



J.D. IRVING, LIMITED

J.D. Irving, Limited Tissue Products

Qualifying Explanatory Statement in support of the Achievement of and Ongoing Commitment to Carbon Neutrality

Application Period: January 1, 2021 to December 31, 2021



Miramichi River, Central New Brunswick Woodlands

CONTENTS

PAS2060 DECLARATION OF CARBON NEUTRALITY

- 1. Executive Summary Page 4
- 2. General Information Page 6
- 3. Declaration of Achievement of Carbon Neutrality Page 8
 - 3.1 Carbon Footprint Methodology Page 9
 - 3.2 Carbon Footprint Breakdown Page 14
 - 3.2.1 Data Methods Page 16
- 4. Declaration of Ongoing Commitment to Carbon Neutrality Page 21
 - 4.1 Carbon Management Plan Page 21
- Appendix 1: Detailed Carbon Footprint Emissions by Life Cycle Stage Page 23
- Appendix 2: Independent Third-Party Assurance Page 28
 - Carbon Trust Certificate of Achievement of Carbon Neutrality

1 EXECUTIVE SUMMARY

This report is being issued by J.D. Irving, Limited (“Irving”) in respect of all 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 some of the Irving affiliated corporations included within the “Irving 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, 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
- Transportation and Logistics
- Retail and Distribution
- Construction and Equipment
- Consumer Products
- Food and Agriculture

The core of the Irving strategy is vertical integration. When it comes to tissue products, controlling the link between the segments of Forestry and Forest Products and Consumer Products (i.e. the Irving Forest Supply Chain) allows Irving to understand the balance of GHG emissions and removals at every stage. Irving’s commitment to improving the sustainability of its Irving 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 Irving Forest Supply Chain is the work to reduce GHG emissions from operations and increasing CO₂ removals on all forest lands. 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. has achieved carbon neutrality for tissue products, including Royale® Tissue Products marketed in Canada and the United States for the period commencing February 8, 2023 to February 7, 2024 (see Section 3); and
2. is committed to maintaining carbon neutrality of tissue products, including Royale® Tissue Products (see section 4).

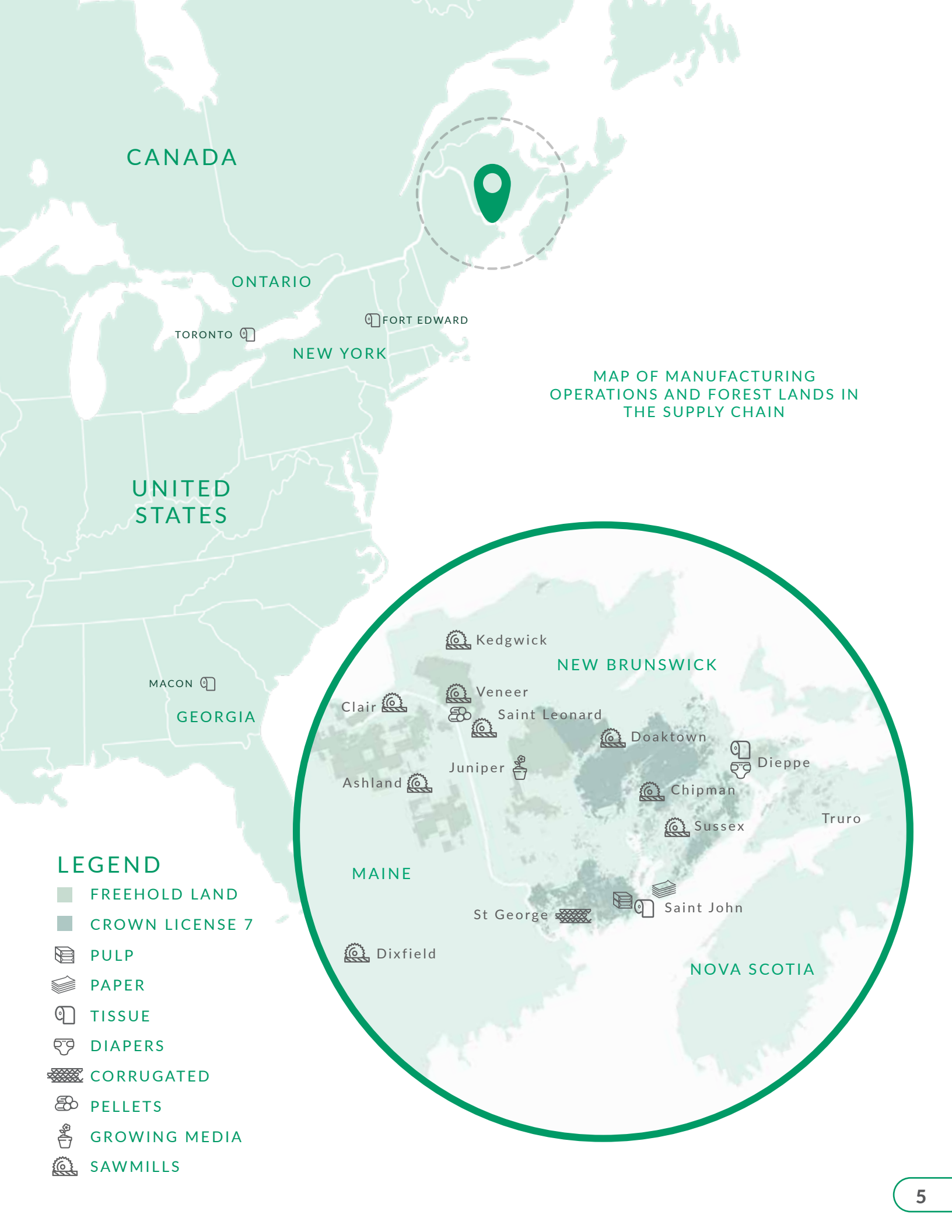
The carbon neutrality declaration has been made and the collected supporting evidence has been provided in accordance with the requirements prescribed by PAS 2060:2014 – Specification for the demonstration of carbon neutrality and Carbon Trust’s Carbon Neutrality- Requirements for Certification V1.0.



Andrew Willett

Director, Sustainability & Indigenous Relations

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.



CANADA

ONTARIO

TORONTO

FORT EDWARD

NEW YORK

UNITED STATES

MACON

GEORGIA

MAP OF MANUFACTURING OPERATIONS AND FOREST LANDS IN THE SUPPLY CHAIN

NEW BRUNSWICK

Clair

Kedgwick

Veneer

Saint Leonard

Doaktown

Dieppe

Ashland

Juniper

Chipman

Sussex

Truro

MAINE

St George

Saint John

Dixfield

NOVA SCOTIA

LEGEND

- FREEHOLD LAND
- CROWN LICENSE 7
- 📦 PULP
- 📄 PAPER
- 🧻 TISSUE
- 👶 DIAPERS
- 📦 CORRUGATED
- 🌱 PELLETS
- 🌱 GROWING MEDIA
- 🪚 SAWMILLS

2 GENERAL INFORMATION

PAS 2060:2014 Requirement	
Entity making PAS 2060:2014 declaration:	J.D. Irving, Limited
Subject of PAS 2060:2014 declaration:	Cradle-to-grave emissions for all tissue products manufactured by Irving, including Royale® Tissue Products manufactured by ICPL as well as other tissue products manufactured by other affiliated corporations (this includes facial tissue, bathroom tissue, napkins, and paper towels). For the data period of this declaration, 310,362 tonnes of tissue products were sold.
Description of Subject:	<p>Irving supplies high quality tissue products to customers, sourced from sustainably managed forests.</p> <p>An accounting of emissions and removals for all 310,362 tonnes of tissue products has demonstrated carbon neutrality of these products.</p> <p>The products for which we achieved certification for this data period include Royale® Tissue Products in the facial tissue, bathroom tissue, paper towel and napkin segments sold in Canada.</p> <p>Activities material to the functionality of the subject include all cradle-to-grave emissions and removals attributable to tissue products, including: land-use change from the forest, material acquisition and pre-processing of kraft pulp and parent rolls, packaging, direct and indirect emissions in the tissue manufacturing process, all freight from the forest to retail, and the use and end-of-life fate of tissue products in north america. Figure 1 below presents the boundary by life cycle stage and their respective emissions sources.</p>
Rationale for selection of the subject:	<p>Irving maintains a long-term focus on reducing CO₂e emissions in manufacturing operations under Irving equity control (sawmills, Kraft pulp, and tissue products manufacturing facilities). We are also focused long term on sustainable forest management resulting in improved forest growth and increased CO₂ removals to increase the climate benefits associated with our forests .</p> <p>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.</p>
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 v2.0 for PCF, and to PAS 2060:2014 and Carbon Trust's Carbon Neutrality- Requirements for Certification V1.0.
Baseline date for PAS 2060:2014 programme:	January 1, 2021 to December 31, 2021 is the baseline year.
Individuals responsible for evaluation and provision of data necessary for declaration:	Andrew Willett Director, Sustainability & Indigenous Relations



Irving Tissue Fort Edward, NY

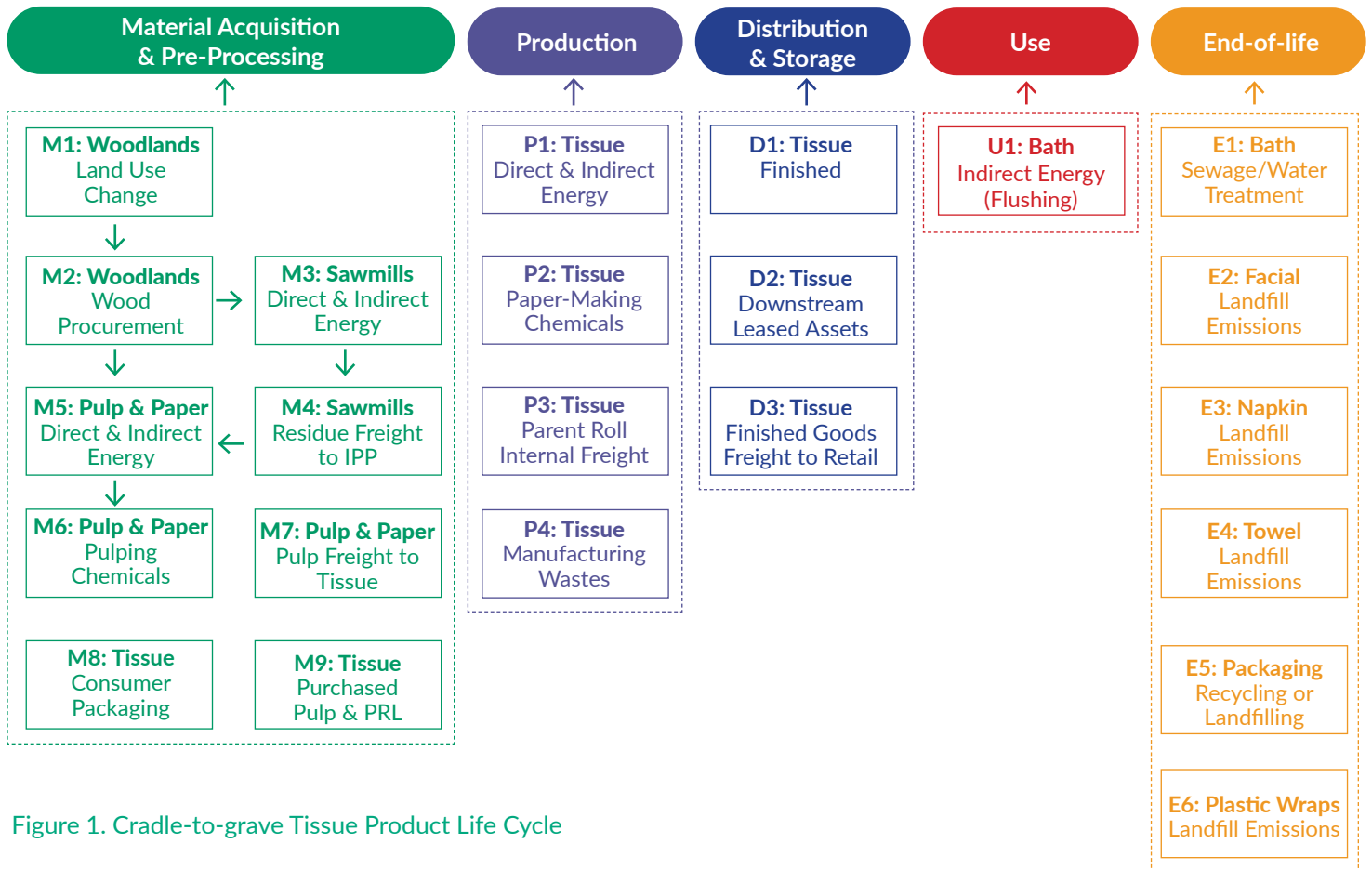


Figure 1. Cradle-to-grave Tissue Product Life Cycle

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, 2023 for the baseline period January 1, 2021 - December 31, 2021, certified by the Carbon Trust.
Recorded carbon footprint of the subject during the period stated above	(254.3) Kg CO ₂ e/tonne of tissue product or (78,933) tCO ₂ e. See section 3.2 for further details.
Carbon offsets purchased	N/A

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.

To produce the cradle-to-grave product carbon footprint, the organizational inventory was modified by attributing emissions to the tissue products or by allocating emissions to tissue products.

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.

Tissue products are made almost entirely from natural wood fibres, and as such have biogenic carbon embedded directly in the products. This 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 biogenic fuels derived from harvested trees. The biogenic carbon is stored in tissue products through to their end-of-life, when some of the biogenic carbon



Royale® Tissue Products Packaging



Pulp Dryer Irving Pulp and Paper, Saint John, NB

is released back to the atmosphere as CO₂e when tissue products are disposed, and some biogenic carbon is stored longer term in landfills.

Therefore, in addition to the cradle-to-grave GHG emissions in the life cycle of producing and using tissue products, the GHG emissions and removals attributable to forest use and end-of-life must also be accounted for.

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, 2021 and December 31, 2021. This method was chosen as it provides an internationally recognized approach to the calculation of representative product CO₂e 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 CO₂e 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,

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 (CO₂); methane (CH₄) and nitrous oxide (N₂O). 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.

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	Scope 3	No excluded emissions
	Sawmills – Direct & Indirect Energy	Scope 1 & 2	
	Sawmills – Residue Freight to Pulp & Paper	Scope 3	
	Pulp & Paper – Direct & Indirect Energy	Scope 1 & 2	
	Pulp & Paper – Pulping Chemicals	Scope 3	
	Pulp & Paper – Pulp freight to tissue	Scope 3	
Land Use Changes & Transfers	Net Forest Removal		No excluded emissions
Production	Tissue – Direct & Indirect Energy	Scope 1 & 2	Fugitive gases have been excluded. Impossible to directly attribute to tissue products and are immaterial to the footprint.
	Tissue – Paper-making Chemicals	Scope 3	
	Tissue – Parent Roll Internal Freight	Scope 3	
	Tissue – Manufacturing Wastes	Scope 3	
	Tissue – Consumer Packaging	Scope 3	
	Tissue – Purchased Pulp & PRL	Scope 3	
Distribution & Storage	Tissue – Finished Goods Freight to Distribution Centres	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 from available literature it is assumed that these emissions categories would be negligible (Ingwerson et. al 2016)
	Tissue – Downstream Leased Assets	Scope 3	
	Tissue – Finished Goods Freight to Retails	Scope 3	
Use	Indirect energy (<i>from flushing of bathroom tissue</i>)	Scope 3	No excluded emissions
End of Life	Bathroom Tissue – Sewage/Water Treatment	Scope 3	No excluded emissions
	Facial Tissue – Landfill Emissions	Scope 3	
	Napkin – Landfill Emissions	Scope 3	
	Paper Towel – Landfill Emissions	Scope 3	
	Packaging – Recycling or Landfilling	Scope 3	
	Plastic Wraps – Landfill Emissions	Scope 3	

A note on Biogenic Emissions

The product life cycle includes energy from burning biogenic sources in the material acquisition and pre-processing stage. Kraft pulp produced upstream is produced with energy that comes from waste bark (hog fuel) and lignin from wood harvested in the supply chain. Irving Pulp and Paper (IPP) had 1,018,256 tonnes of CO₂ emitted from these biogenic sources in 2021. With 55.7% of the wood supply from Freehold and License 7 forests, 567,169 tonnes of biogenic CO₂ are assumed to have been emitted, matched to trees harvested on these lands. This amount can be considered immediately emitted

to the atmosphere in the year of harvest. Because these emissions occur as part of land use, they are not counted in the product life cycle. Counting them in the product life cycle would result in double counting. All CH₄ and N₂O emitted as part of using biogenic energy sources at IPP have been counted in the product life cycle emissions.

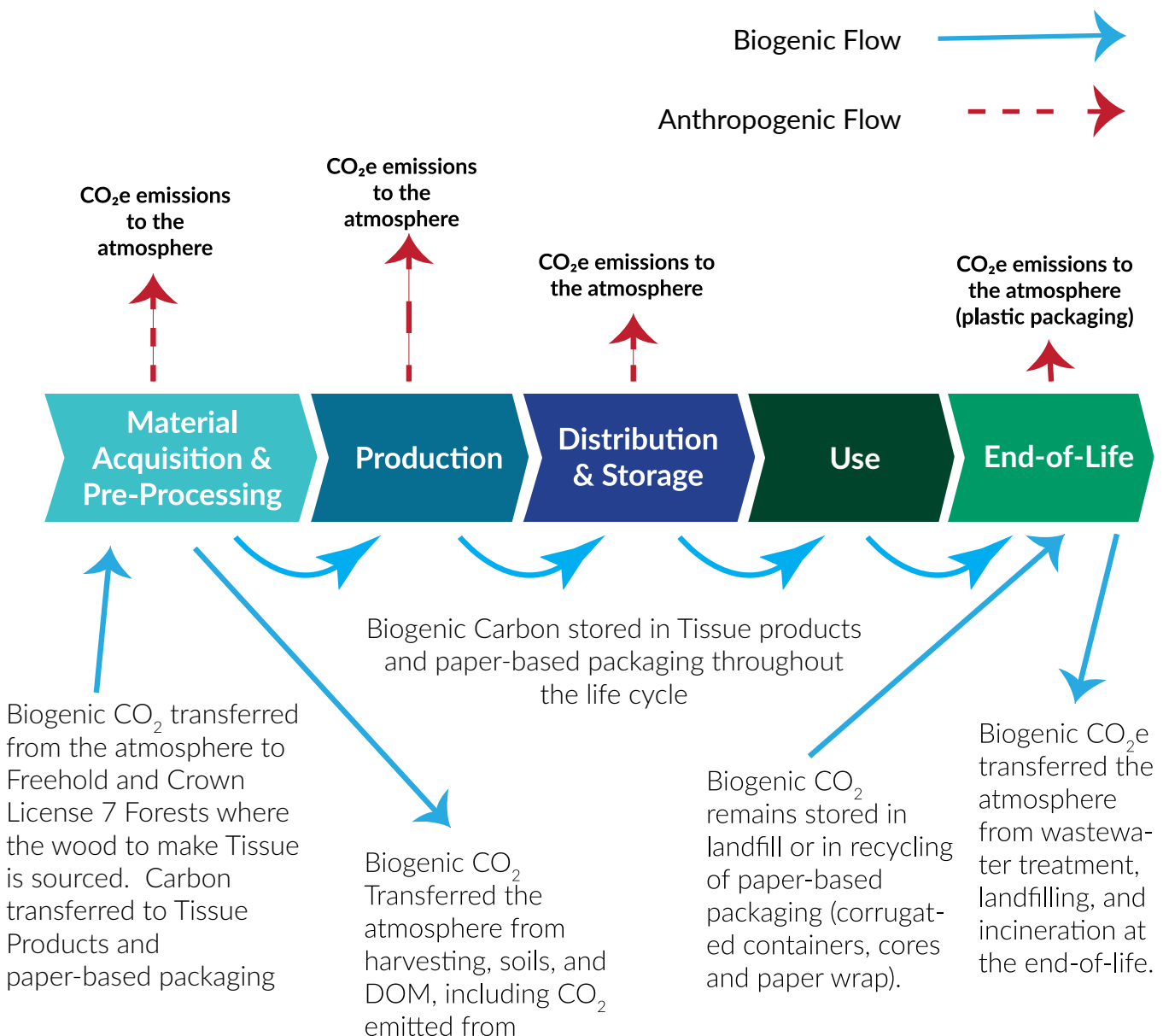


Figure 2. Biogenic Carbon Flow in the Tissue Product Life-Cycle

3.2 CARBON FOOTPRINT BREAKDOWN

Carbon Footprint	Information Relating to the Carbon Neutral Declaration
Total Carbon Footprint	(78,933) tCO ₂ e
Carbon Footprint per Functional Unit	(254.3) Kg CO ₂ e /tonne of tissue product

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

Table 2: Carbon Footprint Emissions/(Removals) by Life Cycle Stage for Canada and United States

Life Cycle Stage	GHG Emissions Category	t CO ₂ e	Emissions (Kg CO ₂ e /t)	% of Total Emissions
Material Acquisition & Pre-Processing	Scope 1	293,537	946	16.4
	Scope 2			
	Scope 3			
Land Use Changes & Transfers		(934,326)	(3010)	52.2
Production	Scope 1	393,599	1268	22.0
	Scope 2			
	Scope 3			
Distribution & Storage	Scope 3	137,896	444	7.7
Use	Scope 3	1400	5	0.1
End of Life	Scope 3	28,960	93	1.6
Total		(78,933)	(254.3)	100

Table 3. Total Tissue Sales (2021)

Sales Region	Product	Product Footprint (tonnes CO ₂ e)
Canada	Royale® Tissue	(14,953)
Canada	All Other	(21,272)
United States	Scotties® Tissue	(3,606)
United States	All Other	(39,102)
	Total Sales	(78,933)



Parent Roll, Irving Tissue, Saint John, NB

Table 4: Product Footprint Emissions/(Removals) by Product Type* for Tissue Products Labeled Carbon Neutral

Sales Region	SKU	Emissions by Functional Unit (Kg CO ₂ e /t)	Product Footprint (tonnes CO ₂ e)
Canada	Royale [®] Bathroom Tissue	(232)	(7,737)
Canada	Royale [®] Facial Tissue	(380)	(3,680)
Canada	Royale [®] Paper Towel	(387)	(3,417)
Canada	Royale [®] Napkins	(194)	(119)
	Total Royale[®] Sales		(14,953)

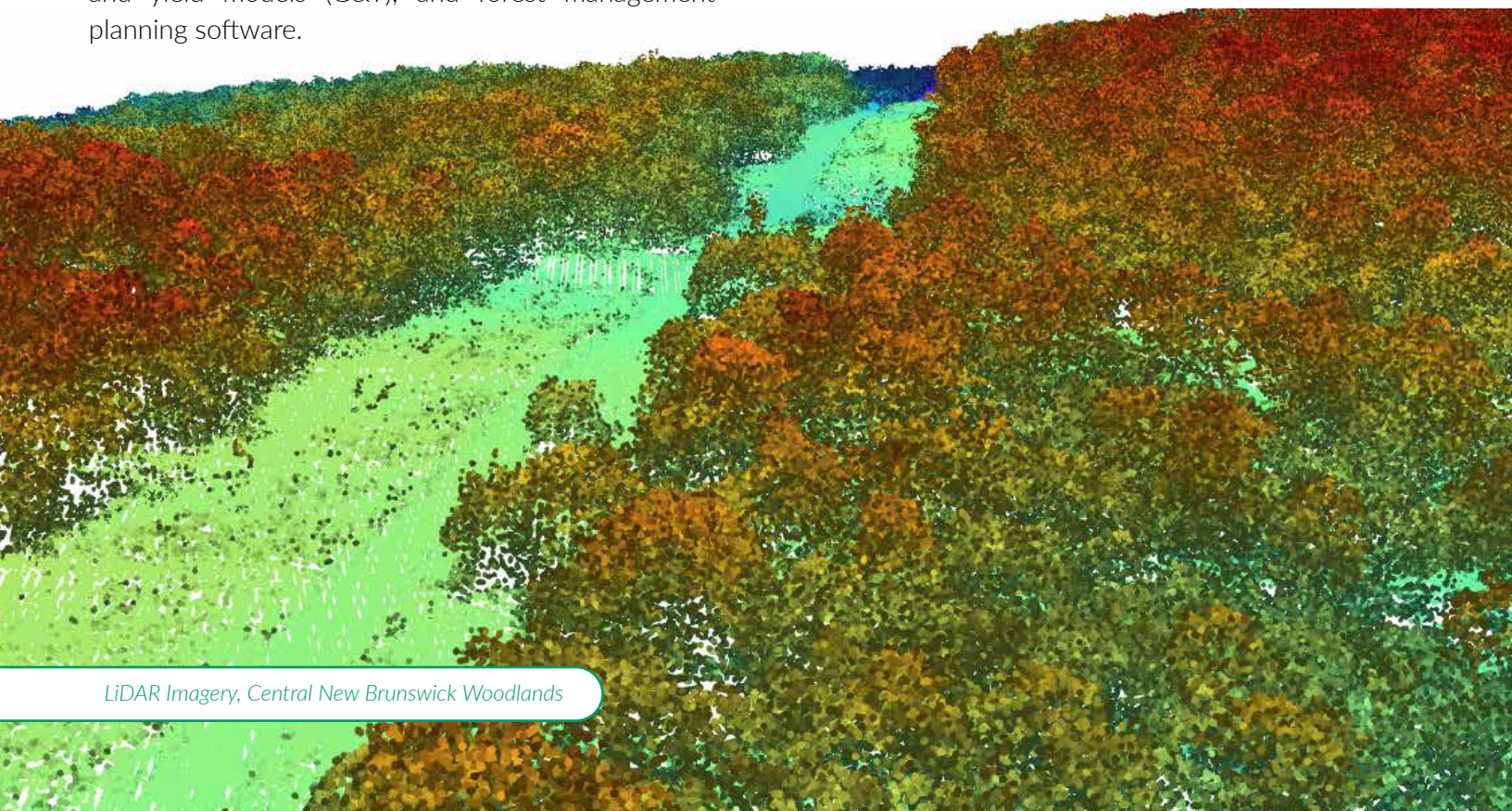
3.2.1 DATA METHODS

All CO₂e 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.

CO₂e 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), LiDAR derived 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.

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.



LiDAR Imagery, Central New Brunswick Woodlands

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.

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	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.

Reporting CO₂e emissions is based on estimates, assumptions and factors from multiple sources, which results in inherent uncertainty in the calculated direct and indirect emissions. To reduce this uncertainty, the following steps were taken with the data:

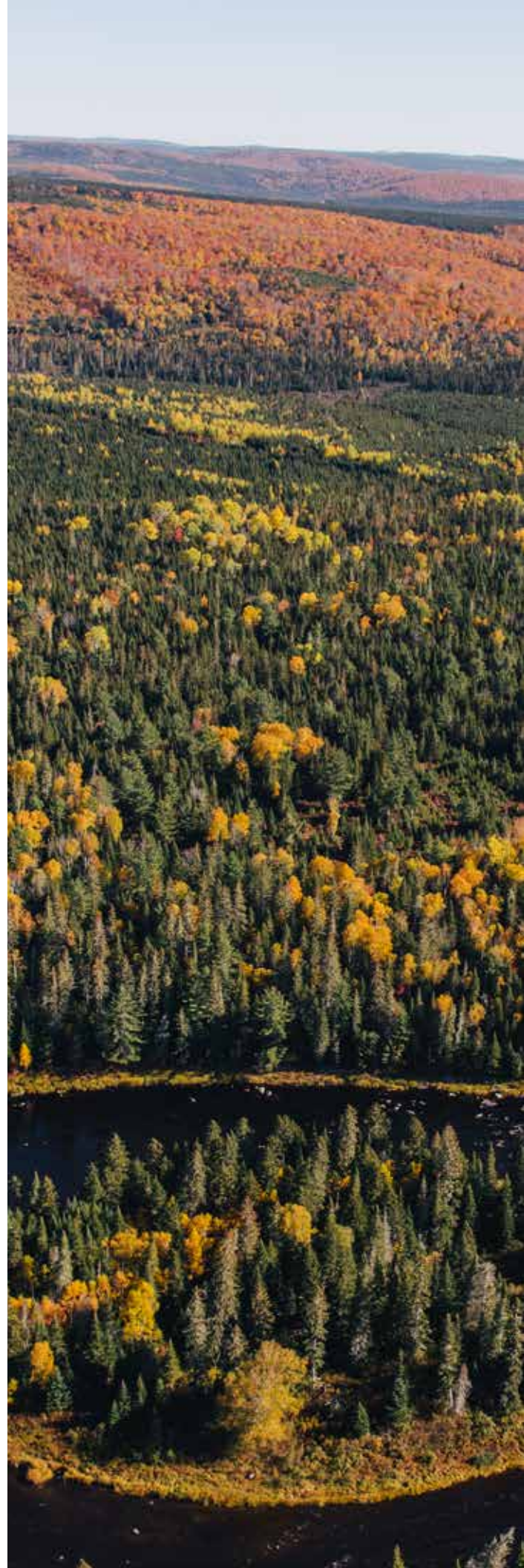
- Use of activity data from financial statements (spending, production) or internal management systems
- Use of published government or academic emissions factors
- Use of current emissions factors

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

Further uncertainty relating to Net Forest Growth calculations remain. 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.

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.





Miramichi River, Central New Brunswick Woodlands



Irving Tissue, Macon, GA

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, 2023.

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, reduced harvest levels, improved utilization of pulpwood silviculture tools and techniques to match species and sites.

4. Increase solid wood product production – improving recovery of lumber from logs and investments to improve sawmill capacity will transfer more CO₂ to HWP than occurs with shorter-lived products like paper.

Table 7. Planned Emissions Reductions Initiatives by Relative Contribution of Tissue Product

Division	Region of Project Impact	Type	Project Description	Year	GHG Impact (tonnes)	Reduction in Gross Emissions
Woodlands	Canada	Energy Efficiency	Increasing tri-drive log trucks to increase payload and reduce the number of trips to move logs to mills.	2022	760	0.04%
Woodlands	Canada	Energy Efficiency	Switch 100,000 tonnes of chips by rail from truck from Central NB	2023	3,500	0.8%
Sawmills	Canada	Energy Efficiency	Commissioning of a new back-pressure turbine at a sawmill using waste steam to generate electricity.	2023	2,400	0.13%
Consumer Products	United States	Energy Efficiency	Reduced waste to landfill from Macon, GA by redirecting for beneficial use.	2022	3,500	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 Land-Use Change and Material Acquisition and Pre-processing phases on an annual basis.

APPENDIX OF QUALIFYING EXPLANATORY STATEMENT



Sarina Lund, Irving Pulp & Paper, Saint John, NB

APPENDIX 1: DETAILED CARBON FOOTPRINT EMISSIONS BY LIFE CYCLE STAGE

Data	Measurement	Emissions	Functional Units	Absolute Allocation	Sensitivity (±10%)
MATERIAL ACQUISITION AND PRE-PROCESSING			Kg CO₂e/t	%	%
EMISSIONS ALLOCATED FROM VALUE CHAIN					
Allocations from Value Chain, Total	t CO₂e	293,537	946	16.4	37.2
<i>by division</i>					
Tissue	t CO ₂ e	161,397	520	9.0	20.4
Woodlands	t CO ₂ e	19,217	62	1.1	2.4
Sawmills	t CO ₂ e	13,355	43	0.7	1.7
Irving Pulp & Paper, Limited	t CO ₂ e	99,568	321	5.6	12.6
Scope 1 Attributable Emissions, Total	t CO₂e	50,225	162	2.8	6.4
<i>by division</i>					
Woodlands	t CO ₂ e	0	0	0.0	0.0
Sawmills	t CO ₂ e	1,851	6	0.1	0.2
Irving Pulp & Paper, Limited	t CO ₂ e	48,374	156	2.7	6.1
Scope 2 Attributable Emissions, Total	t CO₂e	21,327	69	1.2	2.7
<i>by division</i>					
Woodlands	t CO ₂ e	0	0	0.00	0.0
Sawmills	t CO ₂ e	8,222	26	0.46	1.0
Irving Pulp & Paper, Limited	t CO ₂ e	13,105	42	0.73	1.7
Scope 3 Attributable Emissions, Total	t CO₂e	221,985	715	12.40	28.1
<i>by division</i>					
Tissue	t CO ₂ e	161,397	520	9.0	20.4
Woodlands	t CO ₂ e	19,217	62	1.1	2.4
Sawmills	t CO ₂ e	3,282	11	0.2	0.4
Irving Pulp & Paper, Limited	t CO ₂ e	38,090	123	2.1	4.8

Data	Measurement	Emissions	Functional Units	Absolute Allocation	Sensitivity (±10%)
LAND USE CHANGES & TRANSFERS			Kg CO ₂ e/t	%	%
Allocation of Land Use Change attributed to Tissue Products, Total	t CO ₂ e	(934,326)	(3010)	52.2	118.4
Net Land Use Changes & Transfers, Total	t CO ₂ e	(5,266,773)			
Percentage of Harvested Forest attributable to Tissue Production, Total	%	17.7%			
2021 Inventory Change (wo depletion), total	t CO₂e	(8,566,060)			
Harvesting (depletion), total	t CO₂e	4,519,944			
Net Land Use Changes	t CO₂e	(4,046,116)			
Transfer to Wood Products, Total	t CO₂e	(2,191,484)			
Transfer to Wood Products: Lumber	t CO ₂ e	(603,536)			
Transfer to Wood Products: Pulp	t CO ₂ e	(110,352)			
Transfer to Wood Products: Tissue	t CO ₂ e	(538,439)			
Transfer to Wood Products: Paper	t CO ₂ e	(654,296)			
Transfer to Wood Products: Corrugated Medium	t CO ₂ e	(284,862)			
Ownership	%	55.7%			
Transfer to Wood Products, total weighted by ownership	t CO₂e	(1,220,657)			
PRODUCTION					
Scope 1 Emissions, Irving Tissue Total	t CO₂e	233,581	753	13.1	29.6
<i>by company</i>					
Irving Tissue Saint John Mill	t CO ₂ e	14,404	46	0.8	1.8
Dieppe Plant	t CO ₂ e	891	3	0.0	0.1
Fort Edward Plant	t CO ₂ e	34,745	112	1.9	4.4
Macon Plant	t CO ₂ e	68,651	221	3.8	8.7
Toronto Plant	t CO ₂ e	114,890	370	6.4	14.6
Scope 2, Irving Tissue Total	t CO₂e	139,028	448	7.8	17.6
<i>by company</i>					
Irving Tissue Saint John Mill	t CO ₂ e	35,196	113	2.0	4.5
Dieppe Plant	t CO ₂ e	3,959	13	0.2	0.5
Fort Edward Plant	t CO ₂ e	11,261	36	0.6	1.4
Macon Plant	t CO ₂ e	87,187	281	4.9	11.0
Toronto Plant	t CO ₂ e	1,426	5	0.1	0.2

Data	Measurement	Emissions	Functional Units	Absolute Allocation	Sensitivity (±10%)	Notes
PRODUCTION			Kg CO ₂ e/t	%	%	
Scope 3 Attributable Emissions, Irving Tissue Total	t CO₂e	20,990	68	1.2	2.7	
<i>by company</i>						
Irving Tissue Saint John Mill	t CO ₂ e	3,432	11	0.2	0.4	
Dieppe Plant	t CO ₂ e	40	0	0.0	0.0	
Fort Edward Plant	t CO ₂ e	1,663	5	0.1	0.2	
Macon Plant	t CO ₂ e	6,137	20	0.3	0.8	
Toronto Plant	t CO ₂ e	2,569	8	0.1	0.3	
DISTRIBUTION & STORAGE						
Distribution & Storage, Irving Tissue Total	t CO ₂ e	137,896	444	7.7	17.5	
Freight from Distribution Center to Retail, Total	t CO ₂ e	62,639	202	3.5	7.9	
Freight of Finished Tissue Products to Distribution Centre	t CO ₂ e	54,873	177	3.1	7.0	
ICP leased warehousing	t CO ₂ e	20,384	66	1.1	2.6	
USE						
Electricity used in the home for toilet flushing	t CO ₂ e	1,400	5	0.1	0.2	
END OF LIFE						
Tissue End of Life Emissions, Total	t CO₂e	28,960	93	1.6	3.7	
<i>by product</i>						
Bath	t CO ₂ e	22,141	153	1.2	2.8	a, b
Bath Product	t CO ₂ e	18,860	131	1.1	2.4	a
Bath Packaging	t CO ₂ e	3,281	23	0.2	0.4	a
Facial	t CO ₂ e	2,755	41	0.2	0.3	a, b
Facial Product	t CO₂e	1,200	18	0.1	0.2	a
Facial Packaging	t CO₂e	1,554	23	0.1	0.2	a
Napkins	t CO ₂ e	187	41	0.0	0.0	a, b
Napkins Product	t CO ₂ e	83	18	0.0	0.0	a
Napkins Packaging	t CO ₂ e	104	23	0.0	0.0	a
Towel	t CO ₂ e	3,877	41	0.2	0.5	a, b

Data	Measurement	Emissions	Functional Units	Absolute Allocation	Sensitivity (±10%)	Notes
Towel Product	t CO₂e	1,718	18	0.1	0.2	a
Towel Packaging	t CO ₂ e	2,159	23	0.1	0.3	a
Tissue End of Life Emissions, Packaging Total	t CO ₂ e	7,099	23	0.4	0.9	
by packaging						
Core stock	t CO ₂ e	32	0	0.0	0.0	a
Corrugate	t CO ₂ e	78	0	0.0	0.0	
Facial cartons	t CO ₂ e	54	1	0.0	0.0	a
Paper wrappers	t CO ₂ e	0	0	0.0	0.0	a
Poly overwrap	t CO ₂ e	6,935	22	0.4	0.9	

NET PRODUCT CARBON FOOTPRINT

Net PRODUCT Carbon Footprint	t CO₂e	(78,933)	(254)			
by product						
Bath	t CO ₂ e	(33,453)	(232)			a
Facial	t CO ₂ e	(25,255)	(380)			a
Napkins	t CO ₂ e	(1,783)	(387)			a
Towel	t CO ₂ e	(18,443)	(194)			a

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



Chantae Smith, Irving Tissue Macon, GA



APPENDIX 3: INDEPENDENT THIRD-PARTY ASSURANCE



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 certifies that J.D. Irving, Limited has calculated the carbon footprint representing all 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 certified results can be found in the associated Certification Letter CERT-13406.

Awarded: **08-02-2023**

for and on behalf of Carbon Trust Assurance Ltd,



Martin Hockaday,
Head of Assurance



Carbon Neutral Label

J.D. Irving, Limited

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

Tissue Products

Carbon Trust Assurance has certified that this project has met all the requirements for using the Carbon Trust Carbon Neutral Claim.



A full description of the scope of certification and a detailed list of certified results can be found in the associated Certification Letter CERT-13406.

Awarded: [08-02-2023](#)

Valid Until: [07-02-2024](#)

for and on behalf of Carbon Trust Assurance Ltd,

Martin Hockaday,
Head of Assurance