Qualifying Explanatory Statement

in support of the

Achievement of and Ongoing Commitment to Carbon Neutrality

Royale® Tissue Products

J.D. Irving, Limited

Application Period: January 1, 2022 to December 31, 2022

Date: February 8, 2024

1. Executive Summary

This report is issued by J.D. Irving, Limited ("**Irving**") in to describe the cradle-to-grave product carbon footprint of all bathroom tissue, household towel, facial tissue, and napkin products **("Tissue Products")** manufactured by Irving's affiliates Irving Consumer Products Limited ("**ICPL**") and Irving Consumer Products Inc. ("**ICPI**"), including Royale® brand Tissue Products ("**Royale® Tissue Products**"). ICPL and ICPI are part of the Irving affiliated corporations included within the "**Forest Supply Chain**" [1] referred to throughout this report.

Since 1882, J.D. Irving, Limited and its affiliated corporations been committed to quality products and service. With headquarters in Saint John and Moncton, New Brunswick and 19,000 employees across the diverse family-owned and managed operations in both Canada and the United States, Irving contributes to eight business sectors, including:

- Forestry and Forest Products
- Shipbuilding and Industrial Manufacturing
- Transportation and Logistics
- Retail and Distribution
- Construction and Equipment
- Consumer Products
- Food and Agriculture

The core of the Irving strategy is vertical integration. This enables Irving to understand the balance of GHG emissions and removals throughout the Forest Supply Chain. Irving's commitment to improving the sustainability of its Forest Supply Chain is rooted in value from long-term forest ownership. We believe that if we look after the forest, the forest will continue to look after us.

A critical sustainability issue across the Forest Supply Chain is the work to reduce GHG emissions from operations and increase the CO_2 removals on all forest lands within the organizational boundary of the Forest Supply Chain. A comprehensive accounting of emissions and removals attributable to the cradle-to-grave emissions of Tissue Products, including Royale® Tissue Products allows for the identification of potential stages and processes to improve the carbon footprint of these products.

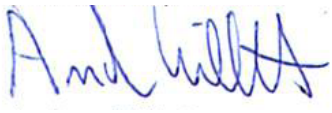
This document is the Qualifying Explanatory Statement (QES) which provides collected evidence in support of the declaration that Irving:

[1] Includes operations wholly or partially in various Irving entities, including J.D. Irving, Limited, Irving Pulp & Paper, Limited, Irving Consumer Products Limited, Irving Consumer Products, Inc., New Brunswick Railway Company, Rothesay Paper Holdings Ltd., St. George Pulp & Paper Limited, St. George Power LP, Charlotte Pulp and Paper Co. Ltd., Miramichi Timber Holdings Limited, Allagash Timberlands LP, Aroostook Timberlands LLC, Maine Woodlands Realty Company, Irving Forest Products, Inc.

1. has achieved carbon neutrality for tissue products, including Royale® Tissue Products marketed in Canada and the United States for the period commencing January 1, 2022 to December 31, 2022 (see Section 3); and
2. is committed to maintaining carbon neutrality of tissue products, including Royale® Tissue Products (see section 4).

The carbon neutrality declaration has been made and the collected supporting evidence has been provided in accordance with the requirements prescribed by *PAS 2060:2014 – Specification for the demonstration of carbon neutrality* and *Carbon Trust's Carbon Neutrality- Requirements for Certification V1.0*.

J.D. Irving, Limited – Woodlands Division



Andrew Willett
Director, Sustainability & Indigenous Relations

February 8, 2024

2. General Information

PAS 2060:2014 Requirement	Information Relating to the Carbon Neutral Declaration
Entity making PAS 2060:2014 declaration:	J.D. Irving, Limited
Subject of PAS 2060:2014 declaration:	Cradle-to-grave emissions and removals in respect of all 365,435 tonnes of Tissue Products including the 179 stock keeping units (**"SKU"**) of Royale® Tissue Products produced by J.D. Irving, Limited's affiliates Irving Consumer Products Limited ("**ICPL**") and Irving Consumer Products Inc. ("**ICPI**") has demonstrated carbon neutrality. Royale® Tissue Products emissions are reported by a mill-product grouped SKU methodology, resulting in six (6) distinct mill-product combinations. The products verified for this period include 179 SKUs in the bathroom, facial, napkin and household towel segments **("Tissue Products")** produced in Dieppe, NB, Toronto, ON, Fort Edward, NY, sold in Canada.
Description of Subject:	Irving supplies high quality Tissue Products to customers, sourced from sustainably managed forests. This QES describes the cradle-to-grave emissions and removals for all 365,435 tonnes of Tissue Products produced in 2022, including Royale® Tissue Products sold in Canada. Activities material to the functionality of the subject include all cradle-to-grave emissions and removals attributable to Tissue Products, including forest removals in the supply chain, Material Acquisition and Pre-Processing of Kraft pulp and Parent Rolls, packaging, direct Production emissions in the manufacturing process, Distribution and Storage emissions from the forest to retail and the Use and End-of-Life fate of tissue products in North America.
Rationale for selection of the subject:	ICPL and ICPI are part of a Forest Supply Chain that also produces a diversity of "business-to-business" forest products like lumber, wood pellets, pulp, corrugated medium, and paper. Tissue Products have been selected as they are a "business-to-consumer" product aligned with a cradle-to-grave product footprint. Tissue Products represent the most significant source of emissions across the Forest Supply Chain organization. A comprehensive accounting of emissions and removals attributable to the cradle-to-grave emissions of Tissue Products allows for the identification of potential stages and processes to improve the carbon footprint of these products.
Boundary approach:	Cradle-to-grave
Type of conformity assessment:	I3P-3 With independent third-party verification to a reasonable level of assurance (see Appendix 3). Certification is to *ISO 14067: 2018* and the *Carbon Trust's PCF Requirements for Certification v3.0 for PCF*, and to *PAS 2060: 2008* and *Carbon Trust's Carbon Neutrality- Requirements for Certification V1.0*.
Baseline date for *PAS 2060:2014* programme:	January 1, 2022 to December 31, 2022 is the baseline year.
Individuals responsible for evaluation and provision of data necessary for declaration:	Andrew Willett Director, Sustainability & Indigenous Relations

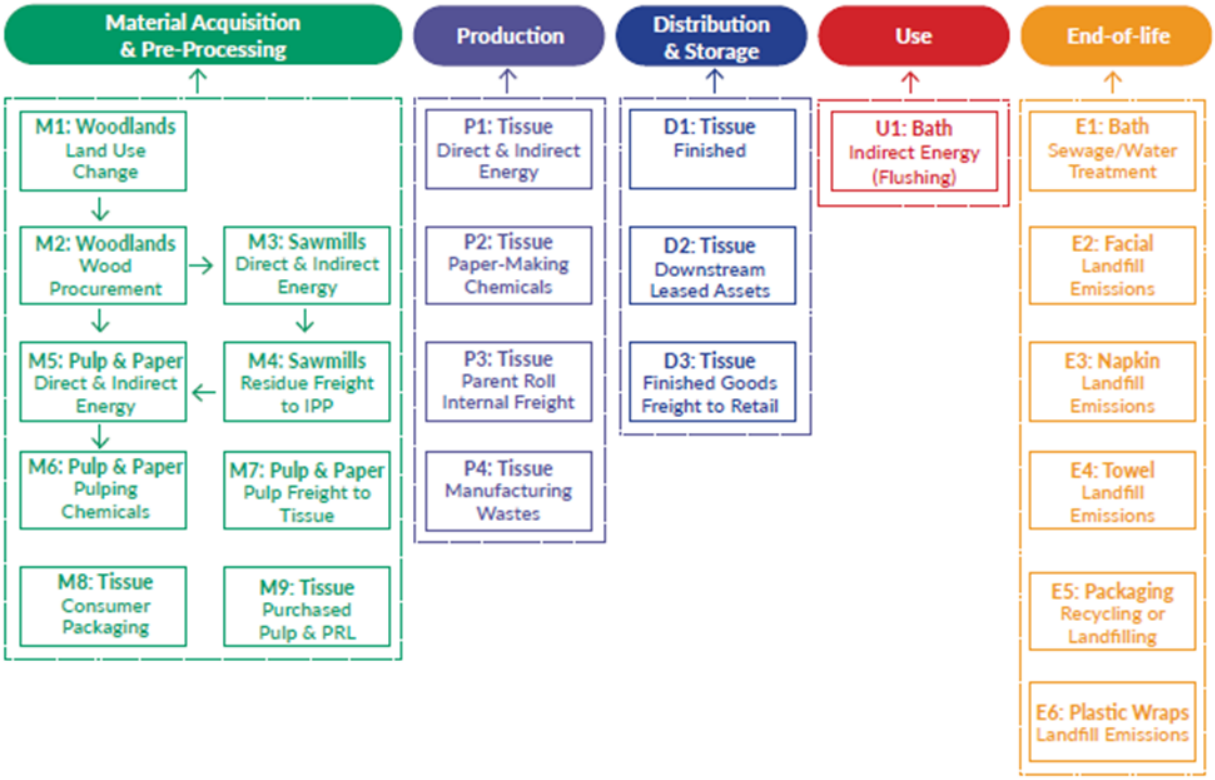


Figure 1. Cradle-to-Grave Tissue Product Life Cycle

Additional description of the emissions and removals included in Figure 1 above, and any excluded emissions are included in Table 1., below.

Table 1: Description of GHG Emissions by Life Cycle Stage

Life Cycle Stage	Description	Emissions Category	Excluded Emissions & Justification
Material Acquisition & Pre-Processing	Woodlands – Wood Procurement Sawmills – Direct & Indirect Energy Sawmills – Residue Freight to Pulp & Paper Pulp & Paper – Direct & Indirect Energy Pulp & Paper – Pulping Chemicals Pulp & Paper – Pulp freight to tissue Tissue – Consumer Packaging Tissue – Purchased Pulp & Parent Roll	Scope 3 Scope 1 & 2 Scope 3 Scope 1 & 2 Scope 3 Scope 3 Scope 3 Scope 3	Biogenic packaging emissions excluded. Quantitative analysis concludes excluded emissions are negligible to the overall footprint.
Land Use Emissions & Transfers	Net Forest Removal		No excluded emissions
Production	Tissue – Direct & Indirect Energy Tissue – Paper-making Chemicals Tissue – Parent Roll Internal Freight	Scope 1 & 2 Scope 3 Scope 3	Fugitive gases are excluded as they are immaterial to the footprint and

Life Cycle Stage	Description	Emissions Category	Excluded Emissions & Justification
	Tissue – Manufacturing Wastes	Scope 3	impossible to directly attribute to Tissue Products.
Distribution & Storage	Tissue – Finished Goods Freight to DC Tissue – Downstream Leased Assets Temporary Storage Tissue – Finished Goods Freight to Retails	Scope 3 Scope 3 Scope 3	Retail store and transportation from retail to home emissions have been excluded. Difficult to attribute these emissions categories to the product specifically and assumed that these emissions categories would be negligible (Ingwerson et. al 2016).
Use	Indirect energy (from flushing of bathroom tissue)	Scope 3	No excluded emissions
End of Life	Bathroom Tissue – WWT Facial Tissue – Landfill Emissions Napkin – Landfill Emissions Paper Towel – Landfill Emissions Plastic Wraps – Landfill Emissions	Scope 3 Scope 3 Scope 3 Scope 3 Scope 3	No excluded emissions

3. Declaration of Achievement of Carbon Neutrality

PAS 2060:2014 Requirement	Information Relating to the Carbon Neutral Declaration
Declaration of achievement:	Carbon neutrality of all Tissue Products, including Royale® Tissue Products achieved by Irving in accordance with *PAS 2060:2014* on February 8, 2024 for the certification period January 1, 2022 to December 31, 2022.
Recorded carbon footprint of the subject during the period stated above	**(996) Kg CO2e/tonne of Tissue Product or (346,055) tCO_2e.** See section 3.2 for further details.
Carbon offsets purchased	Not applicable. Tissue Products are made from biogenic sources (i.e., wood pulp). Each year, forests managed by J.D. Irving, Limited and its affiliates that produce a proportion of the wood pulp used to manufacture Tissue Products, remove more biogenic carbon than is emitted in the life cycle of Royale® Tissue Products.

3.1. Carbon Footprint Methodology

Guidance: PAS 2060:2014 requires every individual/organization to provide an appropriate carbon footprint breakdown by scope in their Qualifying Explanatory Statement (QES) in accordance with Greenhouse Gas Protocol guidelines.

Guidance from the Greenhouse Gas Protocol Life Cycle Accounting and Reporting Standard (WRI 2011) was used to quantify the GHG emissions associated with products covered by the *ISO 14067:2018* certification scope, using data representing operations between January 1, 2022 and December 31, 2022. This method was chosen as it provides an internationally recognized approach to the calculation of representative product CO_2e footprints and meets the requirements of PAS 2060:2014 for the substantiation of GHG emissions (PAS 2060:2014: 5.2.2 to 5.2.4). The product CO_2e footprints have been reviewed and assured by an independent third party, the Carbon Trust (see Appendix 3 of this report for the assurance statement).

The carbon footprint was based on 95% of likely greenhouse gas emissions; primary sources are subject to variation over time; footprint is best estimate based on reasonable costs of evaluation.

The carbon footprint was modelled using data provided by Irving and completed, where needed by secondary data. Scope 3 emissions are calculated using either primary production, spend, or other invoice generated data in combination with various published emissions intensity factors. Net Forest Growth removals have been quantified using the Carbon Budget Model for the Canadian Forest Sector, version 3 (CBM-CFS3).

GHG emissions that are accounted for in the study are based on the 100-year Global Warming Potential figures published in the Intergovernmental Panel on Climate Change (IPCC) Fifth Assessment Report, 2014 and include those required by the GHGP Product Standard, which specifies emissions to and removals from the atmosphere of: carbon dioxide (CO_2); methane (CH_4) and nitrous oxide (N_2O). Fugitive gases have not been reported on; any fugitive gases would be impossible to measure directly/attribute to tissue products and would also not be material to the footprint.

All relevant emissions to the scope of certification are included in the footprint and are summarized in Table 1. Where GHG emissions have been estimated, these have been determined based on a conservative approach that precludes underestimation. GHG emissions have been estimated for the use and retail end-of-life phase. In the absence of data, emissions have been estimated based on conservative assumptions (e.g., for end-of-life, fate of retail waste has been considered the same as domestic waste whereas waste recycling may be greater at retail areas).
The provisions of the methodology for calculating the carbon footprint were applied as detailed and the principles set out in PAS 2060:2014 were met.

Mill-Product Grouped SKUs

There are approximately 179 unique Royale® Tissue Product SKUs. SKUs are grouped by mill-product type – Tissue Products converted in Dieppe, Toronto, Fort Edward, into different Royale® Tissue Products; bathroom, facial, household towel or napkin, products, resulting in six (6) distinct mill-product grouped SKUs. All grouped SKUs have the equivalent functional unit, all SKUs are under the same level of organizational control and all SKUs are within the same defined geographical sales region.

Tissue Products are produced in two stages: the production of Tissue Parent Rolls **("Parent Rolls")** and the conversion of Parent Rolls into Tissue Products.

1. Parent Rolls of tissue are produced using various mixtures of softwood and hardwood Kraft pulp, and re-pulping of "broke" or waste tissue from the internal manufacturing process. These mixtures

vary both between and within Tissue Products to produce characteristics desired by the customer like softness or strength.

2. Conversion of Parent Rolls into Tissue Products includes combining like Parent Rolls to create multiple plys, cutting, folding, wrapping on cores, or placing in paperboard boxes. This phase also involves wrapping Tissue Products in poly packaging and placing into corrugated containers for shipping.

To simplify the product carbon footprint, Tissue Products are not differentiated beyond the Parent Roll. For each Tissue Product, there are common upstream manufacturing processes that are not distinguishable such as emissions from wood procurement, sawmilling, and Kraft pulp production. These emissions are not differentiated beyond the Kraft pulp used to produce Parent Rolls. Freight of Kraft pulp varies by the distance from Kraft mills to mills producing Parent Rolls and is therefore allocated to the Parent Roll by mill.

In the Production phase, differentiation by Tissue Product is simplified to the Parent Roll produced in each mill including the proportion of softwood and hardwood Kraft pulp, broke and chemicals and energy used. Scope 1 and 2 emissions are different by mill site. Parent Rolls may be produced in one mill and converted in another, therefore Parent Roll freight to converting mill is differentiated. Purchased parent rolls, packaging (such as cores and paperboard cartons), and Distribution and End-of-Life processes are differentiated by Tissue Product. Corrugated packaging is allocated to Tissue Products based on weight.

While differences between Parent Rolls to produce Tissue Products are known to exist, these variations are expected to be insignificant considering the scale of the upstream Material Acquisition and Pre-Processing emissions, Scope 1 and 2 emissions in the Production phase and the Distribution emissions that occur in the Tissue Product life-cycle.

1. **Attributable Emissions:** Following guidance from the Greenhouse Gas Protocol Product Life Cycle Accounting and Reporting Standard (WRI 2011), emissions and removals directly attributable to tissue products are included to meet the requirements of *ISO 14067:2018* certification.

2. **Allocated Emissions:** Not all emissions and removals can be identified as directly attributable. Therefore, some emissions and removals were allocated based on the mass balance of wood fibre that flows from the forest to tissue. For example, emissions occur from purchased electricity in Sawmills that is used to produce both lumber and wood chips. Therefore, GHG emissions from Sawmills electricity are allocated to the tissue products based on the proportion of Sawmills outputs that flow to the tissue operations.

Biogenic Carbon

Tissue Products are made almost entirely from natural wood fibres, and as such have biogenic carbon embedded directly in the products. Therefore, in addition to the cradle-to-grave GHG emissions in the product life cycle, the GHG emissions and removals attributable to forest use. Biogenic carbon was removed from the atmosphere in growing forests, while some of it is released as CO2e from forests during harvesting or from manufacturing using biomass fuels derived from harvested trees. The Irving Forest Supply Chain described in the following is uniquely positioned to account for the cradle-to-grave GHG emissions and removals in Tissue Products due to the integrated nature of the Forest Supply Chain that includes the ownership and management of forest lands directly attributable to Tissue Products and ownership of the complete manufacturing supply chain of Tissue Products.

Biogenic carbon is stored in Tissue Products through to their end-of-life when some of the biogenic carbon is released back to the atmosphere as CO2e when Tissue Products are disposed.

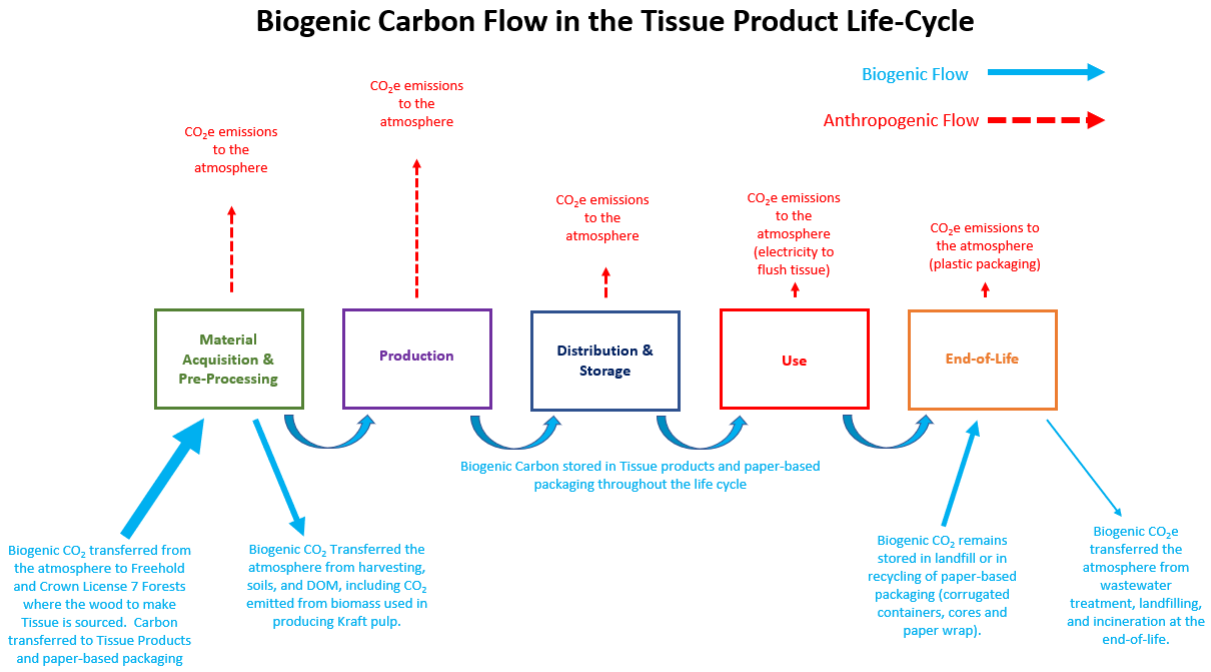


Figure 1. Biogenic Carbon Flows in Tissue Product Life Cycle

3.2. Carbon Footprint Breakdown

Carbon Footprint	Information Relating to the Carbon Neutral Declaration
Total Carbon Footprint	**(346,055.19) tCO_2e**
Carbon Footprint per Functional Unit	**(965.73) Kg CO_2e /tonne of tissue product**

A breakdown of the relative and absolute emissions and removals from each life cycle stage are presented in Table 2., below (see Appendix 1 for a more detailed breakdown).

Table 2. Net Product Carbon Footprint – Tissue Products

Emission/(Removal)	Tonnes CO_2e	Kg CO_2e/tonne
Material Acquisition & Pre-Processing	303,588	874
Production	472,457	1,359
Distribution & Storage	118,197	340
Use	2,488	7
End-of-Life	33,159	95
Total Emissions	**929,889**	**2,676**
Forest Removal	(1,275,944)	(3,671)
Net Product Carbon Footprint	**(346,055)**	**(996)**

Table 3: Mill-Product Grouped SKU Emissions/(Removals)

Mill	Tissue Products	Emissions by Functional Unit (Kg CO_2e /t)	Mill-Product Footprint (tonnes CO_2e)
Dieppe	Bathroom Tissue	(1,250)	(66,288)
Dieppe	Facial Tissue	(1,629)	(24,524)
Dieppe	Household Towel	(296)	(706)
Dieppe	Napkin	(1,723)	(5,162)
Toronto	Bathroom Tissue	(724)	(20,955)
Toronto	Facial Tissue	(1,528)	(23,249)
Toronto	Household Towel	(481)	(11,665)
Fort Edward	Bathroom Tissue	(674)	(11,394)
Fort Edward	Facial Tissue	(1,544)	(61,564)
Fort Edward	Household Towel	(1,984)	(63,709)
Fort Edward	Napkin	(1,426)	(1,667)
Macon	Bathroom Tissue	(451)	(25,296)
Macon	Household Towel	(502)	(29,877)
Total		**(996)**	**(346,055)**

Table 4. Product Footprint Emissions/(Removals) Broken Down by Product Type

Sales Region	SKU	Emissions by Functional Unit (Kg CO_2e /t)
Canada	Royale® Bathroom	**(960)**
Canada	Royale® Facial	**(1,590)**
Canada	Royale® Household Towel	**(1,984)**
Canada	Royale® Napkins	**(1,723)**

3.2.1 Data Methods

All CO_2e emissions and removals are estimates taken from both direct and indirect sources using the best available factors to convert activity data to emissions. To improve the quality of estimates, activity data is based on financial and enterprise reporting systems.

Primary and secondary data sources have been used to estimate emissions at each life cycle stage. Wherever possible, primary data sources are linked to financial reporting and audited financial statements; secondary data sources have been used when no primary data were available.

Primary data sources include:

- Invoiced fuel purchases including the volume of diesel, gasoline, natural gas, propane, and heating fuels.
- Invoiced electricity usage by manufacturing facilities, offices, buildings, and garages.
- Mass of forest products including residues sold, volume of lumber sold, Kraft pulp, corrugating medium, and tissue products sold reported in internal management systems.

- For Scope 3 emissions, the mass of wood harvested, delivered, or purchased from internal management systems, tonnes of pulp and parent rolls purchased, kilograms of chemicals and packaging purchased, and waste from invoiced data.
- For freight-based emissions, distances come from third party invoiced distances or from calculating distances from publicly available mapping systems, tonnes and loads delivered are sourced from internal management systems.

Secondary data sources include:

- Emissions factors sourced from published government sources, published papers, or following life-cycle analysis best practices.
- For wood harvesting and delivery, factors are estimated at the machine level by Irving and are tied to the piece work rates paid to contractors.

CO_2e emissions and removals from Net Forest Growth are also generated from enterprise systems that facilitate long term forest management. These systems include geographic information systems (GIS), enhanced forest inventory, growth, and yield models (G&Y), and forest management planning software. The same systems that calculate forest inventory, growing stock, and calculate annual allowable harvest levels, are used to estimate the net forest carbon emissions.

Emissions and removals were calculated using the CBM-CFS3 model. This model is the current standard in reporting emissions from Net Forest Growth and it is based on the best available science. There is inherent uncertainty in model inputs and forecasts of forest inventory, forest growth and depletion. To reduce uncertainty in the inventory and forest growth, modern technology and modern techniques following current scientific guidance are used to determine forest inventory.

There is also inherent uncertainty in the calculated transfers to and from Harvested Wood Products (HWP). To reduce this uncertainty, the following steps were taken with the data:

- Woodlands forest inventory to determine the tree species distribution.
- Regionally based and published tree density factors by species.

Data Quality & Uncertainty

Data quality assessment has been performed on emissions and removal data from each life cycle stage (see assessment criteria outlined in the tables below). The quality of activity data and most emissions factors are in the very good to good range; given the quality of the data we feel confident in our emissions calculations. Tables 5 and 6 outline criteria for the assessment of activity or emission factor data quality.

Table 5. Primary Activity Data Quality Assessment

Activity Data Quality	Assessment Criteria
Very Good	From audited financial statements, or enterprise management systems. Invoice based. Measured. Very complete. Third-party audited or regulatory compliance related. Would not expect greater than 10% variance in results.
Good	From enterprise management systems. Invoice based. Mostly complete. May involve secondary conversions or estimates. Not subject to third party or regulatory audit.
Fair	Estimated or incomplete data sources, sampled. Not tied to financial reporting. No audit trail available.
Poor	Incomplete or missing information.

Table 6. Secondary Emissions Factor Data Quality Assessment

Emissions Factor Quality	Assessment Criteria
Very Good	Factor specific to a region, process, and less than 5 years old. Factors derived from actual data. Would not expect greater than 10% variance in results.
Good	National factor, factor between 5-10 years. Factor for a general process.
Fair	Global factor or national factor with significant uncertainty expressed in documentation, or national factor not specific to a process.
Poor	Global factor estimated older than 10 years. Back up documentation incomplete.

Finally, uncertainties remain around Land Use removals, given that it is the biggest contributor to the net product footprint in absolute terms. However, based on a 10% sensitivity analysis of emissions, a net carbon footprint would still be negative. A detailed explanation of the approach to the sensitivity analysis and any assumptions made were included in the Product Emissions Report required for certification.

4. Declaration of Ongoing Commitment to Carbon Neutrality

PAS 2060:2014 Requirement	Information Relating to the Carbon Neutral Declaration
Declaration of on-going commitment:	Irving commits to maintain carbon neutrality of all tissue products, including Royale® Tissue Products in accordance to PAS 2060:2014 for the period to December 31, 2024.

4.1. Carbon Management Plan

Irving has internally forecasted planned business growth, planned emissions and reductions and planned future harvest levels to assess the impact on a Declaration of Carbon Neutrality. Forecasted business growth does not negatively impact a commitment to Carbon Neutrality within the current PAS2060: 2014 standard.

Emissions sources and operational plans to reduce emissions are identified annually. The strategy to continue to reduce carbon emissions is divided into four themes:

1. Fuel Switching – Increased use of Biogenic fuels to replace fossil fuels, use of waste steam to offset fossil fuel use and reduction of solid waste that can be diverted to better use.
2. Energy efficiency – reduction or recycling of heat, more energy efficiency systems, reduced equipment idling or waste, increased use of rail or more efficient transportation systems, electricity generation, and productivity improvement.
3. Increased forest growth (increased removals from growing more than is harvested) - increased Freehold tree planting levels, improved utilization of pulpwood, silviculture tools and techniques to increase forest growth.
4. Increase solid wood product production – improving recovery of lumber from logs and investments to improve sawmill capacity to transfer more CO_2 to longer-lived products.

Table 7. Carbon Reduction

PAS 2060:2014 Requirement	Information Relating to the Carbon Neutral Declaration
Reductions Achieved	**(19.29) Kg CO_2e /tonne of tissue product (1.9%) Reduction**
Baseline Period	**January 1, 2022 to December 31, 2022**

The Carbon Management Plan for the 2022 QES achieved a reduction of 7,346 or 72% of the planned reductions. The 3,500 tonnes of CO_2e reduction planned from waste diversion from landfill emissions were exceeded by 88% due to the success of re-directing tissue pulping waste into ceiling tiles. Two planned reductions were not implemented until late 2022 so the full savings were not realized. However, these two planned reductions related to switching of wood chips from truck to rail and the commissioning of the new back-pressure boiler will fully contribute the planned emissions savings in 2023.

Table 8. Planned Emissions Reduction Initiatives

Division/ Year	Region	Type	Project Description	GHG Impact (tonnes)	GHG Impact (kg/tonne)	% of kg/tonne
Woodlands 2023	Canada	Energy Efficiency	Installation of an electric flail chipper at LUP, reducing diesel-powered in-woods flail chipping, installed in 2022	1,800	0.94	0.10%
Woodlands 2023	Canada	Energy Efficiency	Increasing tri-drive log trucks to increase payload and reduce the number of trips to move logs to mills.	635	0.33	0.03%
Woodlands 2023	Canada	Energy Efficiency	Switch 100,000 tonnes of chips by rail from truck from Central New Brunswick.	3,500	8.06	0.83%
Sawmills 2023	Canada	Energy Efficiency	Commissioning of a new back-pressure turbine at a sawmill using waste steam to generate electricity.	2,400	1.28	0.13%
Consumer Products 2023	Canada	Energy Efficiency	Equipment efficiency which reduced electrical consumption by over 2M kwh in Toronto.	58	0.17	0.02%
Consumer Products 2023	United States	Waste Reduction	Re-direct 20,000 tonnes of paper-making waste to beneficial use	5,200	14.97	1.54%
Consumer Products 2024	United States	Energy Efficiency	1000 hp motor efficiency at Macon to reduce 6.4M kwh hours.	2,620	7.54	0.78%
Consumer Products 2024	United States	Energy Efficiency	Air compressor energy reduction at Macon of 2.8M kwh.	1,168	3.36	0.34%
Total – 2023				**8,393**	**25.75**	**2.7%**
Total – 2024				**3,788**	**10.9**	**1.1%**

In future years, the purchase of third-party carbon offsets is not anticipated to be needed, given the emissions reductions planned and net removals associated with forest removals, Material Acquisition and Pre-Processing phases on an annual basis.

APPENDIX – DATA TABLE

Data	Measurement	Emissions	Functional Units	Absolute Allocation	Sensitivity (±5%)
MATERIAL ACQUISITION AND PRE-PROCESSING		Tonnes CO2e	Kg CO_2e/t	%	%
EMISSIONS ALLOCATED FROM VALUE CHAIN					
Allocations from Value Chain, Total	**t CO_2e**	**303,588**	**874**	**13.8**	**4.4**
by division					
Tissue	**t CO_2e**	**137,441**	**395**	**6.2**	**2.0**
Woodlands	**t CO_2e**	**19,206**	**55**	**0.9**	**0.3**
Sawmills	**t CO_2e**	**45,013**	**130**	**2.0**	**0.7**
Irving Pulp & Paper, Limited	**t CO_2e**	**101,928**	**293**	**4.6**	**1.5**
Scope 1 Attributable Emissions, Total	**t CO_2e**	**64,107**	**184**	**2.9**	**0.9**
by division					
Woodlands	t CO_2e	**0**	**0**	**0.0**	**0.0**
Sawmills	t CO_2e	**1,861**	**5**	**0.1**	**0.0**
Pulp and paper	t CO_2e	**62,246**	**179**	**2.8**	**0.9**
Irving Pulp & Paper, Limited	**t CO_2e**	**62,246**	**179**	**2.8**	**0.9**
Scope 2 Attributable Emissions (location-based), Total	**t CO_2e**	**26,886**	**77**	**1.2**	**0.4**
by division					
Woodlands	t CO_2e	**0**	**0**	**0.00**	**0.0**
Sawmills	t CO_2e	**9,203**	**26**	**0.42**	**0.1**
Irving Pulp & Paper, Limited	t CO_2e	**17,683**	**51**	**0.80**	**0.3**
Scope 3 Attributable Emissions, Total	**t CO_2e**	**212,595**	**612**	**9.64**	**3.1**
by division					
Tissue	t CO_2e	**137,441**	**395**	**6.2**	**2.0**
Woodlands	t CO_2e	**19,206**	**55**	**0.9**	**0.3**
Sawmills	t CO_2e	**33,949**	**98**	**1.5**	**0.5**
Irving Pulp & Paper, Limited	t CO_2e	**21,999**	**63**	**1.0**	**0.3**
FOREST EMISSIONS & TRANSFERS		Tonnes CO2e	Kg CO_2e/t	%	%
Allocation of Forest Emissions attributed to Tissue Products, Total	**t CO_2e**	**(1,275,944)**	**(3671)**	**57.8**	**18.4**
Net Forest Emissions & Transfers, Total	**t CO_2e**	**(6,614,537)**			
Transfer to Harvested Wood Products by ownership	**t CO_2e**	**(1,703,537)**			
Total Net Forest Emissions & Transfers	**t CO_2e**	**(4,911,000)**			
Percentage of Harvested Forest attributable to Tissue Production, Total	%	19.3%			

APPENDIX – DATA TABLE (Continued)

PRODUCTION		Tonnes CO2e	Kg CO_2e/t	%	%
Production Emissions for Irving Tissue, Total	**t CO_2e**	**472,457**	**1359**	**21.4**	**6.8**
Scope 1 Emissions, Irving Tissue Total	**t CO_2e**	**264,300**	**760**	**12.0**	**3.8**
by company					
Irving Tissue Saint John Mill	**t CO_2e**	**15,520**		**0.7**	**0.2**
Dieppe Plant	**t CO_2e**	**833**		**0.0**	**0.0**
Fort Edward Plant	**t CO_2e**	**30,231**		**1.4**	**0.4**
Macon Plant	**t CO_2e**	**103,123**		**4.7**	**1.5**
Toronto Plant	**t CO_2e**	**114,593**		**5.2**	**1.7**
Scope 2 (location-based), Irving Tissue Total	**t CO_2e**	**185,781**	**535**	**8.4**	**2.7**
by company					
Irving Tissue Saint John Mill	**t CO_2e**	**41,208**		**1.9**	**0.6**
Dieppe Plant	**t CO_2e**	**4,377**		**0.2**	**0.1**
Fort Edward Plant	**t CO_2e**	**9,415**		**0.4**	**0.1**
Macon Plant	**t CO_2e**	**128,312**		**5.8**	**1.9**
Toronto Plant	**t CO_2e**	**2,469**		**0.1**	**0.0**
Scope 3 Attributable Emissions, Irving Tissue Total	**t CO_2e**	**22,376**	**64**	**1.0**	**0.3**
by company					
Irving Tissue Saint John Mill	**t CO_2e**	**177**		**0.0**	**0.0**
Dieppe Plant	**t CO_2e**	**4,245**		**0.2**	**0.1**
Fort Edward Plant	**t CO_2e**	**7,210**		**0.3**	**0.1**
Macon Plant	**t CO_2e**	**8,334**		**0.4**	**0.1**
Toronto Plant	**t CO_2e**	**2,411**		**0.1**	**0.0**

APPENDIX – DATA TABLE (Continued)

DISTRIBUTION & STORAGE		Tonnes CO2e	Kg CO_2e/t	%	%	
Distribution & Storage, Irving Tissue Total	**t CO_2e**	**118,197**	**340**	**5.4**	**1.7**	
Freight from Distribution Center to Retail, Total	**t CO_2e**	**58,097**	**167**	**2.6**	**0.8**	
by site						
Irving Tissue Saint John Mill	**t CO_2e**	**0**	**0**			
Dieppe Plant	**t CO_2e**	**11,530**	**157**			
Fort Edward Plant	**t CO_2e**	**15,304**	**170**			
Macon Plant	**t CO_2e**	**19,339**	**167**			
Toronto Plant	**t CO_2e**	**11,924**	**174**			
Freight of Finished Tissue Products to Distribution Centre	**t CO_2e**	**46,003**	**132**	**2.1**	**0.7**	
by site						
Irving Tissue Saint John Mill	**t CO_2e**	**0**	**0**			
Dieppe Plant	**t CO_2e**	**15,406**	**210**			
Fort Edward Plant	**t CO_2e**	**8,997**	**100**			
Macon Plant	**t CO_2e**	**14,964**	**129**			
Toronto Plant	t CO_2e	6,636	**97**			
ICP leased warehousing	**t CO_2e**	**14,098**	**41**	**0.6**	**0.2**	
by company						
Irving Tissue Saint John Mill	**t CO_2e**	**0**	**0**	**0.0**	**0.0**	a
Dieppe Plant	**t CO_2e**	**1,217**	**17**	**0.1**	**0.0**	a
Fort Edward Plant	**t CO_2e**	**6,813**	**76**	**0.3**	**0.1**	a
Macon Plant	**t CO_2e**	**4,188**	**36**	**0.2**	**0.1**	a
Toronto Plant	**t CO_2e**	**1,879**	**27**	**0.1**	**0.0**	a
USE		**Tonnes CO2e**	**Kg CO_2e/t**	**%**	**%**	
Electricity used in the home for toilet flushing	**t CO_2e**	**2,488**	**16**	**0.1**	**0.0**	a
by Company						
Dieppe Plant	t CO_2e	741	14	0.0	0.0	a
Fort Edward Plant	t CO_2e	292	17	0.0	0.0	a
Macon Plant	t CO_2e	1,067	19	0.0	0.0	a
Toronto Plant	t CO_2e	388	13	0.0	0.0	a
END OF LIFE		**Tonnes CO2e**	**Kg CO_2e/t**	**%**	**%**	
Tissue End of Life Emissions, Total	**t CO_2e**	**33,159**	**95**	**1.5**	**0.5**	
by mill						
Irving Tissue Saint John Mill	**t CO_2e**	**0**				
Dieppe Plant	**t CO_2e**	**8,435**	**115**			a
Fort Edward Plant	**t CO_2e**	**5,741**	**64**			a, b
Macon Plant	**t CO_2e**	**12,955**	**112**	0.6	0.2	a, b
Toronto Plant	**t CO_2e**	**6,029**	**88**	0.3	0.1	a, b

APPENDIX – DATA TABLE (Continued)

NET PRODUCT CARBON FOOTPRINT		Tonnes CO2e	Kg CO_2e/t	%	%
Net PRODUCT Carbon Footprint	**t CO_2e**	**(346,055)**	**(996)**		
by product					
Tissue	**t CO_2e**	**(346,055)**	**(996)**	**15.7**	**5.0**
Dieppe Plant	**t CO_2e**	**(96,679)**	**(1,316)**	**4.4**	**1.4**
Bathroom Tissue	t CO_2e	(66,288)	(1,250)		
Facial Tissue	t CO_2e	(24,524)	(1,629)		
Napkins Tissue	t CO_2e	(5,162)	(1,723)		
Household Towel	t CO_2e	(706)	(296)		
Fort Edward Plant	**t CO_2e**	**(138,335)**	**(1,536)**	**6.3**	**2.0**
Bathroom Tissue	t CO_2e	(11,394)	(674)		
Facial Tissue	t CO_2e	(61,564)	(1,544)		
Napkins Tissue	t CO_2e	(1,667)	(1,426)		
Household Towel	t CO_2e	(63,709)	(1,984)		
Macon Plant	**t CO_2e**	**(55,174)**	**(477)**	**2.5**	**0.8**
Bathroom Tissue	t CO_2e	(25,296)	(451)		
Facial Tissue	t CO_2e				
Napkins Tissue	t CO_2e				
Household Towel	t CO_2e	(29,877)	(502)		
Toronto Plant	**t CO_2e**	**(55,868)**	**(817)**	**2.5**	**0.8**
Bathroom Tissue	t CO_2e	(20,955)	(724)		
Facial Tissue	t CO_2e	(23,249)	(1,528)		
Napkins Tissue	t CO_2e				
Household Towel	t CO_2e	(11,665)	(481)		

a Functional units are based off product-specific tonnes and not total production

b Emissions are from Anaerobic Digestion & Land application, Compost and land applications, Incineration and Landfilling

c Emissions are from Landfilling

d Removals are from incineration with energy

INDEPENDENT THIRD PARTY CERTIFICATE OF ACHIEVEMENT

CARBON TRUST

Certificate of Achievement

J.D. Irving, Limited

has achieved carbon neutrality and is committed to on-going carbon neutrality of the total carbon footprint of its

Bath, facial, napkin, and towel tissue Products

Carbon Trust Assurance Limited verifies that J.D. Irving, Limited has calculated the carbon footprint representing the bath, facial, napkin, and towel tissue products sold Cradle-to-Grave (Business-to-Consumer) and marketed in Canada and USA accordance with:

- PAS 2060:2014 – Specification for the demonstration of carbon neutrality

A detailed list of verified results can be found in the associated Verification Letter CERT-13639.

Awarded: 8th February 2024

for and on behalf of Carbon Trust Assurance Ltd,

Martin Hockaday,
Head of Assurance