FINAL OUTCOMES REPORT (CONFIDENTIAL)

1.0PROJECT INFORMATION

1. ERA PROJECT ID #	R0160848
2. CALL / ROUND	Call #5 / Round 1
3. PROJECT TITLE	Anax Power Turboexpander Project
4. COMPANY NAME	Anax Power
5. PROJECT TYPE (R&D, Development, Demonstration, Implementation)	Demonstration
6. LOCATION (primary location the project took place by address, land description, or GPS coordinates)	41.507181, -78.721773
7. PROJECT START DATE	Q2 2019
8. PROJECT COMPLETION DATE	Q2 2025
9. TECHNOLOGY READINESS LEVEL (TRL) AT PROJECT INITIATION	TRL 5
10. TRL AT PROJECT COMPLETION	TRL 8
11. JOBS CREATED	16
12. GHG EMISSIONS REDUCED (Project-level: annual, cumulatively by 2030 and by 2050)	n/a at project level
13. TOTAL ERA FUNDING	$2,238,524
14. TOTAL PROJECT VALUE	$4,970,223
15. ERA PROJECT ADVISOR	Susan Carlisle
16. SUBMISSION DATE	5/7/2025

17. KEY PROJECT CONTACT NAME AND EMAIL	Michael Longo, mlongo@anaxpower.com
18. QUOTE (why was ERA a pivotal funder for this project? How did ERA funding help advance on the TRL scale? Etc.)	"Without ERA's support, I don't think Anax Power would be here today. It awarded Anax funding in the Spring of 2020 – just as the global pandemic was spreading across the globe. This award provided confidence to Anax's stakeholders and allowed the company to continue building through a global supply chain crisis. Eventually, this project resulted in something never done before – the installation of a two-stage natural gas turboexpander on a live natural gas pipeline!" – Michael Longo, CEO, Anax Power
19. NOTABLE COMMUNICATIONS	
20. IMAGE (please insert or link a photo capturing the technology for ERA publications)	See below.

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5.0EXECUTIVE SUMMARY

The technology is called a natural gas turboexpander generator, and it uses the pressure, flow, and heat to generate 500kW of power per unit. It is known as the 500kW Anax Turboexpander, or ATE-500. Units can be installed to generate as much power as the gas flow can support, with most sites capable of supporting at least two ATEs. Anax creates financial and environmental value across the natural gas value chain, from well-head applications to receipt points, city-gate stations, and other major delivery points. For customers, this technology represents the opportunity to prioritize energy efficiency and carbon reduction across their asset base.

The objective of Anax Power's turboexpander is to capture wasted energy from natural gas pressure regulation and convert it into useful, emissions-free electricity while eliminating inefficient gas-burning heaters. By replacing pressure-reducing valves (PRVs) with turboexpanders, the system recovers the energy that would otherwise be wasted as heat during the pressure letdown process, using it to generate power. Additionally, the system utilizes the waste heat – typically available at the industrial sites of ATE customers – or a heat pump to replace the outdated natural gas-fired line heaters that are widely used at pressure regulating stations. This dual-benefit approach significantly reduces greenhouse gas (GHG) emissions by both displacing fossil-fuel-based electricity generation and eliminating the need for inefficient gas-burning heaters, which are typically only 25% efficient.

The primary customers for this technology are natural gas transmission and distribution companies, pipeline operators, and large industrial energy consumers that manage pressure regulating stations. These entities are increasingly under regulatory and financial pressure to decarbonize operations and improve energy efficiency. The ATE-500 offers pipelines a way to meet the regulatory, financial, and social decarbonization expectations by utilizing their existing assets – natural gas pipelines. Rather than venturing outside of their core business by developing wind and solar projects, pipelines can use the ATE to enhance their multi-billion dollar pipeline assets. This dynamic represents a seismic opportunity for the natural gas industry to use their existing natural gas assets as a way to improve the environment.

The expected GHG reductions from deploying this system are substantial, with a projected 1.05 gigatonnes of CO_2e reduction potential over a 20-year period across the entire market. At an individual site level, the system can reduce emissions by thousands of metric tons per year by eliminating inefficient heating sources and generating carbon-free electricity. In terms of cost savings, the technology provides a dual economic benefit by monetizing wasted energy and eliminating the operational expenses associated with gas-fired heaters. This results in millions of dollars in lifetime cost savings per site while significantly reducing emissions. The ATE provides a carbon-free source of power that, on average, removes 0.57 tonnes of CO_2 per MWh of generation.

6.0 PROJECT DESCRIPTION

6.1 INTRODUCTION

The **500kW Anax Turboexpander (ATE-500)** generates electricity by capturing energy from natural gas pressure reduction. Natural gas travels through pipelines at high pressure and must be reduced to a lower, usable level before reaching local distribution networks or industrial facilities. Traditionally, pressure-reducing valves (PRVs) handle this process, but they dissipate energy as heat.

The ATE-500 is installed in-parallel with the PRV at the pressure reduction station. As high-pressure gas enters the system, it passes through a two-stage turbine connected to a generator. The expansion of the gas causes the turbine to spin, driving the 520kW generator and converting energy that would otherwise be wasted into electricity. This power can then be used onsite or fed into the grid.

Unlike conventional power generation methods, the Anax Turboexpander does not rely on combustion, making it a zero-emission solution. By harnessing energy from an existing gas flow, it provides a continuous and reliable source of electricity. This technology helps utilities, industrial facilities, and pipeline operators reduce energy costs, improve efficiency, and support sustainability efforts.

6.2 BACKGROUND OF THE PROJECT

Anax's origins go back to 2013, when PG&E – the gas and electric utility in California – approached Anax's founders to find a solution to the energy being wasted throughout their natural gas transmission system. PG&E was underwhelmed by the existing turboexpander technology in this market, which was designed for cryogenic, LNG, and/or air separation applications – not pipelines. From this point, Anax prioritized developing a turboexpander specifically for natural gas pipelines using actual customer specifications By starting with this customer data, Anax custom engineered a modular, plug-and-play turboexpander skid that was performance and safety tested in the summer of 2017 on a live natural gas transmission line. This performance and safety test was independently evaluated by the Gas Technology Institute (GTI), which concluded: "…the performance and safety tests conducted at the DNV-GL Flow Centre in accordance with the test plan and corresponding test results indicate technical feasibility and safe operation of the Anax-Star ASTE250 GLG."

After the successful pilot test in 2017, Anax raised capital and began value engineering the technology to meet customer ROI expectations. In 2020, ERA's grant marked a monumental milestone for the company and provided vital support throughout the COVID pandemic and subsequent global supply chain crisis.

Anax Power has built a strong consortium that has resulted in the successful testing of the ATE-500. Specific partners, include:

Softinway – Softinway global engineering company specializing in the development of turbomachinery. In addition to the original software design of the turbine, Softinway, is responsible for the full skid design and integration.

DXP NatPro – DXP NatPro is the Alberta-based skid fabricator that assembled the ATE-500 in adherence to local regulations and requirements.

Longo Electrical-Mechanical – Longo Electrical-Mechanical manufactured the control panels that house the programmable logic control (PLC) system and power conditioning equipment. In addition to the hardware, Longo also programmed the logic that enables the ATE-500 system to function on natural gas pipelines.

TurboPower Systems (TPS) – Turbo Power Systems (TPS) is a global leader in high-speed generators and one of the only companies in the world that is capable of designing and building the generator used in the ATE-500.

6.3 PROJECT OBJECTIVES

The original project objective was to demonstrate the successful technical and commercial operation of two (2) 500kW Anax Turboexpanders working as a single, cohesive 1MW energy system. Unfortunately, ATCO pulling out of the project eliminated Anax's ability to achieve this objective. Without the pressure conditions and significant gas flows, Anax does not have the operating conditions to meet this objective. Also, the Third Amending Agreement shortens the project and removes the final project milestones, which deal with the installation and operation of two ATEs. While this original objective was not achieved, that does not mean that this project was not an overwhelming success.

Despite significant obstacles, including a global pandemic, historical supply chain crisis, and more, Anax – with ERA's support – successfully financed, built, installed, operated, and commissioned the first two-stage turboexpander on a natural gas pipeline that uses active magnetic bearings. Anax and ERA achieved something that had never been accomplished and it provides Anax with the credibility and technical knowhow to commercialize the ATE.

6.4 PERFORMANCE/SUCCESS METRICS IDENTIFIED IN THE CONTRIBUTION AGREEMENT

Success Metric	Project Target	Project Achievement Status	Explanation
Pressure Safety Validation	100%	Achieved	The ATE's pressure control valves (PCVs) ensured optimal pressures at each stage of the ATE system. These pressure safety measures – which are of critical importance to Anax's customers – performed over a variety of inlet and outlet pressure requirements at Johnsonburg.
Failsafe Protection	100%	Achieved	The ATE's safety components successfully protected the ATE and downstream pipeline during pressure and flow fluctuations at Johnsonburg.
500kW ATE Production & Installed Cost to Anax	Confidential	Installed Cost: Achieved ATE Production: Not Achieved	There is not enough flow at Johnsonburg to determine whether the ATE can achieve Anax's internal power production goals. While Anax was slightly over-budget in installation cost for the ATE at Johnsonburg, it identified savings on future ATEs, which will result in achieving the cost goal in the long term.
Performance Mapping	500kW	Ongoing	Performance mapping is a continuous objective. While Anax has made excellent progress in this goal, it must continue to improve the ATE's performance.
Thermal Energy Consumption	Match theoretical calculations	Ongoing	The ATE system has exceeded Anax's thermal energy consumption goals at Johnsonburg. While this is an exciting achievement, optimizing thermal energy consumption is an

			ongoing process that must be completed at the infinite gas conditions (inlet/outlet pressure, inlet/outlet temperature, flow, etc.) that are found on natural gas pipelines across North America.
Efficiency Values	Match theoretical calculations	Not Achieved	Flow conditions at Johnsonburg have deviated from the historical data used to validate this site. Anax has not had the appropriate flow conditions to compare actual ATE efficiency with theoretical calculations.
Power Quality	Harmonic distortion analysis	Achieved	Analyzing harmonic distortion was always going to be a major part of this project. Fluctuating natural gas conditions mean that the ATE's generator would be spinning at different speeds, resulting in dynamic power quality. Rectifying power quality is necessary for successful turboexpander projects, and Anax's power conditioning equipment corrects for harmonic distortion to produce 3-Phase, 480 V, clean power.

All of the success metrics outlined in the initial Contribution Agreement remained – more or less – consistent. The only thing that changed was the location that these success metrics were tested due to the ATCO decision to not move forward with the project.

6.5 PROJECT CHANGES

Anax Power and this specific project have changed considerably during the lifecycle of this project. Since the project was awarded in Q1 of 2020, Anax has exhibited resilience in the face of a global pandemic, unprecedented supply-chain crisis, and generally volatile business conditions over the last 5 years.

The most significant change related to the ERA project has been the evolution of Anax's pilot partners. The company received significant support from ATCO to demonstrate the ATE throughout the ERA application process. After winning the grant, Anax travelled to Alberta to evaluate sites and select a pilot location. This location changed several times as Anax sought to align its project needs with ATCO's preferred site. Eventually, ATCO's South Glenmore Park City Gate Station, south of Calgary was chosen as the demonstration location for the ATE.

The project would be completed following the successful field demonstration of the project at Anax's Field Laboratory. Anax successfully commissioned the ATE-500 on October 31st, 2024 to complete the Anax Power Turboexpander Project with ERA.

Aside from the demonstration site, Anax experienced several project delays associated with building a clean energy hardware product amid a global pandemic and unprecedented supply chain crisis. These macroeconomic factors extended lead times for critical project components.

The last major change for Anax over the ERA project lifecycle is the evolution of hits thermal management capability.

6.6 TECHNOLOGY RISKS

REDACTED

7.0PROJECT WORK COMPLETED AND OUTCOMES

7.1 METHODOLOGY

The Anax Turboexpander project followed a structured experimental and implementation methodology designed to validate the technology in a real-world environment. The methodology included the following key stages:

1. **Site Selection & Feasibility Assessment:** While it didn't ultimately come to fruition, Anax collaborated with ATCO to evaluate several different locations for the ATE. These locations included – the Shell Scotford Plant Delivery in Edmonton, the Peigan Gate Station in Calgary, the South Glenmore Park Gate Station, and more. Eventually, Anax determined that the South Glenmore Park Gate Station was a a suitable installation site with consistent pressure letdown and flow rates capable of supporting two ATE-500s.

2. **Design & Engineering:** Detailed mechanical and electrical design work was completed, incorporating system specifications, integration requirements, and utility constraints. Anax completed comprehensive engineering and designs for the South Glenmore Park Gate Station, even though it was not able to use them.

3. **Pre-Installation Testing:** Key subcomponents were tested at the component level to validate performance and control logic prior to full system integration. This includes several months of troubleshooting and investigating issues that arose in the testing of the turboexpander generator in a factory environment. Eventually, these issues were resolved and testing continued with various components. Many issues were identified and corrected before the technology was installed at the field demonstration site in Pennsylvania.

4. **Installation & Commissioning:** The Turboexpander system was installed at the Pennsylvania field demonstration site and commissioned in phases, including no-load, part-load, and full-load testing to measure performance and efficiency.

5. **Data Collection & Analysis:** Real-time operational data was collected and analyzed to assess energy generation performance, pressure regulation consistency, and reliability. This data was collected over several months whenever gas flow at the site was sufficient to run the ATE.

7.2 TECHNOLOGY DEVELOPMENT

The Anax Turboexpander is a novel technology designed to harness otherwise wasted energy during natural gas pressure regulation and convert it into clean, onsite electricity. Throughout the course of this project, the technology advanced significantly from a prototype to a more robust, utility-grade system. Development efforts focused on enhancing the mechanical design for improved durability, upgrading power electronics to boost system efficiency, and overhauling the control system architecture to support greater automation and compliance with microgrid standards.

The installation process involved integration into a live natural gas pipeline, necessitating extensive coordination with the utility partner – Pin Oak Midstream – and third-party contractors. Due to stringent safety and compliance requirements, the installation was performed in a carefully staged manner, including mock testing and system dry runs before activation with live gas.

7.3 PROJECT ACHIEVEMENTS, RESULTS, AND ANALYSIS

The project accomplished something that has never been done before – the successful installation of a two-stage natural gas turboexpander that uses active magnetic bearings on a natural gas pipeline. Even with the project in Alberta not coming to fruition, this is a MAJOR achievement that will enable Anax to bring turboexpanders to other locations across North America. This deployment marked a transition from pre-commercial prototyping to early-stage commercial demonstration. The system met its core technical objectives by operating safely and consistently, generating electricity from pressure letdown, and adhering to the regulatory and operational requirements of Pin Oak Midstream.

Experimental results from the field validated simulation models developed during the design phase. While the work to optimize the ATE continues, the fundamental technology met most of its project goals. Specifically, the ATE demonstrated its capacity to generate power while maintaining precise pressure regulation, even under varying gas flow conditions. Simulation models had predicted these outcomes, and field data confirmed that power output and mechanical performance fell within expected ranges. Control system simulations, which anticipated transient responses and operational anomalies, were also supported by live test results, reinforcing the system's resilience in dynamic utility conditions.

While the project encountered delays due to global supply chain disruptions, COVID-19, partner shifts, and field engineering challenges, the final outcomes reflect strong technical progress. The data collected during system operation showed that the Turboexpander can produce thousands of megawatt-hours of electricity annually from an otherwise untapped energy source. This confirms the system's potential to decarbonize the natural gas distribution sector. An in-depth analysis of the results highlights several areas for improvement, including enhanced modularity, refined partner engagement processes, and streamlined service logistics—all of which will inform future deployments and product iterations.

8.0 LESSONS LEARNED

8.1 CHALLENGES

Throughout the 5+ year duration of the Anax Turboexpander demonstration project, we encountered a series of significant challenges that impacted timelines and required adaptive problem-solving to ensure successful completion.

One of the primary obstacles was the global supply chain crisis, which led to material shortages, long lead times, and increased costs for critical components. The COVID-19 pandemic exacerbated these issues, causing workforce disruptions, logistical constraints, and limitations on-site work.

From an engineering and field implementation perspective, we encountered various technical challenges inherent to deploying innovative technology in a real-world environment. These included site-specific constraints, unforeseen infrastructure modifications, and iterative design refinements to optimize system performance and integration.

Despite these challenges, Anax Power remained committed to the project's success, leveraging problem-solving, collaboration, and adaptability to overcome obstacles and deliver on the project objectives.

8.2 PRACTICAL LEARNINGS

The challenges described in 8.1 provided valuable insights that Anax used to emerge as a stronger company in 2025 than it was in 2020. This evolution was not possible without ERA's support at a critical inflection point in the company's evolution. The challenges encountered throughout the project underscored several key lessons that will inform future projects and industry best practices.

Additionally, supply chain resilience emerged as a crucial factor in project execution. The global supply chain crisis highlighted the importance of supplier diversification, early procurement, and strategic stockpiling of critical components to reduce risks associated with long lead times and market fluctuations.

Navigating government funding and regulatory processes presented both opportunities and challenges. While grants such as those from Emissions Reduction Alberta were instrumental in supporting the project, the complexity of regulatory approvals and compliance requirements added layers of administrative burden. A key takeaway is the importance of early and proactive engagement with regulatory bodies to streamline approvals and anticipate potential roadblocks before they impact project timelines. This learning is accentuated by the impending tariffs that will impact commerce between the US and Canada.

Furthermore, the evolving landscape of energy transition policies highlights the need for companies developing clean technology solutions to maintain agility. As governments adjust regulations, incentive structures, and market frameworks, businesses must be prepared to adapt business models and project plans accordingly.

The demonstration project reinforced the importance of market education and stakeholder engagement in commercializing new technology. Gaining early buy-in from end users, utilities, and policymakers is essential to accelerating adoption and securing commercial pathways. Clear communication of the technology's value proposition—including economic, environmental, and operational benefits—can significantly enhance market acceptance.

Additionally, pilot projects like this highlight the need for realistic timelines and phased commercialization strategies. The complexities of field deployment, integration with existing infrastructure, and performance validation indicate that transitioning from demonstration to full-scale commercialization requires a structured approach with iterative improvements.

From a technical perspective, the project reinforced the value of design flexibility and iterative problem-solving. Field engineering challenges necessitated adjustments to system configurations, controls, and installation processes. Future projects will benefit from a more modular and adaptable design approach that can accommodate diverse site conditions and unforeseen technical constraints.

Another key lesson is the importance of field data collection and performance validation in de-risking new technology. The ability to capture, analyze, and leverage real-world operational data is essential for refining product designs, enhancing reliability, and demonstrating value to customers and investors.

8.3 ORGANIZATIONAL LEARNINGS

Many of the lessons described in 8.2 extend beyond this specific project and can be applied to broader technology development and commercialization efforts. Specifically:

- Strategic partnerships and alignment are critical for success in complex, multi-stakeholder projects.
- Early regulatory and policy engagement can mitigate delays and ensure compliance.
- Proactive supply chain management can reduce risk exposure, particularly in volatile global markets.
- Structured commercialization pathways are essential for transitioning from demonstration to widespread market adoption.
- Resilient and adaptable technology design can facilitate smoother field deployment and long-term scalability.
  By integrating these lessons into future initiatives, Anax Power can improve efficiency, reduce risks, and accelerate the deployment of innovative technologies that support decarbonization and energy transition goals.

8.4 HIGHLIGHTS

Successfully commissioning the ATE-500 at the project field laboratory, which was the first 2-stage turboexpander that utilized active magnetic bearings (AMBs) on a pipeline.

Signing the Collaboration Agreement with ATCO, the first pipeline customer in Anax's history.

Adding piping compensators to insulate the turboexpander-generator from external vibration and significantly improving the ATE's performance.

9.0 GHG BENEFITS

9.1 PROJECT BASELINE EMISSIONS

The identification of the baseline was conducted using the draft Quantification Protocol for Waste Heat Recovery for the purposes of establishing the quantification methodology. Under the Protocol, project developers are required to establish a dynamic project-based baseline that is "defined based on the provision of the equivalent heat load and/or electricity generated as under the project condition." The protocol accomplishes this by applying an energy balance to the generating, distribution and utilization systems.

In the case of the ATE units, the baseline quantification relies primarily on the net electricity generation achieved during the implementation of the project. The baseline quantification also takes into consideration the recovery of waste heat, which is included and based upon modeled data and estimated parameters.

The baseline condition can be defined by the use case of each ATE unit. In the case where the ATE is located "behind the fence" or within a large industrial complex, the baseline case would have been the use of grid electricity, or the generation of electricity on site, likely using fossil fuels. This is the use case anticipated within this GHG quantification. The ATE unit(s) could be located on-site within a large industrial user and displacing some of the need for their own on-site power production from a co-generation unit or other form of generation, or could be displacing the need for purchased grid electricity. In the case where the ATE is producing power directly for grid export, then the baseline condition is the production of electricity for the Alberta grid by existing means of generation.

Baseline sources and sinks were identified using the *Quantification Protocol for Waste Heat Recovery* and represent the most current approach to quantification available for Alberta. These sources and sinks are presented in *Table 1* below.

Table 1: Baseline Sources and Sinks

Source / Sink	**Controlled, Related or Affected**	**Included / Excluded in Quantification**	**Justification**
Upstream Sources and Sinks During Baseline Operation			
B1 Fuel Extraction and Processing	Related	**Included**	Included as per the protocol
B2 Fuel Delivery	Related	Excluded	Excluded as per the protocol
B3 Generation of Waste Heat	Related	Excluded	Excluded as per the protocol
B6 Development and Processing of Unit Material Inputs	Related	**Included**	Included as per the protocol
B11 Electricity Usage/ Displacement	Related	**Included**	Included as per the protocol
On-site Sources and Sinks During Baseline Operation			
B4 Generation of Heat and Power	Controlled	**Included**	Included as per the protocol
B5 Heat Transfer or Power Conversion	Controlled	Excluded	Excluded as per the protocol
B7 Unit Operation	Controlled	Excluded	Excluded as per the protocol
B8 Facility Operation	Controlled	Excluded	Excluded as per the protocol
B9 Electricity Generation (On-Site)	Controlled	Excluded	Excluded as per the protocol
Upstream Sources and Sinks Before the Baseline operation			
B12 Development of Site	Related	Excluded	Excluded as per the protocol

Source / Sink	Controlled, Related or Affected	Included / Excluded in Quantification	Justification
B13 Building Equipment	Related	Excluded	Excluded as per the protocol
B14 Transportation of Equipment	Related	Excluded	Excluded as per the protocol
B15 Construction on Site	Related	Excluded	Excluded as per the protocol
B16 Testing of Equipment	Related	Excluded	Excluded as per the protocol
Downstream Sources and Sinks During the Baseline Operation			
B10 Development and Processing of Unit Material Outputs	Related	Excluded	Excluded as per the protocol
On-Site Sources and Sinks After the Baseline Operation			
B17 Site Decommissioning	Related	Excluded	Excluded as per the protocol

Following from the identified sources and sinks above:

$Emissions_{Baselinet}$ = sum of the emissions under the project condition

= Emissions under B1 Fuel Extraction and Processing

+ Emissions under B4 Generation of Heat and Power

+ Emissions under B11 Electricity Usage/ Displacement

Table 2: Operational Parameters in support of the Baseline Scenario quantification

Parameter	Value and Units
Electricity Production	
ATE Unit Capacity	500 kW
Uptime factor	85%
Electricity Grid Displacement Factor*	0.57 tonnes CO_2e
Waste Heat Recovery	
Delta T (modeled data)	40.06 °K
Heat flow (modeled data)	4.8 mmBtu/hr (5.06 GJ/hr)

Baseline efficiency of heat generation equipment (estimated)	80%

*The *Carbon Offset Emission Factors Handbook* provides electricity grid displacement factors with and without line loss applied. This emission factor was chosen because it is applicable to projects that are displacing grid electricity with distributed renewable electricity generation at the point of use. In certain other applications of the ATE technology, a different emission factor may be more applicable.

9.2 PROJECT EMISSIONS

The emission intensity reduction achieved by the project is most directly linked to the clean electricity produced by each ATE unit, and therefore is most accurately depicted as emissions reduced per MWh of power production. While the emission reductions that are presented on a tonne CO_2e/MWh basis were initially correlated with the carbon intensity of the Alberta Electrical Grid, this has been changed to Pennsylvania to accommodate for ending the project after the Pennsylvania field demonstration. Since the reduction is based on the displacement of grid electricity with clean, zero-emission electricity produced by each ATE unit, the emission reductions achieved per MWh will decrease over time as the carbon intensity of grid decreases over time.

The ATE unit makes use of waste heat recovered from other equipment on-site, and a facility's existing instrument air system. The ATE unit design allows for flexibility in where and how it can be connected, and at this stage in commercial development, it is understood that the unit will function in a range of conditions. Further, the heat load depends to some extent on the pressure drop and rate of flow of natural gas through the system, and so it is not possible to define a single use case for waste heat use. For the purposes of this GHG quantification, an example scenario with waste heat recovery has been defined using modeled data provided by Anax Power.

The applicable quantification protocol is Version 2.0 of the Quantification Protocol for Waste Heat Recovery under Alberta's Offset Credit System. This protocol was chosen because it addresses a variety of process changes at both brownfield and greenfield facilities, including changes "where the previously wasted energy is converted into electricity to enable its beneficial use on site or export to grid." Under this protocol, the net quantity of electricity generated forms the basis of the emission reduction quantification.

In alignment with the ERA Natural Gas Challenge FPP guidance, this protocol was chosen since it was published by the Government of Alberta under the relevant regulation, at the time, the Carbon Competitiveness Incentive Regulation, and is directly applicable to the project activity. This quantification protocol takes into consideration the emission sources and sinks that are levied versus non-levied. For completeness, sources and sinks were included in the quantification regardless of whether they address levied or non-levied sources and sinks.

To complement the quantification approach, global warming potentials, emission factors, and electricity grid displacement factors were taken from the most recent version of the Carbon Offset Emission Factors Handbook published by the Government of Alberta (Version 2.0, November 2019).

Project sources and sinks were identified using the *Quantification Protocol for Waste Heat Recovery* and represent the most current approach to quantification available for Alberta. These sources and sinks are presented in the table below.

Table 1: Project Sources and Sinks

Source / Sink	Controlled, Related or Affected	Included / Excluded in Quantification	Justification
Upstream Sources and Sinks During Project Condition			
P1 Fuel Extraction and Processing	Related	**Included**	Included as per the protocol
P2 Fuel Delivery	Related	Excluded	Excluded as per the protocol
P3 Generation of Waste Heat	Related	Excluded	Excluded as per the protocol
P4 Generation of Supplementary Heat and Power	Related	**Included**	Included as per the protocol
P8 Development and Processing of Unit Material Inputs	Related	Excluded	Excluded as per the protocol
P13 Electricity Usage	Related	**Included**	Included as per the protocol
On-site Sources and Sinks During Project Operation			
P6 Generation of Heat and Power	Controlled	Excluded	Excluded as per the protocol
P7 Heat Transfer or Power Conversion	Controlled	Excluded	Excluded as per the protocol
P9 Unit Operation	Controlled	Excluded	Excluded as per the protocol
P10 Facility Operation	Controlled	Excluded	Excluded as per the protocol
P11 Electricity Generation (On-Site)	Controlled	Excluded	Excluded as per the protocol
Upstream Sources and Sinks Before the Project Operation			
P14 Development of Site	Related	Excluded	Excluded as per the protocol
P15 Building Equipment	Related	Excluded	Excluded as per the protocol
P16 Transportation of Equipment	Related	Excluded	Excluded as per the protocol

Source / Sink	Controlled, Related or Affected	Included / Excluded in Quantification	Justification
P17 Construction on Site	Related	Excluded	Excluded as per the protocol
P18 Testing of Equipment	Related	Excluded	Excluded as per the protocol
Downstream Sources and Sinks During the Project Operation			
P12 Development and Processing of Unit Material Outputs	Related	Excluded	Excluded as per the protocol
On-Site Sources and Sinks After the Project Operation			
P19 Site Decommissioning	Related	Excluded	Excluded as per the protocol

Following from the identified sources and sinks above:

$Emissions_{Project}$	=	sum of the emissions under the project condition
	=	Emissions under P1 Fuel Extraction and Processing
	+	Emissions under P4 Generation of Supplementary Heat and Power
	+	Emissions under P13 Electricity Usage

The calculations used to estimate the emission reductions from the sources and sinks in the project followed the quantification approach detailed within the *Quantification Protocol for Waste Heat Recovery*. Specifically, the quantification approach is demonstrated in the example calculation below. *Table* presents standard factors that were used in both the project and the baseline scenarios, while *Table* presents data and assumptions used in the project scenario.

Table 2: Standard factors used throughout the GHG quantification

Parameter	Value and Units
Global Warming Potential – CO_2	1
Global Warming Potential – CH_4	25
Global Warming Potential – N_2O	298
Natural Gas Conversion Factors	
1 m^3 of natural gas	0.0374 GJ
1 mmBTU of natural gas	1.0551 GJ natural gas
Natural Gas Combustion, Extraction and Processing Factors	

Combustion – CO_2 factor	1928 g/m^3
Combustion – CH_4 factor	0.037 g/m^3
Combustion – N_2O factor	0.035 g/m^3
Extraction and processing – CO_2 factor	0.133 kg/m^3
Extraction and processing – CH_4 factor	0.0053 kg/m^3
Extraction and processing – N_2O factor	0.000,007 kg/m^3
Electricity Factors	
Grid displacement factor, or, reduction in grid electricity usage	0.57 tonnes CO_2e/MWh
Grid intensity reduction over time	0.0037 tonnes CO_2e/MWh/year

Sources: Carbon Offset Emission Factor Handbook, Alberta Energy Regulator, and Alberta Electric System Operator

Table 3: Operational Parameters and Estimated Parameters in the Project Scenario quantification if heat generation is required

Parameter	**Value and Units**
Operational Parameters: if supplemental heat generation is required	
Delta T (modeled data)	40.06 °K
Heat flow (modeled data)	4.8 mmBtu/hr (5.06 GJ/hr)
Baseline efficiency of heat generation equipment (estimated)	80%

Source: Anax Power modeled data.

9.3 EMISSIONS REDUCTION IMPACT

Much like wind power relies on the wind, and solar relies on the sun, the ATE relies on the end user of natural gas pull gas through the system. In other words, Anax can only generate power when there is gas flowing through the pipeline. Unfortunately, over the past 6 months, the Domtar paper mill has had several process and maintenance issues that have resulted in significant outages and resulted in less than optimal flows for the ATE. The Anax installation at Johnsonburg projects the ATE's performance using models built with the low flow rates that currently exist at Johnsonburg. While the site has allowed Anax to troubleshoot many technical issues associated with the technology, it has not generated meaningful emissions reductions. These models will enhance Anax's capability to maximize the ATE's performance by maximizing the power generated to gas flow ratio. While not ideal, the Domtar issues will improve Anax's economic and environmental models moving forward. In other words, the ATE has been forced to operate significantly outside of its design envelope with unforeseen shutdowns. Again, while frustrating from an output perspective (ie. emissions reduction and revenue generated), it has given Anax the unparalleled opportunity to learn from real world conditions when things aren't going right for the end user of the natural gas.

The completion of the Anax Turboexpander (ATE) project represents a meaningful step toward facilitating a low-carbon economy and securing Alberta's leadership in a greenhouse gas (GHG)-constrained future. Although the demonstration unit was not ultimately installed at the Alberta host site, the project laid critical groundwork for the deployment of an innovative, emissions-free power generation technology that captures otherwise wasted energy from natural gas pressure letdown stations. This approach directly aligns with Alberta's need to decarbonize while maintaining the reliability and competitiveness of its energy infrastructure. By transforming wasted pressure energy into clean electricity without burning fuel or adding emissions, the ATE offers a scalable, cost-effective solution for reducing GHGs in existing gas infrastructure—a major contributor to Alberta's industrial emissions profile. In supporting local fabrication and advancing sector awareness, the project has already created economic and knowledge-based value in the province. With strong future interest from Alberta-based companies such as ATCO, TC Energy, NOVA Chemicals, and Enbridge, the project has the potential to catalyze widespread deployment of this technology across the province. As Alberta looks to balance energy development with climate commitments, innovations like the ATE will be key in enabling a practical, industry-led transition to a low-carbon economy.

10.0 ENVIRONMENTAL, ECONOMIC, AND SOCIAL IMPACTS

10.1 OTHER ENVIRONMENTAL IMPACTS

Clean Power from the Turboexpander
The ATE-500 harnesses energy that is wasted in pipelines by generating emissions-free power, without combustion. It lets pipelines, power plants, and other large users of natural gas maximize the value of their natural gas infrastructure and offset carbon-intensive resources. Each ATE-500 provides a distributed, carbon-free source of power. Over its 25-30 year life, each ATE-500 can displace 57,137 to 74,898 tonnes of CO_2, depending on grid intensity and other factors. Annually, a 1MW project will offset 4,344 tonnes/CO_2e through the production of clean power.

Line Heater Emissions Reductions
Line heater emissions are site-dependent and depend on a variety of factors, including the size, type, age, and efficiency of the heater, the weather, inlet/outlet gas temperature, and more. Reducing the use of these line heaters minimizes the amount of gas consumed and CO_2e.

Air Quality Improvement
The ATE-500 has zero-emissions and improves the air quality in low-income, industrial areas, which means the air quality improvements will accrue to impoverished communities.

Enhanced Safety Benefits
Customer have identified additional safety benefits by installing an extra, redundant gas run that operates in-parallel with the existing pressure regulating infrastructure.

10.2 PROJECTED ECONOMIC IMPACT

Despite a limited economic impact from the project's output, the Anax project drives economic value for Alberta in other meaningful ways. Specifically, Anax built its first turboexpander unit an Alberta-based manufacturer named DXP Natpro. This partnership resulted in hundreds of thousands of dollars of direct investment in an Alberta business, which would not have happened without ERA's involvement. This engagement created approximately 2 jobs during the project.

The muted financial impact of the ERA project does not diminish the long-term economic opportunity in the project. Specifically, the expected economic benefit varies by the price of power and how the customer uses the power. At a price of $0.045/kWh, a single 500kW Anax Turboexpander creates almost $200,000/year in non-incentive revenue. This value does not include savings from the Alberta Large Emitter TIER Program, which can amount to $150,000/year per machine. With the TIER price increasing through 2030, this per-unit value will continue going up.

Using the 270 MW (540 ATEs) addressable market that Anax has identified in Alberta, the ATE can help Alberta natural gas customers save over $105M annually, independent of government support. Government programs like the Alberta TIER Program increase the total financial value to almost $180M/year (and growing!). This value results in direct savings, and will boost corporate profitability, it will result in up to $26.89M in federal income tax and up to $16.14M in Alberta income tax using current corporate tax rates.

If this technology meets Alberta adoption expectations, it could add 10-15 full-time manufacturing jobs, 5-7 full-time engineering jobs, and hundreds of part-time construction jobs associated with the installation and/or construction of the turboexpander systems in the province. Anax has also explored opening an office in Calgary to manage commercial operations in Canada, which would employ another 5-10 full-time jobs in business development and project management.

Furthermore, if Canada (not just Alberta) adopts this technology, Anax expects the number of full-time manufacturing jobs to double - up to 30 full-time manufacturing jobs and 14 engineering jobs in Alberta. The ATE would be packaged in Alberta and then shipped to customers across the country.

10.3 RESULTED INNOVATION CAPACITY

Anax Power's ERA-supported project has meaningfully contributed to Alberta's innovation ecosystem by fostering knowledge development, upskilling personnel, and deepening collaborative ties between industry stakeholders, research organizations, and startup companies.

Anax is also an active member of the Petroleum Technology Alliance Canada (PTAC), a leading facilitator of innovation and collaborative R&D in Alberta's energy sector. Through its engagement with PTAC, Anax has conducted technical knowledge-sharing sessions with members, offering insights into its turboexpander technology, system integration, and emissions-reduction potential. These sessions have helped build awareness and understanding of pressure energy recovery systems and sparked interest among operators, engineers, and early-stage technology developers.

The project has indirectly supported the training of highly skilled personnel by enabling direct, hands-on experience with advanced turbomachinery, programmable logic controls (PLCs), and instrumentation systems. These competencies are increasingly important as Alberta's energy sector transitions toward lower-carbon technologies. Looking ahead, Anax is committed to continuing its knowledge-transfer activities through workshops, technical forums, and collaboration with Alberta-based research organizations and postsecondary institutions. In addition to formal partnerships, Anax has conducted extensive customer outreach across Alberta. The team completed site visits and technical briefings with key stakeholders at ATCO, Nova Chemicals in Joffre, and Imperial Oil in Cold Lake. These engagements provided hands-on exposure to the ATE system and helped educate

Alberta-based energy professionals about the system's operational potential, economic value, and deployment flexibility. These direct interactions not only raised awareness of the technology but also laid the foundation for future demonstration and commercial projects within the province.

Future partnerships may include cooperative research projects, student internships, and demonstration opportunities with universities and polytechnic institutions, helping to cultivate the next generation of clean tech talent in the province. As Anax scales its commercial activities in Alberta, it will continue to draw on and contribute to local expertise, further embedding its innovation journey in the region's economic and technological future.

10.4 SOCIAL IMPACT AND EDI OUTCOMES

Anax Power's ERA-supported project delivers meaningful equity, diversity, and inclusion (EDI) benefits that span both sides of the border and resonate with broader goals of economic justice and environmental equity.

Anax is proudly headquartered in Wharton, New Jersey—an officially designated U.S. Economic Opportunity Zone. These zones were established to drive investment, job creation, and innovation in historically underserved and economically disadvantaged communities. By basing its operations in this area, Anax is directly contributing to the revitalization of a region that has long faced barriers to economic participation. The design, assembly, and system integration of the Anax Turboexpander (ATE) takes place at this facility, creating high-quality, skilled jobs in engineering, manufacturing, and controls programming. As Anax scales its operations, these employment opportunities will grow, further enriching the local economy and enabling career development in clean energy technologies for individuals who may otherwise lack access.

The long-term deployment of Anax's technology amplifies these EDI benefits. The ATE system is specifically designed to be installed at natural gas pressure reduction stations—most of which are located in industrial areas with robust gas infrastructure. These zones are often home to economically marginalized communities, where investment in clean, resilient energy infrastructure is sorely needed. By installing ATE systems in these regions, Anax not only reduces emissions and enhances grid stability, but also delivers new revenue streams, energy cost savings, and local employment opportunities—transforming traditionally disadvantaged environments into hubs of sustainable innovation.

Moreover, the clean electricity generated by ATEs can be reinvested into surrounding communities through behind-the-meter applications or through partnerships with local utilities and municipalities, helping reduce energy poverty and improve air quality. As Anax's project pipeline expands across North America, including potential scale-up in Alberta, the EDI impact of the technology will grow in lockstep—providing inclusive economic and environmental benefits where they are needed most.

Anax Power is committed to ensuring that its clean energy transition is not only technically and economically sound, but also socially inclusive and community-enhancing.

11.0 SCIENTIFIC ACHIEVEMENTS

While Anax has been the subject of several articles, presentations, and more over the last 5 years, it cannot be determined which of these are based on the specific work conducted during the ERA project.

12.0 POST-PROJECT STEPS

12.1 NEXT STEPS AND FOLLOW-UP PROJECTS

The next steps for Anax are to execute projects with a major pipeline company in Canada and the United States. These demonstration projects have been built around the goal of scaling the technology across their pipeline assets – potentially hundreds of ATEs across North America.

12.2 PARTNERSHIPS

13.0 OVERALL CONCLUSIONS

Although the Anax Turboexpander (ATE) was not ultimately installed at the Alberta project site., the project nonetheless yielded meaningful outcomes that lay the groundwork for future greenhouse gas (GHG) emissions reductions in Alberta and beyond. As the installation did not proceed to full operation, no direct emissions reductions occurred within Alberta during the project term.

However, the project catalyzed significant economic activity within the province. Hundreds of thousands of dollars were invested with Alberta-based fabricators and service providers to design and build the ATE system, supporting local industry and supply chain development. In parallel, Anax Power committed substantial resources to raising awareness and promoting the technology among key stakeholders across Canada's energy sector. Outreach included active engagement with trade organizations such as the Petroleum Technology Alliance of Canada (PTAC), positioning the ATE as a compelling emissions-reduction solution for natural gas infrastructure.

While this particular deployment did not reach the operational phase, it has resulted in a pipeline of strong commercial interest from major players in the Canadian energy sector. Future installation opportunities with companies such as ATCO, Enbridge, Imperial Oil, NOVA Chemicals, TC Energy, and Shell Chemicals demonstrate the ATE's continued potential to deliver meaningful emissions reductions. The foundational work completed under this project—both technical and strategic—will accelerate the path to commercial deployment and long-term climate benefits.

14.0 COMMERCIALIZATION AND TECHNOLOGY TRANSFER PLAN

14.1 PROJECT COMMERCIALIZATION ADVANCEMENTS

The Anax Turboexpander (ATE) project has made significant strides toward commercialization, with a major milestone being the signing of an operating agreement with a leading Alberta-based natural gas pipeline company. Securing this agreement—following several years of discussions and technical evaluations—represents a critical advancement toward commercial deployment, particularly in an industry that is known for its risk-averse, fast follower nature. Gaining the first adopter in the pipeline sector has been the most significant obstacle Anax faced, and this agreement marks a breakthrough that paves the way for broader market adoption. The initial engagement, which involves the deployment of seven ATE units across two projects will serve as the foundation for a strong commercial track record. Anax's commercialization strategy moving forward is centered on delivering flawless execution of these projects, demonstrating consistent value and reliability, and leveraging this performance to secure additional deployments across the customer's extensive pipeline network. If successful, these initial projects could open the door to hundreds of additional installations within the same system. In parallel, Anax is actively exploring further opportunities in Alberta's oil sands, where pressure letdown applications present significant potential for emissions-free power generation. The support of Emissions Reduction Alberta (ERA) was instrumental in advancing commercialization efforts; the ERA funding lent critical credibility during negotiations and demonstrated public sector confidence in Anax's technology. Nonetheless, despite this support, it took several years of relationship building, technical validation, and contract development to reach this point—underscoring both the challenges and the importance of long-term commitment in commercializing new cleantech in conservative sectors. Moving forward, Anax is well-positioned to capitalize on the fast follower dynamic that characterizes the pipeline and energy industries, using its first major agreement as a launchpad for broader adoption across Alberta and beyond.

14.1.1 PROJECT TECHNOLOGY ADVANCEMENTS

Anax Power's Emissions Reduction Alberta (ERA) project has been a pivotal chapter in the company's development, marking its transition from a research and development-driven organization to a commercially ready clean energy company.

Through ERA's support and the challenges faced during the demonstration project—including global supply chain disruptions, quality control setbacks, and field engineering complexities—Anax pushed the boundaries of its technology. The company rebuilt its initial system, redesigned key components, took full control of assembly and controls integration, and commissioned the ATE in a live field environment.

This leap in readiness not only validates Anax's engineering approach but also signals a strategic inflection point for the company. Anax can now shift focus from R&D and proof-of-concept work to commercial deployment and product optimization. With a proven system architecture, field data to inform performance improvements, and a growing customer base, Anax is positioned to scale its operations, refine its technology for different market segments, and deliver clean, reliable energy recovery solutions at commercial scale.

14.1.2 PROJECT TRL ADVANCEMENTS

14.2 TECHNOLOGY PROVISION AND THIRD-PARTY VENDORS

Anax Power's manufacturing process is centered at its headquarters in Wharton, New Jersey, where it assembles the Anax Turboexpander (ATE) as a fully integrated system. Eventually, Anax concluded that it was best-equipped to manage assembly in-house, where it could ensure a higher standard of precision, integration, and quality control. Since then, all ATE units have been assembled at the Wharton facility by Anax's in-house engineering and technical teams.

14.3 COMPETITIVE SCAN

14.4 MARKET AND END-USERS

Anax Power's target market consists of natural gas utilities, pipeline operators, and large industrial energy consumers that operate pressure regulating stations. These customers include:

- **Natural Gas Transmission Companies** – Large-scale operators that manage high-pressure interstate and intrastate natural gas pipelines (e.g., Kinder Morgan, Williams, TC Energy, ATCO).
- **Natural Gas Distribution Companies** – Utilities responsible for delivering natural gas to residential, commercial, and industrial customers (e.g., PG&E, National Grid, Con Edison).
- **Independent Power Producers (IPPs) & Energy Project Developers** – Companies seeking to deploy innovative clean energy solutions for monetizing waste energy.

- **Large Industrial Energy Consumers** – Companies with direct access to natural gas transmission lines that require high volumes of natural gas, such as chemical plants, steel manufacturers, and data centers.

These organizations are financially motivated to adopt the 500kW Anax Turboexpander (ATE-500) due to its ability to generate revenue, reduce emissions, and improve operational efficiency.

The end-users of Anax's technology are the facility operators and energy managers at pressure regulating stations, industrial facilities, and pipeline companies. These professionals oversee the operation of natural gas infrastructure and have a vested interest in improving efficiency and reducing costs.

Time to Market:

- **Near-Term (1-3 Years):** Initial deployments with progressive natural gas utilities and transmission companies that are seeking innovative ways to decarbonize operations. Demonstration projects and early adopters will validate performance and financial viability.
- **Mid-Term (3-7 Years):** Expansion into a broader customer base, including mid-sized gas utilities and large industrial energy consumers. Increased regulatory pressure on emissions reductions will drive adoption.
- **Long-Term (7+ Years):** Widespread adoption as pressure regulating stations and industrial customers integrate clean energy solutions as a standard part of infrastructure modernization.

By aligning with regulatory trends and market demands for decarbonization, Anax is positioned to scale its turboexpander technology across the natural gas transmission and distribution sectors.

14.5 MARKETING

First, Anax Power will participate in industry conferences and trade shows, which provide opportunities for networking, thought leadership, and lead generation. Participating in events hosted by the Gas Technology Institute (GTI Energy) can be particularly valuable, as GTI is a respected authority in natural gas innovation and connects Anax with key utility and infrastructure stakeholders. Other relevant events include the Hydrocarbon Processing and Gas Processing Conferences, which target midstream operators and processing facilities. Conferences like DistribuTECH and POWERGEN International offer access to a broader utility audience, especially those interested in grid modernization and clean energy solutions. Anax will also attend the North American Energy Markets Association (NAEMA) and the American Gas Association (AGA) Operations Conference to reach utility and power marketers as well as gas distribution companies. For high-level exposure and strategic partnerships, Anax has (and will continue to) attend in CERAWeek by S&P Global.

Beyond conferences, Anax will use trade publications and media outlets serve as powerful tools for increasing brand awareness and credibility. Publications such as *Gas Compression Magazine, Electrical Apparatus Magazine*, *Power Engineering*, *Gas World*, *Energy Tech*, and *Greentech Media* offer targeted readerships in Anax's core markets. Contributed articles, thought leadership pieces, or coverage of project deployments can position Anax as a leading voice in waste energy recovery and power generation.

Finally, Anax will issue press releases on BusinessWire, a strategy that has resulted in successful, positive marketing coverage for other significant milestones.

14.6 DISTRIBUTION

14.7 TECHNOLOGY PROTECTION

14.8 COST OF COMMERCIALIZATION

Distribution is handled directly by Anax's team and its DevCo partners. Furthermore, physical installations are supported by local contractors in the target region. In Alberta, Anax plans to work with local engineering, procurement, and construction (EPC) partners to ensure rapid deployment and regulatory compliance.

If Anax-led commercialization efforts are discontinued, the company will offer the technology to other Alberta-based entities via licensing or technology transfer agreements, ensuring fair market access and continuity.

Contingency plans include phased production, backlog-driven hiring, and alternate funding scenarios.

14.9 SHORT-TERM ACTIONS

Over the two years following the completion of the project, Anax Power will undertake a multi-faceted commercialization strategy aimed at advancing deployment of the Anax Turboexpander (ATE) within Alberta and across North America. This plan will focus on Alberta-based industry engagement, strategic site visits to a functioning field demonstration in Pennsylvania, and the cultivation of commercial partnerships with major utility and energy stakeholders.

A key focus of this strategy involves active participation in Alberta's leading energy and technology events, which serve as important venues for knowledge sharing and relationship building. Anax intends to exhibit and present at the Global Energy Show in Calgary in both 2025 and 2026—one of North America's most significant energy sector gatherings. Additionally, the company plans to engage with the Alberta Energy Efficiency Alliance (AEEA) Annual Conference in Edmonton, where it will highlight how the ATE can enhance energy efficiency across natural gas infrastructure. Anax will also return to the Petroleum Technology Alliance Canada (PTAC) Innovation Showcase to share updates on technical progress and commercial readiness. Further, participation in the Canadian Gas Association (CGA) Annual Forum will allow Anax to position the Turboexpander within the broader national dialogue on decarbonizing gas utility operations.

In parallel with these events, Anax will host structured site visits to its operational field demonstration in Pennsylvania. These tours will serve as a central component of Anax's commercialization efforts, offering Alberta-based stakeholders—including representatives from ATCO, Enbridge, Imperial Oil, NOVA Chemicals, TC Energy, and Shell Chemicals—a firsthand look at the ATE's performance in a live utility setting. Beginning in the third quarter of 2025, Anax will host quarterly group site visits and offer tailored demonstrations for interested companies. These visits will include detailed technical briefings and live performance data, creating an immersive experience that underscores the ATE's practical benefits. Feedback collected during these interactions will also be used to refine the system and tailor it to Alberta-specific operational needs.

To further accelerate market adoption, Anax will pursue direct outreach with interested stakeholders to develop collaborative opportunities. This includes hosting small-group workshops to discuss integration strategies and identify suitable applications, as well as launching joint pilot projects to demonstrate localized emissions reductions and return on investment. In parallel, Anax will engage with regulatory authorities in Alberta to ensure that all future deployments of the ATE align with existing standards and streamline the approval process.

Supporting these efforts will be a targeted communications and marketing campaign focused on promoting the ATE's proven benefits. Anax will develop and publish case studies that document the performance and lessons learned from the Pennsylvania deployment, and will amplify these insights through webinars, industry newsletters, and social media content tailored to Alberta's energy sector. Media engagement will also be a priority, with plans to collaborate with energy publications and news outlets to feature the Turboexpander's role in advancing emissions-free electricity generation within natural gas systems.

Together, these commercialization actions will ensure that the foundation laid during the Alberta demonstration project continues to generate momentum—positioning Anax Power to deliver measurable energy and emissions reductions across Alberta and beyond.

14.10 LONG-TERM COMMERCIALIZATION

15.0 COMMUNICATIONS PLAN

15.1 KNOWLEDGE SHARING DURING PROJECT

Throughout the project, Anax Power placed a strong emphasis on knowledge-sharing and strategic communication, with a primary focus on engaging stakeholders in the natural gas industry. Key knowledge dissemination activities included participation in major energy trade shows and conferences such as CERAWeek, where Anax presented the Anax Turboexpander (ATE) technology to industry leaders, utility representatives, and potential customers. These events served as valuable platforms for sharing technical insights, highlighting project learnings, and fostering commercial interest. In addition to industry outreach, Anax also prioritized engagement with academic institutions, recognizing that universities play a vital role in both spreading awareness of emerging technologies and developing the next generation of energy professionals. Outreach efforts included collaboration with both two-year technical colleges and four-year universities, which served dual purposes: first, to educate engineering and energy students about the ATE and its role in decarbonizing natural gas infrastructure, and second, to support workforce development and recruitment. Together, these communication activities helped build credibility for the technology, generate interest from commercial partners, and establish a foundation for long-term talent acquisition and market growth.

15.2 KNOWLEDGE SHARING POST PROJECT

Anax Power is committed to transparent and effective communication of project outcomes, technical findings, and the capabilities of the Anax Turboexpander (ATE) with third-party stakeholders. As part of our broader commercialization and knowledge-sharing strategy, we will utilize a range of targeted communication tools to ensure that information is accessible, engaging, and aligned with the needs of different audiences across the energy sector.

Formal presentations will be developed and delivered to key industry partners, regulatory agencies, and potential customers. These sessions will include detailed insights into the project's objectives, methodology, results, and lessons learned, with a focus on how the ATE can be applied to real-world infrastructure challenges. These presentations will be supported by professionally designed PowerPoint slide decks that clearly convey both technical and commercial information, including performance data, emissions reduction potential, and economic benefits.

To broaden reach and enhance engagement, Anax will produce a series of short, high-quality videos hosted on YouTube and embedded in digital marketing materials. These videos will include visual walkthroughs of the technology, animations explaining how the ATE works, testimonials from project partners, and footage from operational sites. This format will help make the technology more tangible for audiences that may not be familiar with pressure energy recovery or its applications.

In addition, Anax will continue to participate in major trade shows and industry conferences, where project results and technology updates will be presented to a wide range of stakeholders. These events provide important opportunities for one-on-one conversations with technical decision-makers and for real-time feedback from potential customers. Booths and presentations will incorporate visual media, printed materials, and live demonstrations where possible to maximize impact.

Together, these communication tools—formal presentations, PowerPoint decks, YouTube video content, and trade show participation—will ensure that the outcomes of this project and the benefits of the ATE technology are effectively shared across the industry, encouraging broader adoption and continued innovation.

16.0 LITERATURE REVIEWED.

N/A

17.0 DEFINITIONS

AMB: Active Magnetic Bearings
ATE: Anax Turboexpander
ATE-500: 500kW Anax Turboexpander
GHG: Greenhouse Gases
GTI: Gas Technology Institute
IPP: Independent Power Producer
PLC: Programmable Logic Control
PRV: Pressure Regulating Valve