerous workspaces and the protocols put in place were robust enough to prevent any on-site transmission within our workforce.

In difficult times such as those we all experienced in 2020, organizations get tested in ways no one could have foreseen. I am incredibly proud of the way the Board and management worked together to manage the pandemic response. Like all others, we had to adapt to remote meetings that challenged our collective abilities to remain efficient and productive. Responding to the pandemic imposed significant additional time requirements on all members of the leadership team and the Board beyond those required to execute the business plan. I am incredibly proud of every member of the TransAlta organization for their effort, adaptability, innovation and focus, which allowed us to achieve virtually all of the corporation’s key objectives for the year, albeit in a manner materially different than anticipated when those targets were set. Never has the talent within the organization been tested in the way it was in 2020 and I can’t overstate the exemplary performance of the entire team.

I believe management’s response to the pandemic was best in class. Throughout the year and into 2021 as information regarding the health threats of the virus evolved, keeping all members of the TransAlta team factually informed was a top priority. This was clearly a challenge with lots of conflicting information circulating in the news and social media. Our answer was to retain the services of doctors, immunologists and, more recently, a vaccinologist, to communicate directly with all members of the organization through frequent Town Halls during which the experts answered questions posed by our staff. I believe this direct access to health care professionals allowed everyone to make informed decisions about how to respond to the pandemic in the context of their own personal and family situations. As a result, the incidence of the virus within our workforce was minimal with, to the best of our knowledge, no transmission on any TransAlta work site. This also allowed us to confidently and safely re-open our head office with the majority of our staff returning on a full- or part-time basis sooner than most other businesses. I believe that was a key factor in us achieving the strong financial results we delivered to our shareholders.
Message from the Chair

Pandemic Response

An exemplary response to the pandemic was not our only notable achievement in 2020. We are proud to be the recipients of two important recognitions of the efforts of our leadership team and the Board of Directors — the Governance Gavel Award from the Canadian Coalition for Good Governance, and our significant jump in rank on The Globe and Mail’s Board Games ranking. These are important achievements to continue to establish the company as an industry leader in corporate governance and disclosure. The importance of diversity both in the organization and on the Board is well understood within TransAlta and we are steadfast in our commitment to the goals that we have set surrounding diversity and inclusion within the organization. While we already have significant diversity within the organization, more work remains to be done and we are committed to undertaking that work. However, diversity for the sake of diversity doesn’t benefit anyone — diversity that develops and promotes talent within the organization is our objective. We are confident we can achieve our aggressive diversity targets within the time frames set out by our leadership team. Of particular note, in response to an employee initiative, during 2020 we created a Diversity and Inclusion Council within TransAlta with representation from many levels within the organization to advance and enhance our diversity initiatives.

As always, the safety of our people remains a top priority. Safely completing our first coal to gas conversion in Alberta was another major accomplishment. This conversion is the first big step in our commitment to cease all coal mining operations by the end of 2021 and cease using coal in our Canadian fleet by the end of 2023. We are on track to deliver on the Clean Energy Investment Plan announced in 2019. Unfortunately, this transition means that we will part ways with a significant number of long-term employees in our thermal fleet. We thank all those employees for their outstanding commitment and dedicated efforts over many years in support of the corporation.

Year-end 2020 marked the end of a capacity market in Alberta. Our team has worked hard to prepare the organization for the Alberta merchant market in which we now operate. We are confident those preparations will result in a seamless transition supporting continued strong financial performance. Another milestone achieved in 2020 was receipt of the final $400-million tranche of capital associated with the 2019 transaction with an affiliate of Brookfield Asset Management. The resulting strengthening of our balance sheet allows us to now direct our free cash flow towards moving our growth strategy forward and returning more capital to shareholders through increased dividends. Another key achievement for 2020 was bringing WindCharger, Alberta’s first utility-scale battery storage project, online. We are all tremendously excited about projects like this and the new opportunities we are now pursuing to deliver on our commitment to transition TransAlta into a leading clean electricity company.

In early February, the Board of Directors announced Dawn Farrell’s retirement and the appointment of John Kousinioris as incoming CEO effective April 1, 2021. Dawn’s 35-year career in electricity is full of significant accomplishments, including ushering TransAlta into its clean electricity future and its departure from coal-fired generation — Dawn will be truly missed. Join me in congratulating John on this new appointment. He is poised to take the company into what will be an exciting time as clean electricity becomes an even more central and essential actor in the energy that is needed to fuel our lives. I have every confidence in John’s ability to lead the company.

Our organization is strong, talented, agile and demonstrably capable of effectively responding to disruptive events that challenge lesser organizations. In 2020, we lost the talent and leadership of our Chairman Ambassador Gordon Giffin who retired at the Annual General Meeting. We have all benefited greatly from his leadership and are immensely grateful for his contributions to TransAlta. Sincerest thanks are also extended to all of our stakeholders, employees, Board members and communities in which we operate for collaborating to overcome the many different challenges we have faced. On behalf of your Board, I can assure you that TransAlta remains dedicated to responsible growth and energy project development and is on the right strategic path to deliver the clean electricity needs of the future.

John P. Dielwart
Chair of the Board of Directors
March 2, 2021
TransAlta At A Glance

$9.5 billion
Enterprise Value
Strong balance sheet and capital discipline

$3.0 billion
Market Capitalization
Listed on the TSX and the NYSE

Engaged Workforce
Our Employees are Central to Value Creation
Approximately 1,500 active employees

>109 years
Generation Experience
The foundation for our focused strategy

Diversified Portfolio
75 Generating Facilities with Approximately 8,000 MW of Net Capacity
Operating in Canada, the United States and Australia

Hydro  Solar  Wind  Storage  Gas  Coal
TransAlta At A Glance

One of Canada’s Largest Publicly Traded Power Generators
We own, operate and manage a highly contracted and geographically diversified portfolio of assets

A Focused Strategy for Value Creation
Our goal is to deliver shareholder value by delivering solid returns through a combination of dividend yield and disciplined growth in cash flow per share

Successfully Executing Our Conversion to Gas
We will be off coal in Canada by the end of 2021 with a fully-funded transition plan

Delivering Growth in Our Renewables Fleet
We have a robust development portfolio with >2.4 GW of renewable energy opportunities and are the sponsor and majority owner of TransAlta Renewables
Our E²SG Performance

$358 million
Free Cash Flow in 2020
Strong performance despite COVID-19 challenges

25 million tonnes
Reduction in Greenhouse Gas Emissions Since 2005
Better than any country in the world on a % basis

1,500 MW
Net Capacity Growth in Renewable Energy Since 2005

$15 million
Community Investment Over the Last Six Years
Youth & Education, Environmental Leadership, Community Health & Wellness

Alberta’s First Battery Storage Project
Commissioned in 2020 and 50% funded through Emissions Reduction Alberta

TransAlta GHG emissions (million tonnes CO₂e)
Renewable energy growth (net capacity MW)
The Largest Producer of Wind Power in Canada and Hydro Power in Alberta

Contributed more than 10 per cent of Canada’s Required GHG Emissions Reductions as per Canada’s 2030 GHG target under the Paris Agreement

Adopted Diversity, Equity & Inclusion Pledge
Signed by the Board and Executive team, supporting our gender diversity goal of 40 per cent female employment by 2030

Progressed Our Safety Culture Transformation
The safety of our people, communities and the environment is one of our core values

One TransAlta Comprising Many Parts
Achieved top quartile results on the Organizational Health Index
Our E²SG Reporting and Recognition

Economic / Environment / Social / Governance

We have reported on sustainability for over 25 years, and 2020 marked our sixth year of integrating financial and environment, social and governance ("ESG") disclosure. We track over 80 social and environmental key performance indicators and report in alignment with TCFD\(^1\) and SASB\(^2\), two leading ESG frameworks.

Our leading sustainability target process links targets to sustainability and financial materiality, sets macro targets that are both year-over-year and long term, and involves Executive and Board approval.

TransAlta’s Five Sustainability Pillars
Clean, Reliable and Sustainable Electricity Production
Safe, Healthy, Diverse, and Engaged Workplace
Positive Indigenous, Stakeholder and Customer Relationships
Progressive Environmental Stewardship
Technology and Innovation

We have membership in and participate with key sustainability organizations and working groups such as the EXCEL Partnership, the Canadian Business for Social Responsibility, the Energy Sector Sustainability Leadership Initiative, Canadian Electricity Association Sustainable Electricity Steering Committee and Future-Fit, which all provide validation and support of our sustainability strategy.

CDP (the global disclosure system for environmental impacts formerly known as Carbon Disclosure Project) recognized TransAlta with an A- score, ranking the Company among industry leaders on climate change management. CDP has created a system that results in unparalleled engagement on environmental issues worldwide.

In 2021, TransAlta was once again added to the Bloomberg Gender-Equality Index. Standardized disclosure of gender-related data allows companies to attract capital and talent, empowers investors to make investment decisions through a social lens and enables employees and communities to hold companies accountable for progress.

The Globe and Mail reported that we moved from a ranking of 48 to a ranking of 14 in their Board Games report. Board Games assesses the work of Canada’s largest Boards against a rigorous set of governance criteria (well beyond the minimum set by regulators), covering board composition, compensation, shareholder rights and disclosure.

(1) Task Force on Climate-Related Financial Disclosure  (2) Sustainability Accounting Standards Board
Our Energy Transformation: 2000 to 2025

A quarter century of energy transformation at TransAlta includes a complete shift away from coal, significant growth in renewable energy and growth in on-site gas solutions for customers. Transformation and E²SG is a long-term commitment.

Our Progress from 2000 to 2025

Coal transition: 17 coal facilities transitioned off coal, totalling approximately 5,000 MW (net capacity)

GHG emission reductions: On track for approximately 30 million tonnes CO₂e in reductions

Wind net capacity growth: >1,500 MW

Cogeneration growth: >1,000 MW

Transitioning to 100% Clean Electricity

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<th>Generation Mix in 2000</th>
<th>Generation Mix in 2025</th>
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<td>27% Gas and Renewables</td>
<td>100% Gas and Renewables</td>
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<td>14% Gas</td>
<td>58% Renewables</td>
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<tr>
<td>73% Coal</td>
<td>42% Renewables</td>
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Our Culture

Our Vision
This defines what our company aspires to be and is working toward — it is our why.
A leader in clean electricity — committed to a sustainable future

Our Mission
This defines our core purpose — it is how we do it.
Provide safe, low-cost and reliable clean electricity

Our Values
These principles define our corporate culture. They reflect our skills and mindset, while providing a framework for everything we do.

Safety
Ensure the health and safety of our people, partners and stakeholders

Innovation
Develop and embrace innovative solutions to challenges

Sustainability
Reduce the impact of resource use in everything we do

Respect
Support our people, our partners, our communities and our environment

Integrity
Focus on honesty, transparency and doing what’s right