STANDARD OPERATING PROCEDURE

Title: GHG Emissions Management Plan	Document #: SOEHS500-9.02	Rev #: 2
Issued by: Kelli Tracy	Issued Date: 09/06/2023	Revision Date: 8/13/2025
Approval: Preston King	Signature:	
Approval: Angela Martin	Signature:	

Disclosure of GHG Emissions and Energy Use

JW Aluminum complies with 40 CFR 98 Subpart C by calculating and submitting plant wide natural gas combustion scope 1 emissions annually to US EPA under GHGRP ID: 528377. The data is made available to the public through the USEPA Envirofacts website (https://enviro.epa.gov/).

As part of Aluminum Stewardship Initiative (ASI), JWA has expanded our greenhouse gas and energy calculations to include all scope 1 and 2 emissions and scope 3 emissions associated with the consumption of prime and RSI procurement in our process.

Annually, GHG emissions and energy use by source are publicly reported in the JWA Sustainability report and verified by a third party to ensure the calculation methodology is valid.

Scope 1 Emissions

Scope 1 emissions are direct greenhouse gas emissions that occur from sources that are controlled by JW Aluminum. All scope 1 emissions are included in our calculations. These include natural gas consumed by melting and holding furnaces, annealing furnaces, and other auxiliary burners. Other scope 1 emissions include consumed diesel and propane used by mobile equipment and backup generators. We utilize the latest available greenhouse gas equivalencies published by the US EPA for scope 1 emissions.

Scope 2 Emissions

Scope 2 emissions are indirect greenhouse gas emissions associated with the purchase of electricity. All scope 2 emissions are included in our calculations. For scope 2 emissions (Electricity), we utilize the average grid mix provided by Santee Cooper (MTH) and Entergy (RSV) to calculate an average greenhouse gas equivalency number for the power supplied to JW Aluminum.

Scope 3 Emissions

Scope 3 emissions are the result of activities from assets not owned or controlled by JW Aluminum. Scope 3 emissions for JW Aluminum are other facilities scope 1 and 2 emissions. After consulting with The Aluminum Association, JW Aluminum has determined that only Prime and RSI utilization are considered material to our operations. Prime and RSI utilization are included in the scope 3 emission calculations and utilize the latest emission factor detailed in The Aluminum Association LCA – The Environmental Footprint of Semi-Fabricated Aluminum Products in North America. This emission factor is derived from data supplied by all North American smelters and RSI producers.

GHG Emissions Calculation

Monthly, required data to calculate GHG emissions is obtained and entered into the GHG Data Tracking Spreadsheet. The following data is used to populate the GHG Data Tracking Spreadsheet.

MTH:

Natural Gas – Dominion Energy - Online Account Access
Diesel – Colonial – Online Account Access
Propane – Palmetto Propane – Online Account Access
Electricity – Santee Cooper – Monthly Invoice
Prime Usage – Oracle/DOMO Data
RSI Usage – Oracle/DOMO Data
Cast Coil – Oracle/DOMO Data

RSV:

Natural Gas – Symmetry Energy Solutions – Monthly Invoice
Diesel – Fletcher Oil Company – Monthly Invoice
Propane – Ferrell gas – Monthly Invoice
Electricity – Entergy – Monthly Invoice
Prime Usage – Oracle/DOMO Data
RSI Usage – Oracle/DOMO Data
Cast Coil – Oracle/DOMO Data

The data from each facility noted above is entered into the spreadsheet where it is converted from usage data to a normalized CO2 equivalent using an emission factor. The emission factors utilized are noted below.

Electricity: 0.000394 metric ton CO2e/kWh
Natural Gas: 0.053 metric ton CO2e/Mcf
Diesel: 0.01021 metric ton CO2e/gal
Propane: 0.00568 metric ton CO2e/gal
Prime: 7.87 metric ton CO2e/MT Al
RSI (100% recycled): 0.91 metric ton CO2e/MT Al

GHG Emissions Pathway and Reduction Plans

JW Aluminum is an active member of The Aluminum Association and contributes information to the ongoing development of the road map for North American Aluminum Manufactures to align and achieve the International Aluminum Institute (IAI) GHG emission reductions consistent with a 1.5C warming scenario. The IAI has defined three pathways to support global climate goals by 2050.

Pathway 1: Electricity Decarbonization

Pathway 2: Direct Emissions Reductions

Pathway 3: Recycling and Resource Efficiency

JW Aluminum intends to follow the three methods defined by the Aluminum Association as the pathway to meet reductions consistent with a 1.5C warming scenario.

Pathway 1: Electricity Decarbonization – JW Aluminum will continue to monitor the status of decarbonization efforts by our electrical suppliers.

Pathway 2: JW Aluminum continues to make efforts to achieve direct emission reductions. JW Aluminum recently ceased operations of outdated inefficient equipment and replaced it with state of the art, highly efficient melting and casting facilities. To meet this pathway, we will strive to continue to optimize production and reduce electricity and natural gas consumption.

Pathway 3: JW Aluminum, while ensuring adherence to customer and quality requirements and economical needs of our organization will continue to seek options for less prime usage. We will continue to strengthen producer-consumer relationships to increase closed-loop recycling where manufacturing scrap can be collected and returned to JW Aluminum.

GHG Reduction Target

JW Aluminum has established a corporate wide (MTH & RSV) greenhouse gas intensity reduction goal of 10% for all scope 1, 2, and material scope 3 GHG emissions from 2017 baseline by 2029. In 2020, JW Aluminum Mt. Holly facility began operation of a new state of the art melting, holding, casting and hot mill facility. As part of this expansion project, legacy melting, holding, and casting operations were ceased and removed. The newly installed equipment provides the foundation for the GHG emissions goal for the company.

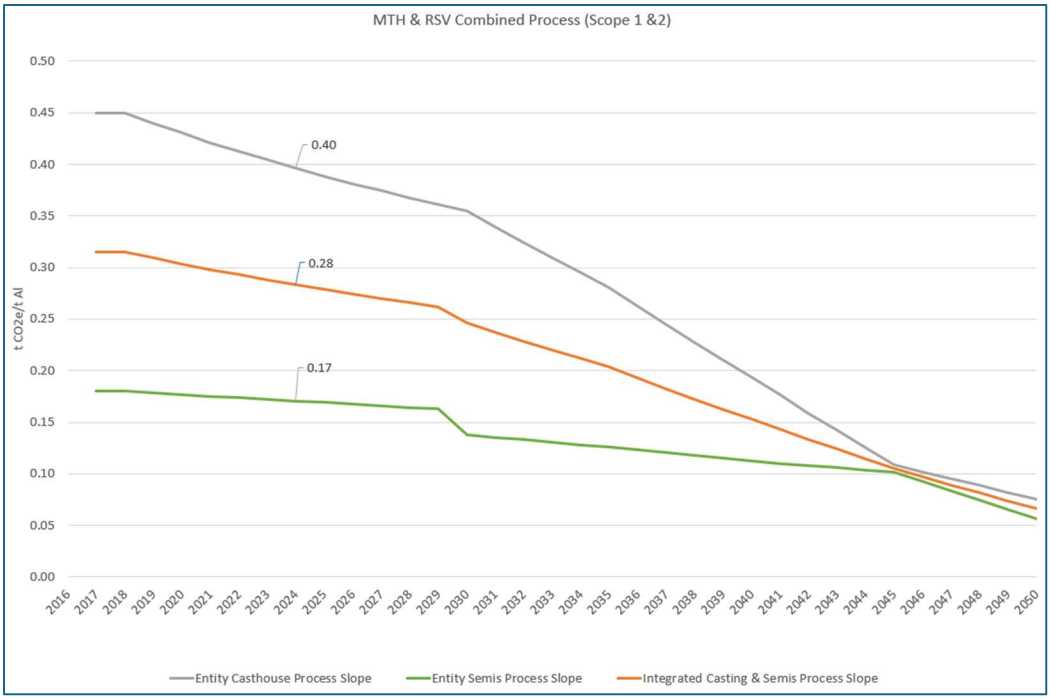
The methods in which JW Aluminum plan to reach our 10% GHG emission intensity goal is below:

1. Installation of the Boilermaker facility that includes state of the art melting and holding furnaces, casting, and hot mill facility. The installation includes two new lime injected baghouses, three stage mist eliminator for the hot mill and heavy oil scrubber for K & I Mills. The new melting and holding furnaces include low NOx regenerative burners to decrease the amount of natural gas utilized.
2. Start up of the Boilermaker facility that includes state of the art melting, holding, casting and hot mill facility. The start-up includes two new lime injected baghouses, three stage mist eliminator for the hot mill and heavy oil scrubber for K & I Mills.
3. Ceased operations of legacy melting and holding furnaces and casting operations.
4. Continue to optimize the production of the new Boilermaker facility and increase product throughput.
5. Strengthen producer-consumer relationships to increase closed-loop recycling where manufacturing scrap can be collected and returned to JW Aluminum.
6. Track melting and furnace natural gas usage in an effort to highlight abnormalities that may require tuning. Continued efforts to track and reduce natural gas consumption.
7. Replacement of gaseous flux from SF6 to CL2 at MTH Facility.
8. Reduction of gaseous flux – SF6 usage at the RSV Facility.
9. Continue to contribute and track pathways developed by the Aluminum Association to achieve IAI 1.5C warming scenario in the future.
10. The main driver of GHG scope 3 emissions is the use of prime and RSI. Continue to drive down the prime usage where possible and still meet quality and production requirements.

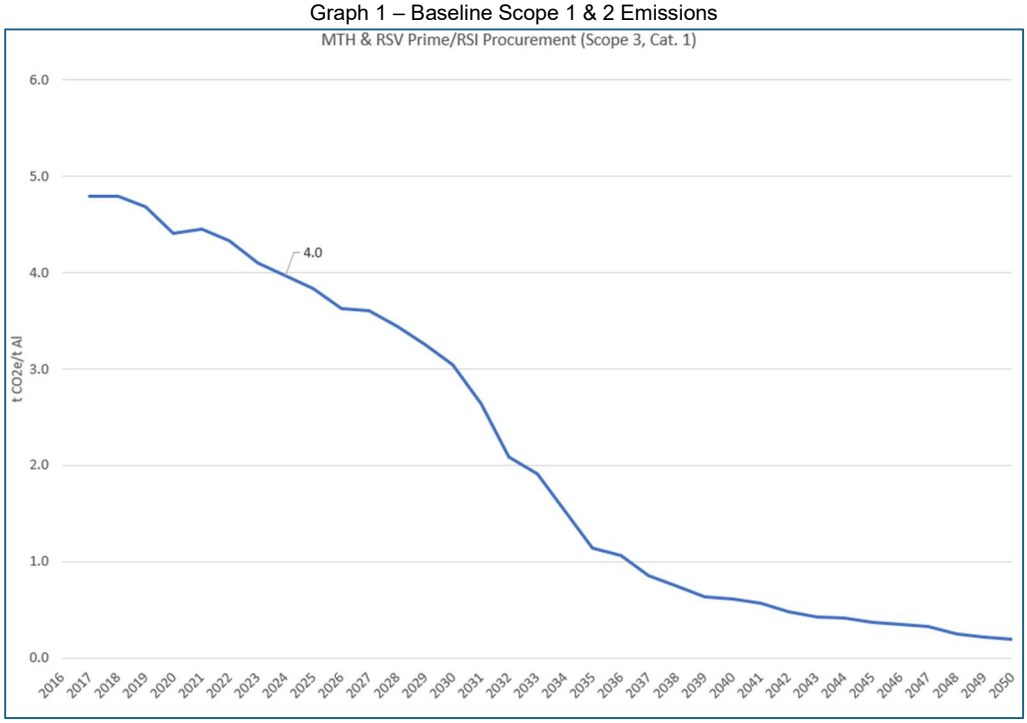
1.5C Aligned GHG Reduction Pathway Demonstration

As required by ASI Performance Standard v3, ASI members are required to demonstrate a GHG emission reduction pathway consistent with a 1.5C warming scenario, using an ASI endorsed methodology. JW Aluminum has chosen to use the ASI GHG Pathways Calculation Tool to demonstrate compliance with the 1.5C warming scenario. The results are discussed below:

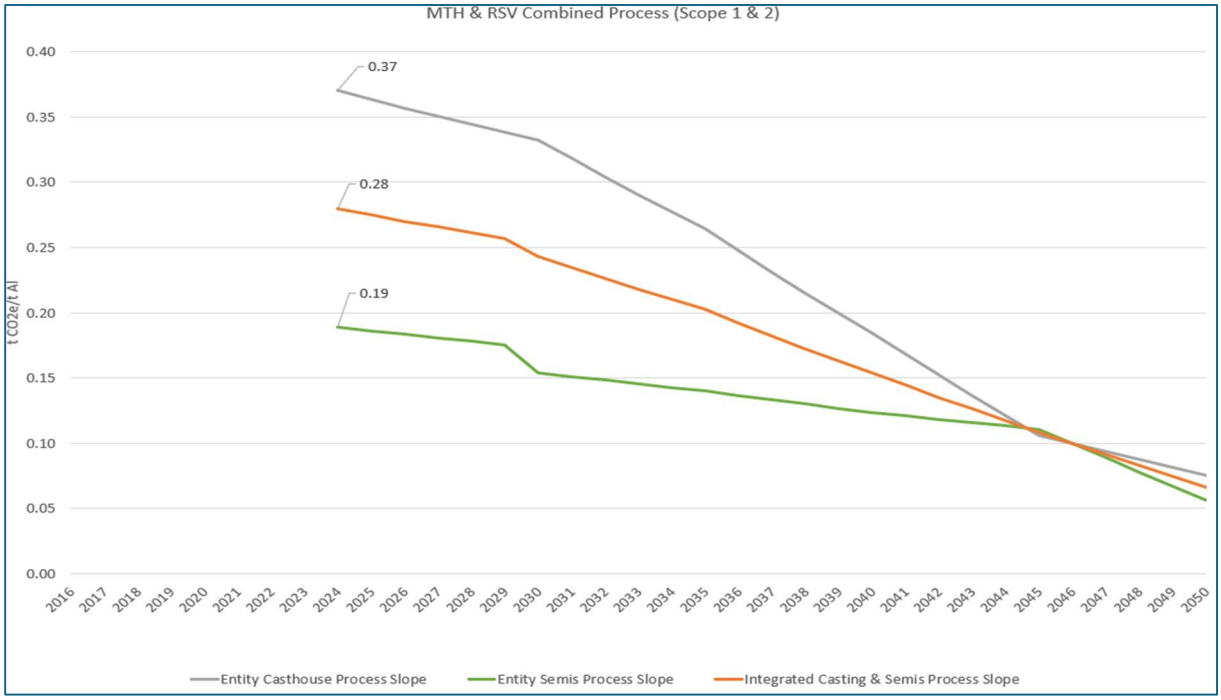
The first two graphs are for the baseline year of 2017. Graph 1 is the slope for scope 1 and 2 emission for MTH and RSV facilities. Graph 2 is the combined MTH and RSV facilities scope 3 (prime & RSI procurement) slope. The baseline slopes show that to be compliant with the 1.5C pathway, that scope 1 & 2 emissions should be at or below 0.28 tons of CO_2e/tons Aluminum and scope 3 emissions should be at or below 4.0 tons of CO_2e/tons Aluminum.



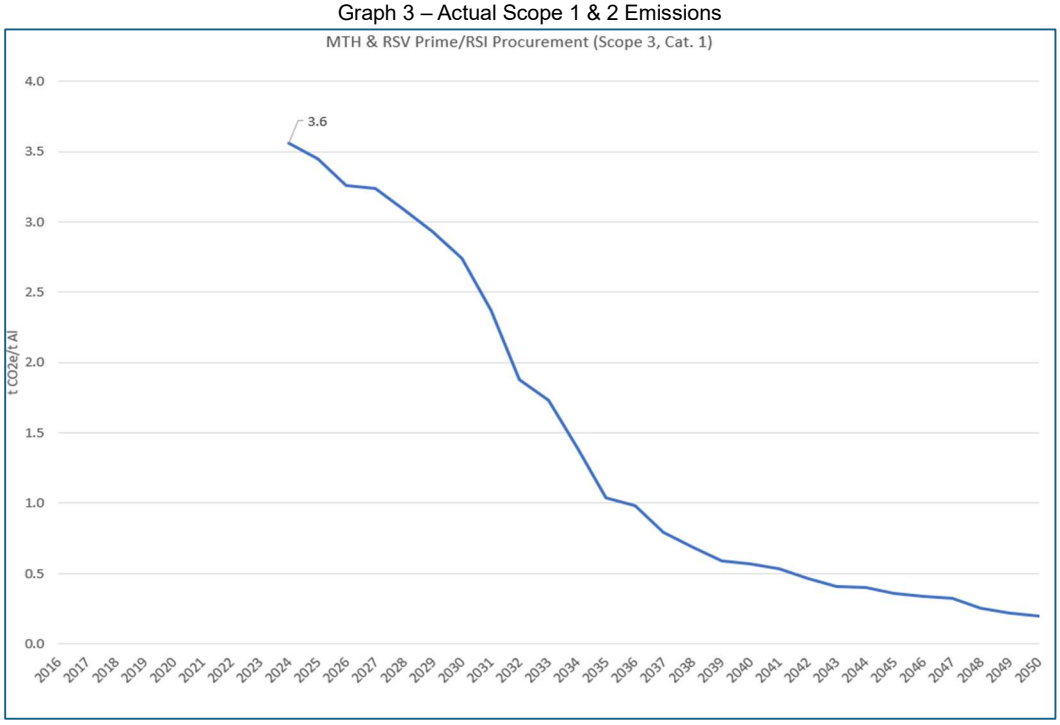
Graph 1 – Baseline Scope 1 & 2 Emissions



Graph 2-Baseline Scope 3 Emissions



Graph 3 – Actual Scope 1 & 2 Emissions



Graph 4 – Actual Scope 3 Emissions

The current (2024) results are shown in graphs 3 and 4. The scope 1 & 2 emissions are 0.28 tons of CO2e/tons Aluminum which is equal to the baseline results. The scope 3 results are 3.6 tons of CO2e/tons Aluminum which is less than the baseline results of 4.0 tons of CO2e/tons Aluminum. Both, scope 1 & 2 and scope 3 results demonstrate compliance with ASI Performance Standard v3 section 5.3 that requires that the certifying company shall ensure a GHG emissions reduction pathway consistent with a 1.5C warming scenario.

GHG Emissions Management

JW Aluminum reviews the GHG emission targets, plan and pathways annually. During the annual planning period the Executive Guiding Coalition determines Key Performance Indicators (KPI's) that are critical to the success of the business. Beginning in January of 2023, greenhouse gas emission results and reduction targets were added to the monthly KPIs. Addition of ASI related goals will continue to be discussed and added as KPI's going forward during the annual planning period.

Monthly the Environmental Team populates the GHG Data Tracking spreadsheet and enters the results into the Leadership Alignment SharePoint KPI's. The Executive Guiding Coalition along with the teammates responsible for the KPI's meet to discuss the progress of the KPI's. If determined that we are below the reduction goal, a Corrective and Preventative Action (CAPA) is developed and tracked to get us back below the reduction target. This ensures that progress towards our GHG reduction goals is communicated effectively throughout the organization.

Revision History

Rev #	Date	Reason for change
0	9/6/2023	Document Creation
1	1/24/2024	Updated GHG target
2	8/13/2025	Alignment with 1.5C, Converted to a controlled document