IRVING

J.D. IRVING, LIMITED

2020
FOREST PRODUCTS SUSTAINABILITY REPORT


Hailey Enman, Sussex, NB

INDEX


Eden Keilty, Lake Utopia Paper, NB


Jesse Stern, Irving Tissue, Macon, Georgia


Denzel Arbeau, Doaktown Sawmill, NB

From Left to Right: J.K. Irving - Chairman, Jim Irving and Robert Irving - Co-CEOs

A MESSAGE FROM OUR CO-CEOS

Our business is growing. Sustainably.

Renewable forests are the answer to many challenges: climate change, the economy and sustainable jobs, population growth, innovation and discovery.

At J.D. Irving, Limited (JDI), the maintenance of natural systems and biological networks is key to sustainable forest management and the legacy we leave for future generations. We recognize that our relentless commitment to sustainability is a journey, not a destination. It is central to all that we do, and there is no end-state. As much as our customer and stakeholder interests change, so too does the natural environment around us. We adapt to changing stakeholder priorities and a changing climate by ensuring we are using the best available science and technology along with robust stakeholder and community relations programs.

The emergence of COVID-19 made this a year unlike any other. At JDI we have worked hard through the pandemic to keep one another safe and to support our region's economy by buying local. Thanks to our team's commitment to their work, their colleagues, their communities and adherence to enterprise-wide public health and safety protocols, we have been able to continue our operations and avoid disruptions in our forest products operations. And now, as a result, we're in a strong position to help lead the economic recovery of jurisdictions where we live and work.

Innovating to find a better way is what drives us every day. As the world looks to reduce the impacts of climate change, JDI has led the way by defining a model that measures our carbon footprint from seedling to store shelf – an approach that's been adopted by other organizations around the world.

At JDI, the most important thing we cultivate isn't trees, it's people. As one of the largest employers in the region, we strive to help grow the next generation – by welcoming hundreds of newcomers through partnerships with educational institutions, through continued investment in the economy, and by providing quality jobs every year.

We believe in the communities where we operate, our people, and our future. At JDI, we believe we all have the potential to be better every day and know we can be part of the solution to some of today's most pressing challenges.

Jim Irving
Co-CEO

Robert Irving
Co-CEO


Central New Brunswick Woodlands, Deersdale, NB, Canada


St Leonard Sawmill, St Leonard, NB, Canada


Irving Pulp and Paper, Saint John, NB, Canada


Irving Tissue - Macon, Georgia, United States

ABOUT THIS REPORT

J.D. Irving, Limited's first annual environmental, social and governance (ESG) performance from January 1st to December 31st, 2020 for our forest products operations in Canada and the United States. We have aligned our reporting content to the Global Reporting Initiative (GRI), the Sustainability Accounting Standards Board (SASB) Pulp & Paper Product industry specific standards and the United Nations Sustainable Development Goals (SDGs). In addition, we have reported on several metrics from our sustainable forest management and management systems including Sustainable Forestry Initiative® (SFI®) program standards, the Forest Stewardship Council® (FSC® C041515) standards and the International Organization for Standardization (ISO).

Our forest products sustainability report allows our stakeholders, customers, employees, partners and the communities in which we operate to easily access information about our ESG-related initiatives, along with the metrics we track that inform our performance and strategic priorities in this area. Throughout this report, all currency is in US dollars and all units of measure are in metric unless otherwise stated.

If you have any questions about our report, please contact us at info@jdirving.com.

Colette Clarke-Farrell, Irving Tissue, Toronto ON

COVID-19: MINIMIZING RISK ACROSS OUR OPERATIONS

COVID-19 had a significant impact on the global community in 2020, including business operations. J.D. Irving, Limited's (JDI's) robust management system and incident response plan allowed us to react quickly and efficiently thoughout the COVID-19 pandemic. Strong alignment from senior executives to individual employees ensured our teams were safe and that our operations were not disrupted.

JDI's operations exceeded local public health COVID-19 requirements, guidelines and restrictions in all of the regions, provinces, and states where we operate. Beyond the basic COVID-19 protections of hand washing, mask wearing, and physical distancing (2m or 6ft), our operations implemented detailed questionnaires to prevent employees with symptoms or who had travelled from bringing COVID-19 into the workplace. We used infra-red temperature cameras to identify individuals with elevated temperatures, established physical barriers (e.g., plexiglass) to ensure employees were distanced, and configured operations to reduce seating capacities in meeting rooms, lunch rooms, washrooms, and common spaces.

As the COVID-19 pandemic escalated in severity, JDI increased its preventive efforts. This included the introduction of wearable proximity sensors in critical sites with a visual and audible alert when the minimum distance (2m or 6ft) was breached. A comprehensive communications plan including site-wide signage and reminders, daily cleaning checks, and a rapid response plan was developed and deployed across all sites to prevent and stop the spread of the virus. Daily and weekly updates on COVID-19 precautions and the evolution of the pandemic were provided to all employees.

JDI is currently using a medical approach in the continued fight against COVID-19, deploying nurses and medical professionals to swab for rapid COVID-19 screens or laboratory tests for COVID-19. Early in the pandemic, we established a relationship with a leading laboratory to provide PCR testing for employees as needed.

We also supported the community efforts designed to help the re-opening of our economy. In 2020 JDI supported local businesses, the community, and not-for-profit organizations to help re-open as part of the continuing economic recovery. By sharing best practices with signage, cleaning practices and protocols, and operational plans JDI helped get our communities back in business.

OUR HISTORY - SINCE 1882

A history of growth and sustainability…at our roots

1882 J.D. Irving sawmill starts operating in Bouctouche, New Brunswick

1946 Maine Woodlands and pulp mill in Saint John purchased

1957 First tree planted at Black Brook

1959 Juniper Nursery established

1963 Grand Lake Timber – new sawmill in Chipman starts production

1972 Sussex Nursery established

1972 Lake Utopia Paper is purchased

1981 Irving Paper is purchased from MacMillan Bloedel

1986 200 millionth tree planted by KC Irving

1987 Saint John Tissue mill is purchased from Kimberly-Clark

1988 St. Leonard Sawmill begins production

1990 Majesta Tissue Plant opens in Dieppe

1991 Russell & Swim sawmill purchased in Doaktown

1996 Sproule Lumber near Truro, Nova Scotia purchased

1996 Fort Edward NY tissue plant purchased

2000 Royale Brand and Scotties in USA purchased with Weston Ontario tissue mill

2010 Pulp and Paper division achieve Paris Climate Accord emission reduction targets

2018 One billionth tree planted – record for a private land owner in Canada

2019 Grand River Pellet Plant opens

2019 Macon GA Tissue Plant opens

2020 Electricity Cogeneration Plant started at Irving Tissue Toronto Plant

2020 All Canadian Tissue Plants (Saint John, Dieppe, and Toronto) named to the list of "Safest Mills in Canada" by Pulp and Paper Canada

OUR VALUES

Family values are at our core

THE IRVING WAY
SINCE 1882
IRVING
J.D. IRVING, LIMITED

In 1882, J.D. Irving, Limited started its first sawmill operation in Bouctouche, New Brunswick, Canada. The values and work ethic developed as a small family-owned business have matured and grown over the years to form the commitment we make to all of our key stakeholders. These core values permeate throughout our operations, our employees, management teams and systems, and guide our actions and behaviours. These eight values form the foundation of who we are and how we operate. We call this "The Irving Way".

These core values also guide our thinking and approach to sustainability. Managing our operations sustainably is not new to us; it has been the hallmark of our company since the very beginning. It starts with how we manage our forests and extends to all of the products that come from them. Our company has grown significantly since 1882, and many things have changed in the process. What has not changed are our values. The Irving Way reflects what we stand for and represents our ongoing commitment to all of our key stakeholders, with a promise that we can be counted on.

THE "IRVING WAY" - OUR 8 CORE VALUES

Health, Safety & Environment

We operate at the highest standards to ensure the protection of employees, the public and the environment.

Customer Focus

Satisfy the customer every minute, every hour, every day.

Integrity

We operate in an honest and ethical manner at all times.

People & Teamwork

The key to our success. We work together with fairness and respect.

Quality Products & Service

We meet or exceed our internal and external customers' expectations.

Continuous Improvement & Innovation

We always raise our standards and strive to improve efficiency and reduce costs. We listen, learn and pursue new ways to progress and develop.

Results Driven

We plan and achieve goals and reward performance.

Fast & Flexible

We maintain the highest level of energy, urgency and responsiveness.

JDI Forest Value Chain: Our Products

Our team of 4,925 full time equilvalent employees in Canada and the United States provides quality lumber, pulp, paper, tissue and wood pellet products to customers all over the world. At J.D. Irving, Limited we manage every part of our value chain from seed to shelf and continuously re-invest in our businesses to deliver quality products. You can count on us to deliver.

IN THIS SECTION:

Juniper Nursery, Juniper NB

We take great pride in sustainably managing this value chain, exceeding the expectations of our customers in every facet of our business.

Gilles Albert, Clair Value Add, Clair NB

1.1

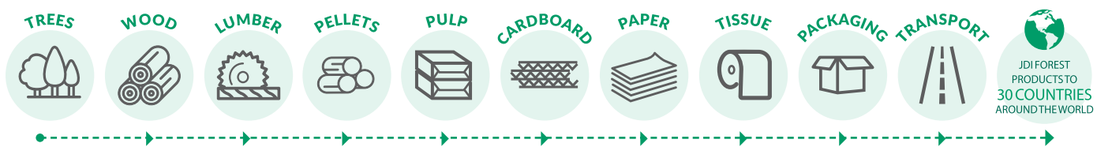
OUR VALUE CHAIN IS OUR STRENGTH

A vertically integrated forestry business adding value to serve our customers

For 139 years, J.D. Irving, Limited has been building and enhancing our reputation as a responsible steward of the forest and producer of quality forest products.

Vertical integration from seedling to consumer shelf is how we ensure we deliver the highest value to our customers. For our customers, this means confidence in the certainty of supply, on-time delivery and the highest quality product.

Vertical integration starts with the land tenure, wood supply, tree nurseries, silviculture (tree planting and tending), logging operations, sawmills, pulp, paper, pellets, packaging, and tissue mills. From there, we transport our products by road, rail, and sea through our affiliated transportation businesses.

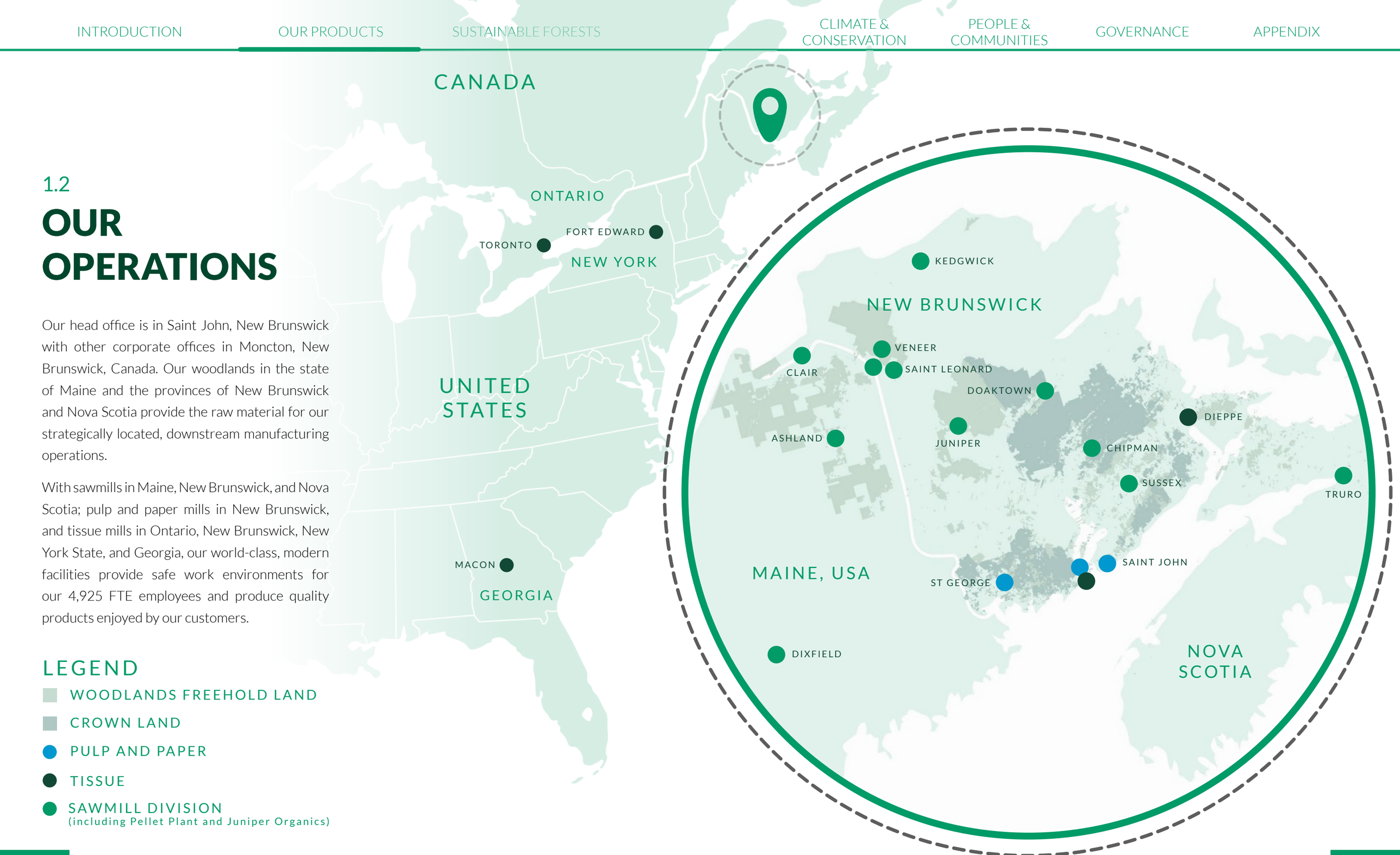


1.2

OUR OPERATIONS

Our head office is in Saint John, New Brunswick with other corporate offices in Moncton, New Brunswick, Canada. Our woodlands in the state of Maine and the provinces of New Brunswick and Nova Scotia provide the raw material for our strategically located, downstream manufacturing operations.

With sawmills in Maine, New Brunswick, and Nova Scotia; pulp and paper mills in New Brunswick, and tissue mills in Ontario, New Brunswick, New York State, and Georgia, our world-class, modern facilities provide safe work environments for our 4,925 FTE employees and produce quality products enjoyed by our customers.



LEGEND

- WOODLANDS FREEHOLD LAND
- CROWN LAND
- PULP AND PAPER
- TISSUE
- SAWMILL DIVISION (including Pellet Plant and Juniper Organics)

Jim Irving, Robert Irving, Lt. Governor Geoff Duncan (State of Georgia), Mayor Robert Reichert (Macon-Bibb County) - Macon Tissue Plant Unveiling, Macon, Georgia (2019 Photo)

1.3

HOW WE CREATE VALUE

Our economic impact in 2020

Renewable forests offer the areas we live and work in ecological and economical sustainable value. By fine-tuning a tree's journey from seedling to forest products, not only do we create value through production, we provide significant benefits by bringing economic growth and investment to the communities and regions we operate in. By seeking more efficient and advanced ways to use 100 per cent of our trees, we consistently strive for high product quality and no waste.

OUR 2020 ECONOMIC IMPACT

	WOODLANDS	SAWMILLS	PULP & PAPER	TISSUE	TOTAL
Number of Facilities or Area (Hectares)	2,381,405 Hectares (5,882,070 Acres)	11	3	5	19
Employees (Full Time Equivalents)	540	1,522	820	1,473	4,925*
Direct, Indirect & Induced Jobs	15,945				
Employment Income Supported ($ Millions)	$850 Million				
Local Purchases ($ Millions)	$325	$216	$324	$306	$1,170
Capital Investments ($ Millions)	$16	$49	$116	$289	$470

* Includes Head Office - 570

Our capital investments generate short-term increases in employment and local spending related to the project and have a longer-term impact of increasing full-time employment, tax generation which helps promote vibrant communities. These investments replenish the forest and support modern, safe, and efficient manufacturing facilities. By providing good paying jobs, and generating local municipal, state and provincial taxes, J.D. Irving, Limited is continually re-investing to support sustainable business growth through significant investments in people and new technology.

1.4

OUR PRODUCT LINES AT A GLANCE

Our forest products value chain is designed to maximize the value from the naturally diverse forests where we operate. This allows us to maintain a healthy, diverse, and resilient forest while providing quality forest products that exceed our customers' expectations.

The wood delivered (6,367,000 tonnes) is an input that allows for the production of our products.

FOREST LAND (HECTARES)

2,381,405

	LUMBER	PELLETS	PULP
Production	**1,139,636 MFBM**	**102,483 tonnes**	**346,611 tonnes**
Products	Structural Lumber & Appearance Grade Lumber	Industrial Wood Pellets For Fuel/Heat	Northern Bleach Softwood & Hardwood Kraft Pulp
Sustainable forestry and management system certifications	MLB, NELMA, SUSTAINABLE FORESTRY INITIATIVE SFI-00032	sbp, SUSTAINABLE FORESTRY INITIATIVE SFI-00032	ISO 9001 KPMG, ISO 14001 KPMG, SUSTAINABLE FORESTRY INITIATIVE SFI-00032

	PAPER	CORRUGATED	TISSUE
Production	**381,266 tonnes**	**186,932 tonnes**	**343,891 tonnes**
Products	Printing Paper	Corrugated Medium/ Linerboard	Bath & Facial Tissue/ Paper Towel
Sustainable forestry and management system certifications	ISO 14001 KPMG, SUSTAINABLE FORESTRY INITIATIVE SFI-00032, PEFC PEFC/29-31-189 PEFC Certified pefccanada.org	ISO 9001 KPMG, ISO 14001 KPMG, SUSTAINABLE FORESTRY INITIATIVE SFI-00032	SUSTAINABLE FORESTRY INITIATIVE SFI-00032

1.5

CONTINUOUS IMPROVEMENT

The Irving Management System

The three components of The Irving Way are 'Our Values (see page 12)', 'Our Leadership Behaviours', and 'The Way We Work'.

The Irving Management System is the structured business management approach we use to continuously conduct and improve our business, aligned with our core values.

We drive continuous improvement by following Lean Six Sigma Principles. A robust internal training program introduces all new employees to The Irving Way. We provide a variety of different levels - known as 'belts' - of training for employees, ranging from white belt training for an in-depth overview of The Irving Way, through Yellow Belt to promote daily management and then Lean Belt and Green Belt for more formal initiative management. Our most complex initiatives are led by Black Belts and Master Black Belts.

THE WAY WE WORK HAS FIVE MANAGEMENT ELEMENTS:

STRATEGIC MANAGEMENT is systematically managing our strategy at the highest level including proper planning, executing, and validation of the strategy. We are focused on what it takes to compete and how we keep winning together!

INITIATIVE MANAGEMENT is our commitment to improving our practices and processes through leading change principles – finding a better way, every day.

PROCESS MANAGEMENT is how we organize our work as standard steps to achieve high quality results and continuously improve. We “measure what matters.”

DAILY MANAGEMENT is a commitment to plan as a team, execute, review results, and take necessary action daily. We keep our workplace highly organized with 5S (Sort, Set in Order, Shine, Standardize, Sustain).

PERFORMANCE MANAGEMENT is the foundation for measuring behaviour-based performance results that are visible. It measures how well our team reaches results by following The Irving Way.

Our world-class tree improvement and genetics lab located in Sussex, New Brunswick has developed local spruce variety seedlings that can grow up to 40 per cent faster than a naturally regenerated tree. A small number of the non-GMO trees on our operations make a big difference in helping us achieve our carbon reduction goals.

Jesus Jimenez, Maritime Innovation Ltd, Sussex NB

1.6

INNOVATION

Technology success stories across the divisions

LIDAR

In 2020 our forest operations acquired full Light Detection and Ranging (LiDAR) coverage for Maine, New Brunswick, and Nova Scotia. This maps our land bases with over 400 million 20 X 20 metre grids and 25 billion unique attributes. Our foresters truly have the forests at their fingertips.

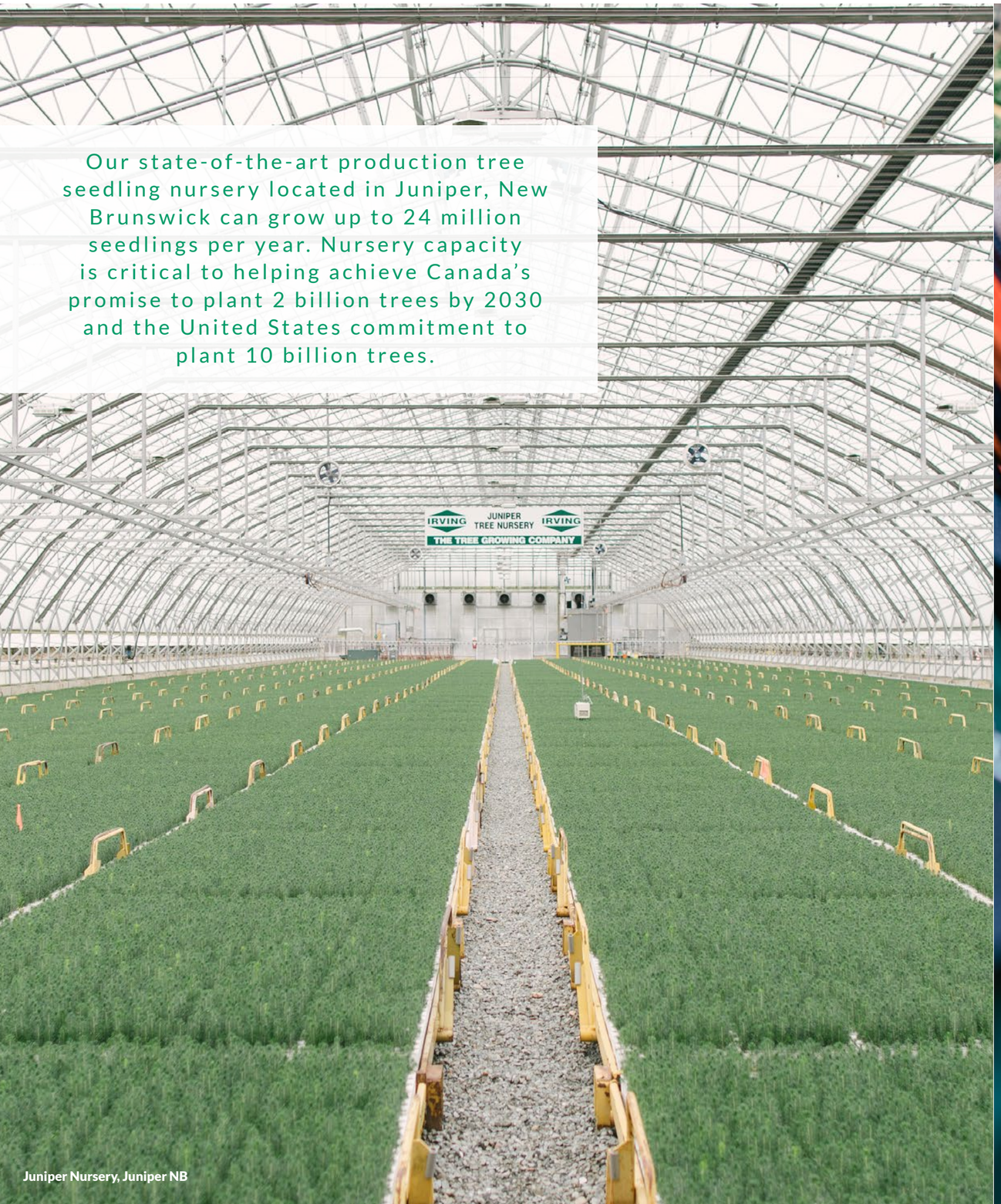
CONTACT TRACING

Our sawmill and pulp and paper operations are using contact tracing tags to keep our employees safe. Sensors are worn by employees while they're at work, providing an alert if an employee's 6 feet/2 metres of social distancing is breached. With a 10 minute turnaround time for contact tracing, this allows for quick actions to be taken in the event of a positive case of COVID-19.

HOLOLENS

The HoloLens is an augmented reality tool that allows technicians to view, share and contact experts directly when looking for a second opinion or troubleshooting with a piece of equipment. This allows for major cost-savings when experts are based overseas, as well as being a great opportunity for teaching and training.

Our state-of-the-art production tree seedling nursery located in Juniper, New Brunswick can grow up to 24 million seedlings per year. Nursery capacity is critical to helping achieve Canada's promise to plant 2 billion trees by 2030 and the United States commitment to plant 10 billion trees.



Juniper Nursery, Juniper NB

Our Woodlands Division uses Light Detection and Ranging (LiDAR), a hyper accurate laser scan of the forest, to count every tree. Understanding the forest inventory is critical to ensuring sustainability and a secure source of supply for our customers. In addition, we have been able to leverage our LiDAR information to help identify water and wetlands, critical habitat and operational features like slope and terrain.

Geographical Information System, Saint Leonard NB

Our Approach to Sustainability

Our team of dedicated and passionate people supply our customers with quality wood products today, tomorrow, and for generations to come. We do this by investing in healthy, diverse and growing forests, infrastructure, new and improved technology, scientific research, employees, and communities.

IN THIS SECTION:

Claire Dooley, Sussex NB

Deersdale, NB

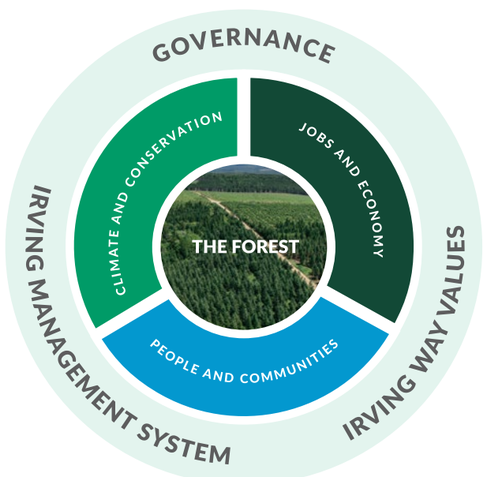
2.1

SUSTAINABILITY APPROACH: ROOTED IN THE FOREST

Since 1882, our approach to sustainability has been simple - if we look after the forest, the forest will look after us. This approach requires balancing the short-term needs of the business with the long-term vision required to nurture generations of forests.

Healthy, growing forests are good for everyone ecologically and economically. From creating jobs to conserving land, managing these values over time is the foundation of our sustainability framework and guides our actions today and for future generations. We not only consider it a privilege to be stewards of the forest but strive to be good neighbors to our communities, partners to our stakeholders, and responsible suppliers to our customers.

These values, rooted in caring for the forest, are the foundation of the JDI approach to sustainability found in all businesses across our value chain.

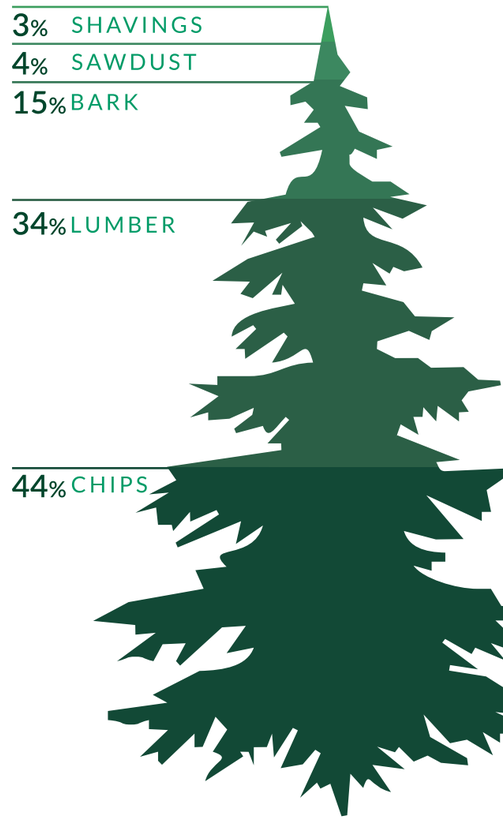


Forests in the regions where we operate take between 40 and 80 years to grow. When we harvest and process a tree, we have a responsibility to maximize its value. We do this by using every part of the tree to its highest end value – leaving nothing to waste.

This starts with precision harvesting where computer controlled and satellite connected harvesters cut wood with millimeter precision. Our manufacturing facilities use the latest scanning and imaging technology to maximize yields.

With advancing technologies like these, we continually strive to add value to all byproducts produced by our manufacturing operations, seeking new markets and product development lines.

Our pellet mill (Grand River Pellets) is an example of adding value to low-value sawdust and shavings to produce low carbon energy for international customers. We even sell ash from our biomass boilers to local farmers as a soil additive!



2.2

SUSTAINABILITY GOVERNANCE

Within the JDI forest products value chain

Over the last year, we formalized our sustainability strategy by establishing an ESG steering committee composed of senior corporate leaders as well as operating executives from each of the forest products value chain businesses. The committee meets regularly and reports its progress directly to the Co-CEOs. This year its main mandates included identifying and prioritizing our material ESG themes, publishing our first sustainability report and creating a framework to value the benefits of various carbon reduction initiatives, which is still underway.


Lauren Demers, Woodlands Head Office, Saint John NB

By reviewing various sources of information, namely: inputs from the ESG steering committee members regarding stakeholder asks and interests, consolidating our tracked ESG metrics, performing an in-depth industry analysis of peer disclosures and integrating the recommendations of an external consultant, we identified and prioritized the 14 ESG themes found on page 41. Our ESG priorities are guided by a robust stakeholder and community engagement program. This, combined with continually scanning global trends and ongoing conversations with our customers and suppliers.

2.3

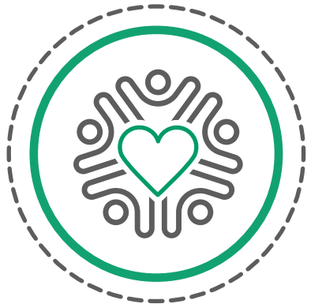
STAKEHOLDER ENGAGEMENT & COMMUNITY PARTNERSHIPS

21 UNIVERSITY & COLLEGE PARTNERS
$185,750 IN SCHOLARSHIPS
185 STUDENTS SUPPORTED

53 STAKEHOLDER PARTNERSHIPS
4 NEW PARTNERS
119 COMMUNITY BASED PARTNERSHIPS

10 PROJECT-BASED ENGAGEMENTS
16 RELATIONSHIP BUILDING AND CULTURAL AWARENESS MEETINGS

13 OUTDOOR ASSOCIATIONS
2 MOTORIZED RECREATION ACTIVITIES
9 FISHING & HUNTING CLUBS
177 NEW UNIQUE AREAS ADDED



220 COMMUNITY VOLUNTEER HOURS
$122,000 COMMUNITY DONATIONS*
* excludes corporate donations

1,329 PARTNER MEETINGS
16,000 PEOPLE REACHED

26 INDUSTRY ASSOCIATIONS
5 GOVERNMENT
13 NON-GOVERNMENT ORGANIZATIONS

265 TOTAL PARTNERS

Left to Right: Christian Lamarche, Hélène Savoie Chouinard, Alain Ouellette, École Marie-Gaétane, Kedgwick NB

STAKEHOLDER GROUP	TOPICS OF INTEREST
CUSTOMERS	Supply, value, cost, quality and sustainability issues and opportunities.
EMPLOYEES	Employee engagement, communication, training, and development opportunities. Local community issues regarding sustainability and community involvement.
LOCAL COMMUNITIES	Impacts of local employment, investment, local taxation and community involvement, and opportunities regarding forestry, water, fish, wildlife, and recreation.
GOVERNMENT	Maintaining and enhancing competitiveness, contributions to provincial economy and economic recovery.
RIGHTS HOLDERS	Understanding and accommodating impacts to rights where necessary and relationship building opportunities.

2.3.1

HOW WE ENGAGE WITH STAKEHOLDERS

Our leadership, managers and employees work and live in the communities where we operate. Engaging with employees, communities, interest groups, researchers and governments has always been key to our ability to operate while being good neighbours.

We are increasing our traditional engagement efforts with additional presentations, tours, community events, community donations and volunteering, while expanding our range of stakeholders. We are also using social media to extend our reach to include digital platforms and their audiences.

We connect and communicate with close to 90,000 followers through a variety of social platforms, including Facebook, LinkedIn, Instagram, YouTube and Twitter.

In addition to stakeholders, we also understand the importance of meaningful engagement with rights holders. The path to reconciliation with Indigenous Peoples of Canada will take time. We are beginning to take the first steps along this path and are committed to learning about the past and building meaningful relationships with local Indigenous communities for the future.

2.4

SUSTAINABLE DEVELOPMENT GOALS

At JDI, we believe in supporting the United Nations' efforts to achieve a better and more sustainable future for all. Of all the UN Sustainable Development Goals (SDGs), we have identified several SDG priorities most relevant to our company and to our overall mission to achieve our strategic sustainability objectives in the communities where we operate.

The 2030 Agenda for Sustainable Development, adopted by all United Nations Member States in 2015, provides a shared blueprint for peace and prosperity for people and the planet, now and into the future. At its heart are the 17 SDGs, which are an urgent call for action by all developed and developing countries. They recognize that ending poverty and other deprivations must go hand-in-hand with strategies that improve health and education, reduce inequality and spur economic growth – all while tackling climate change and working to preserve our oceans and forests. (source: https://sdgs.un.org/goals)

AREA	SDG	THEMES	METRICS
ENVIRONMENT	12 RESPONSIBLE CONSUMPTION AND PRODUCTION; 13 CLIMATE ACTION; 15 LIFE ON LAND; 6 CLEAN WATER AND SANITATION	1. ABUNDANT FORESTS AND LAND MANAGEMENT	• Harvest levels • Land certification • Technology investments • Carbon sequestered
		2. BIODIVERSITY AND CONSERVATION	• Conservation areas • Species at risk • Studies
		3. MATERIALS AND ENERGY	• Process utilization • Renewable energy • Waste
		4. AIR EMISSIONS	• Scope 1 & 2 GHG emissions • Air quality (NOx SOx)
		5. PRODUCT STEWARDSHIP	• Product certification • Recycled inputs • Packaging
		6. CLEAN WATER & SANITATION	• Freshwater usage • Riparian management areas • Conservation areas • Research
SOCIAL	3 GOOD HEALTH AND WELL-BEING; 8 DECENT WORK AND ECONOMIC GROWTH	7. BUILDING SAFER WORKPLACES	• Incident rate • Safest mill in Canada
		8. ROOTED IN COMMUNITY	• Volunteer hours • Donations (in kind & monetary) • Recreational use partnerships • Event sponsorships • Scholarships
		9. EMPLOYEE ENGAGEMENT	• Employee engagement survey • Employee satisfaction
		10. TRAINING	• Hours • Investments in training • Participants
		11. DIVERSITY AND INCLUSION	• Women in trades • International recruits
GOVERNANCE & ECONOMIC	8 DECENT WORK AND ECONOMIC GROWTH	12. BUSINESS ETHICS AND REGULATORY COMPLIANCE	• Policies • Code of conduct • Grievance mechanisms
		13. CYBERSECURITY AND DATA PRIVACY	• Policies • Procedures
		14. ECONOMIC VALUE CREATION	• Taxes • Wages (direct, indirect, induced) • Local spending • Research & development • Investments

J.D. Irving, Limited, Forest Protection Limited, Department of Natural Resources, Juniper, NB

2.5

FIRE PREVENTION

Celebrating teamwork and success during the 2020 forest fire season

2020 was the most active forest fire season in the regions where we operate in more than 20 years. Hot and dry conditions started in early May and lasted until September. JDI-trained crews of staff and contractors responded to 34 forest fires on freehold and Crown lands.

A fast and aggressive response to forest fires is the best strategy to keep fires small and ensure we protect the forest. In 2020, all of our Woodlands staff were involved in some way - in the air, on the ground, or in the office to support fire fighting operations. It's a real team effort, with many sacrificing evenings and weekends to get the job done.

When the long fire season finally ended, we celebrated our hard work and success with the team in Juniper, the site of our main fire fighting air base and tree nursery.

JDI provides thousands of hours of training each year and maintains its own fleet of aircraft, fire trucks and equipment.

- 4 FIXED WING AIR TANKERS
- 1 SPOTTER PLANE
- 2 HELICOPTERS
- 7 AIRSTRIPS
- 38 FIRE TRUCKS
- 47 PUMP UNITS
- 109,728 METRES OF HOSE

Our freehold lands provide the highest level of long-term security of our wood supply. We have managed Crown licensed lands in New Brunswick since 1982.

Deersdale, NB

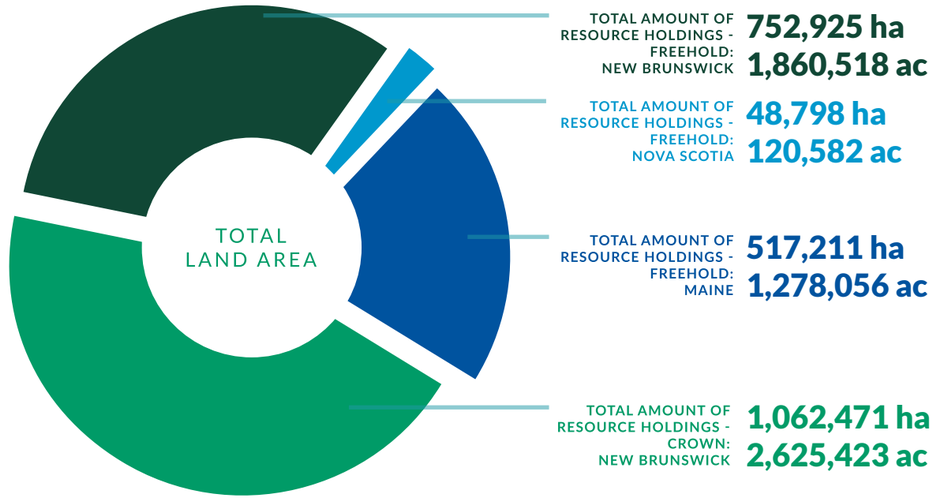
2.6

ABUNDANT FORESTS: MANAGING THE LAND

We rely on the forest for everything we do. Our operations in New Brunswick, Maine and Nova Scotia are surrounded by an abundance of forest lands. The communities where we live and work are some of the most forest-dependent in North America.

As the second largest private timberland owner in North America, J.D. Irving, Limited owns and manages 1.3 million hectares (3.2 million acres) of freehold timberland and manages 1.1 million hectares (2.6 million acres) of government-owned Crown Land in New Brunswick. We have a 25-year evergreen forest management and wood supply agreement with the Province. We also receive additional wood supply from other Crown lands with long-term tenure associated with our manufacturing operations.

TOTAL JDI LANDS UNDER MANAGEMENT: 2,381,405ha / 5,882,070ac



Our goal is to double the wood supply of our freehold land by 2060

Since 1982, we have tripled the amount of area with the primary purpose of conservation on Crown License 7

Every 5 years, we plan for the next 80 years

2.7

LONG-TERM THINKING: GROWING MORE WOOD THAN WE HARVEST

To balance the short-term and long-term values from the forest, we rely on 80-year forest management plans that are revised every five years. Planning ahead for 80 years ensures that we can balance the range of values that flow from the forest, including a growing wood supply for our customers. Revising the plan every five years allows for the incorporation of new knowledge, changing climate and shifting public values to be added to create a flexible and adaptable long-term plan.

Another way that we manage sustainability is to ensure that we are growing more wood than we harvest each year. This has been our commitment to planting trees since 1957. Harvesting sustainably means harvesting less than 1.7% of the forested area each year. Given the diversity of tree species found in the Acadian Forest, this 60-year average rotation ensures that we will never run out of trees.

Only 1.7% of the lands we manage are harvested every year!

2.7.1

COMMITTED TO TREE PLANTING FOR MORE THAN 60 YEARS

Plant more trees - lots of them

Our commitment to tree planting is how we live up to our promise to grow more wood than we harvest. Since 1957, we have planted over a billion trees and we're still at it.

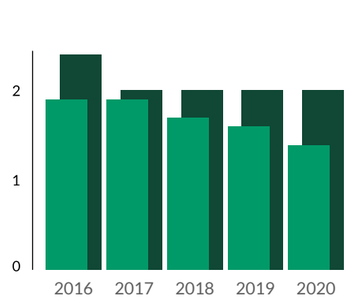
Planted forests grow four times more wood than naturally regenerated softwood forests. We plant about 25 per cent of harvested areas with six different species of native spruces and pines, allowing for abundant natural regeneration on the remaining 75 per cent of harvested lands. This ensures we maintain the mix of species naturally found in the forest.

12,693,827
SEEDLINGS PLANTED IN 2020

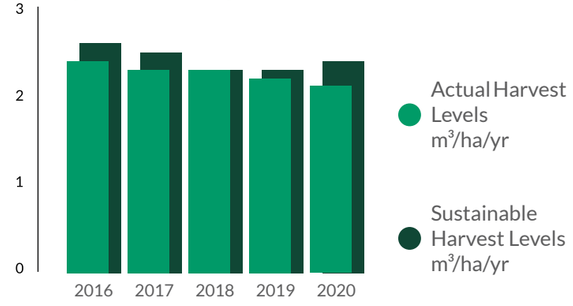
Growing four times the volume on planted areas means four times more wood, more jobs and four times more carbon removed from the atmosphere. With intensive management on 25 per cent of the lands, we can harvest the wood we need on a smaller footprint, providing the opportunity for future business growth and/or more conservation areas to protect biodiversity on the remaining lands.

If you are going to invest in tree planting, we believe you need to invest in the best trees. We have invested in a world-class tree improvement program since the early 1980s and have our own nursery capacity to produce more than 24,000,000 seedlings annually.

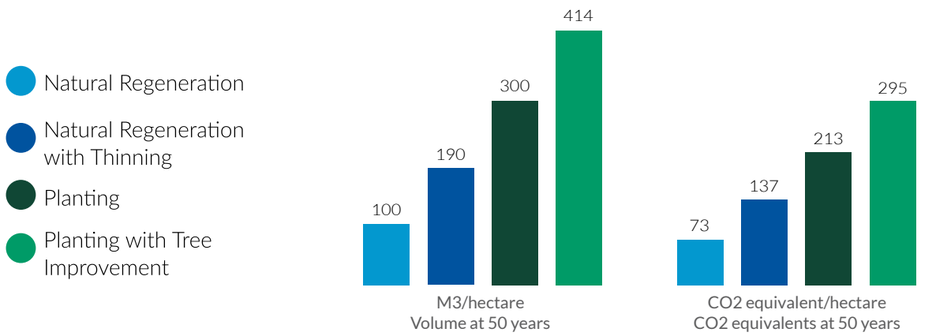
CROWN LAND GROWTH & HARVEST RATE



FREEHOLD LAND GROWTH & HARVEST RATE



4X THE VOLUME 4X THE CARBON



2.8

OUR FOREST FIBRE: THE SUSTAINABLE CHOICE FOR MAKING PREMIUM TISSUE

In 2020, Irving Tissue completed an independent life cycle assessment of the fibre used in its products in comparison with other tree-free and recycled alternative fibres.

The study, completed by EarthShift Global, a leading firm in life cycle assessment, found that our Irving Tissue fibre sources made principally from our own J.D. Irving, Limited wood fibre have lower overall environmental impact than leading tree-free alternative fibres such as bamboo, wheat straw and bagasse. Closely rivaled only by recycled fibre in the study, JDI wood fibre in combination with sustainable plantation-grown eucalyptus ranked lowest (tied for lowest) in eight of the ten impact areas including global warming potential. The study ranked six fibre sources across all ten impact areas using the US EPA recommended TRACI 2.1 LCA methodology. The report has been critically reviewed by WSP global environmental specialists and partner peer reviewers at UC Berkeley and NC State University. Supporting our vertically integrated system of replenished fibre supply made from the residuals of our lumber and other forest product activities is proven here to be the 'sustainable choice' for making our premium tissue products for North America.

IRVING TISSUE FIBRE SOURCES - LOWEST IMPACT VS SELECT ALTERNATIVES

✓ Lowest Impact / Best ✕ Middle Impact / In-Between ✕ Highest Impact /

ENVIRONMENTAL IMPACT ASPECT	IRVING TISSUE FIBRE SOURCES		'TREE-FREE' FIBRE SOURCES			POST CONSUMER SOURCE
	JDI WOOD FIBRE from JDI tree sources made into JDI pulp	EUCALYPTUS PULP FROM SOUTH AMERICA	BAGASSE Bagasse pulp made from sugar cane fibre residue made into pulp in North America	WHEAT STRAW Wheat straw pulp made from wheat straw fibre residue made into pulp in North America	BAMBOO Bamboo pulp made from tropical bamboo made into pulp in Asia	RECYCLED FIBRE post consumer paper deinked, made into pulp from North America
GLOBAL WARMING	✓	✓	✕	✕	✕	✓
OZONE DEPLETION	✓	✓	✓	✕	✕	✓
EUTROPHICATIONS	✓	✕	✕	✕	✕	✕
CARCINOGENICS	✓	✓	✕	✕	✕	✓
NON-CARCINOGENICS	✓	✕	✓	✕	✕	✕
HUMAN RESPIRATORY	✓	✓	✕	✕	✕	✕
ECOTOXICITY	✓	✕	✕	✕	✕	✕
FOSSIL FUEL DEPLETION	✓	✓	✕	✕	✕	✓
ACIDIFICATION	✕	✕	✕	✕	✕	✓
SMOG FORMATION	✕	✕	✕	✕	✕	✓

Climate & Conservation

Stewardship of the environment and sustainability are core values at JDI. We rely on the forest for everything we do. For 139 years we have been building and enhancing our reputation as responsible forest stewards; the foundation of our success.

IN THIS SECTION:

Deersdale, NB

Biomass (Hog Fuel) Boiler, Lake Utopia Paper, St George, NB

3.1

ENVIRONMENTAL COMMITMENT

Well beyond regulatory compliance

As a forest products company, we understand that protection of the natural environment is key to our success. From our forests to our manufacturing facilities, we hold ourselves to the highest standards; well beyond regulatory compliance.

We are committed to the sustainable management of our forest resources to ensure a long-term wood supply and balance other priorities including wildlife habitat, clean water, biodiversity and recreation.

Our manufacturing facilities can be resource intensive and we are committed to reducing our carbon footprint, emissions, water consumption and waste. We continually monitor our impact, and invest in new projects and initiatives to reduce them.

We hold ourselves accountable to improve our operations through third-party audited certification systems like the Sustainable Forestry Initiative® (SFI) program, Forest Stewardship Council® and various International Standards Organization (ISO) quality assurance systems such as ISO14001 and ISO9001.

Fall Brook Falls, Boiestown, NB

3.2

OUR COMMITMENT TO CONSERVATION AND BIODIVERSITY

Conserving natural wonders within a diverse landscape

The forest lands that we own and manage extend over the vast Acadian Forest – across a range of differing geology and climates. The result of past natural disturbances and forest harvesting, is a diverse forest landscape of various tree species and differing ages scattered throughout the region. With this comes stunning natural beauty, pristine waters and wetlands and a diversity of plants and animals.

OUR STRATEGY TO MANAGE AND CONSERVE BIODIVERSITY HAS THREE MAIN PILLARS.

Manage the working forest for a diversity of tree species and ages while protecting streams, rare plants and habitat on each operation.

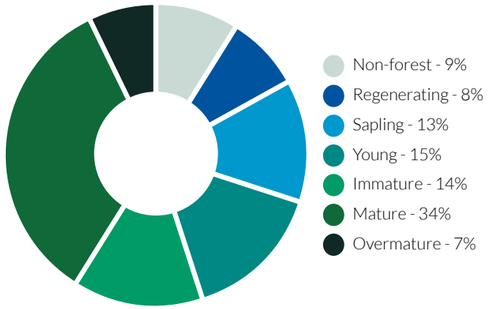
Setting aside 25 per cent of the managed lands for the primary purpose of conservation.

1,700

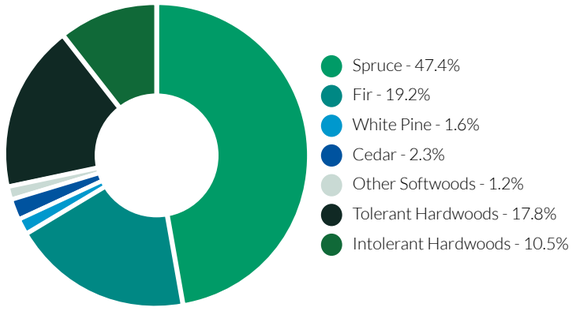
Identifying the rare, interesting and unique sites in our Conservation Areas Program. To date we have more than 1,700 sites in our program.

These three pillars are tied together by working with expert researchers to help us better understand how fish, wildlife and plants are using the forest. With rigorous annual training, our staff and contractors are fully equipped to identify and protect areas of special concern.

DIVERSITY OF FOREST AGE CLASSES



DIVERSITY OF FOREST SPECIES



MEASURING BIODIVERSITY AT THE TREE LEVEL

In 2020, JDI commissioned Dr. Tim White , Professor Emeritus, University of Florida, to measure and assess the tree level diversity in JDI managed forests. Using the "Hill Numbers," the gold standard method recognized by the Ecological Society of America (2010), we measured the diversity across 19 different forest types. Here is what we found:

1. High tree species diversity on JDI lands.
2. Many forest types and complex structures that increase diversity.
3. 42 total tree species and 13 common tree species.
4. Uncommon species that are important for biodiversity.
5. Nearly 10 billion trees estimated on JDI managed lands.
6. Establishes a baseline to compare to other lands and compare to future conditions.

3.2.1

FOREST COMPOSITION

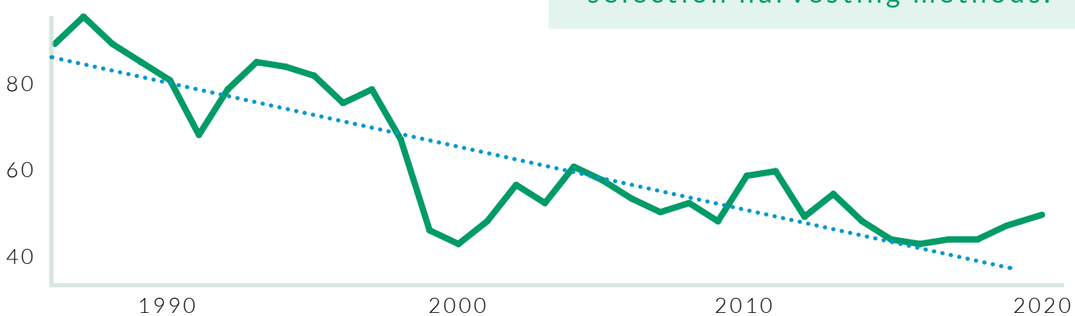
Conserving biodiversity in the working forest

Biodiversity is conserved in the working forest. Diversity is maintained by managing different species and age groups using both even-aged (clear cut) and uneven-aged (selection cutting) harvesting techniques, while regenerating the forest both naturally and by planting a variety of species. This complex combination ensures diversity on the acre-by-acre basis and across the landscape at scale.

Harvesting and reforestation decisions made by our foresters are science-based. Natural disturbance patterns, soils, current and future species, tree quality, age, wildlife habitat and social values like aesthetics are considered. In addition, regulatory requirements for the protection of watercourses, wetlands and species at risk are followed. Our foresters use best practices to avoid soil disturbance and protect rare plants and special habitats such as bear dens, vernal pools, stick nests, etc., where our operations occur.

PER CENT OF HARVESTED AREA CLEARCUT

In 2020, 51 per cent of harvesting was done by selection harvesting methods.



3.2.2

AWARD WINNING CONSERVATION AREAS PROGRAM

Setting aside 25 per cent of lands for the primary purpose of conservation

CONSERVATION FOREST AREA
TOTAL HECTARES - 572,494

- Unique & inoperable - 111,600 ha
- Wetland & watercourse buffers - 159,200 ha
- Deer wintering areas - 99,800 ha
- Old forest habitats - 103,700 ha
- Protected natural areas - 98,200 ha

Essential to this protection is our voluntary and award-winning Conservation Program. Each year, our field staff and contractors identify special, rare or unique sites in the forest to be added to the program, which currently protects over 1,700 sites on over 80,000 hectares (197,000 acres).

For further information visit: jdirvingconservation.com

The total amount of conservation forest on the lands we own or manage is **25 per cent**. This is over **570,000 hectares** or **1,140,000 acres**!

DISCOVER THE GIFT OF NATURE

OVER **1,700** UNIQUE SITES CONSERVED

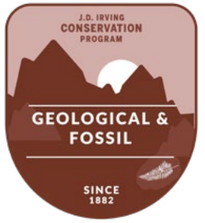
51
Lakes & Wetland sites

627
Plant sites

171
Unique Forest Stand sites

427
Birds & Mammals sites

77
Aesthetics sites



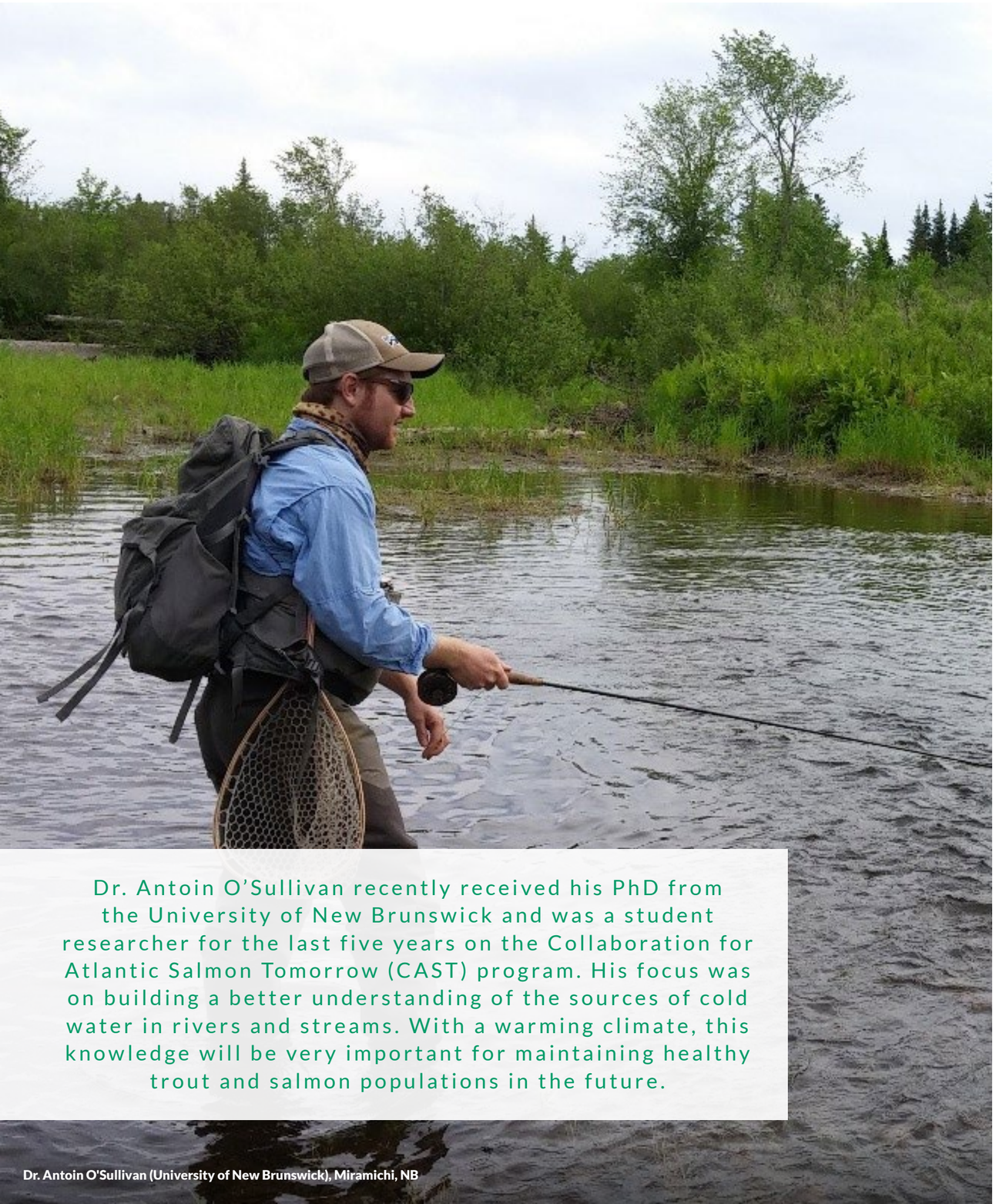
18
Geological & Fossil sites

219
Reptile & Invertebrate sites

120
Historic sites

9
High Conservation Forest sites

19
Fish sites



Dr. Antoin O'Sullivan (University of New Brunswick), Miramichi, NB

Dr. Antoin O'Sullivan recently received his PhD from the University of New Brunswick and was a student researcher for the last five years on the Collaboration for Atlantic Salmon Tomorrow (CAST) program. His focus was on building a better understanding of the sources of cold water in rivers and streams. With a warming climate, this knowledge will be very important for maintaining healthy trout and salmon populations in the future.

3.3

OUR COMMITMENT TO HEALTHY AND DIVERSE FORESTS

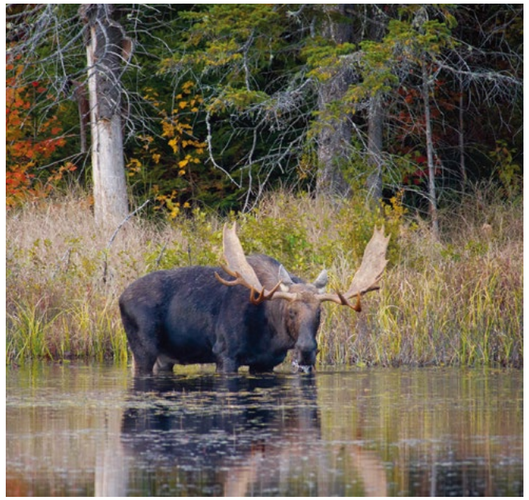
We invest in research to learn more about the fish, wildlife and plants that are a part of the forests we work in. Since the early 1990s, we have invested $30 million in forest based, peer reviewed research. We have collaborated with dozens of researchers and more than 100 graduate students. Our Forest Research Advisory Committee (FRAC) has been in place for more than 20 years and brings researchers and forest managers together. Continuous learning and adapting our management based on facts and science are part of our core values. Our research partners have their work peer-reviewed and published. Currently, we are focused on landscape level impacts on water, birds, beetles, bryophytes, trout, Atlantic salmon, deer and moose.

3.3.1

RESEARCH HIGHLIGHTS

NORTHEAST DEER PARTNERSHIP

The largest study of its kind. Focused on understanding how deer are using forests and what factors impact their populations, in collaboration with ten research and government partners in New Brunswick and Maine.



MOOSE RESEARCH

Research to understand the relationship between climate change, winter tick and moose population decline in collaboration with three partners in New Brunswick and Quebec.

SONG BIRD STUDY

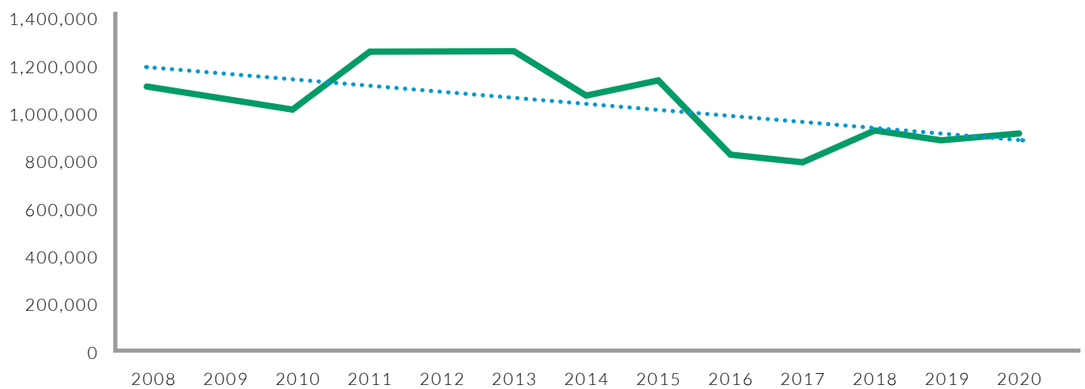
Research to understand song bird diversity and habitat at different levels of forest management intensity in New Brunswick and Maine, in collaboration with three partners.

ATLANTIC SALMON RESEARCH

A results-based approach to Atlantic Salmon conservation. A collaboration with seven partners - with J.D. Irving, Limited as one of two private funders.

Tristen Johnson, Irving Pulp & Paper, Saint John, NB

FOREST PRODUCTS - SCOPE 1 & 2 TONNES CO2E



3.4

EMISSIONS AND ENERGY MANAGEMENT

The ESG Steering Committee has established a Sustainability Framework to evaluate the organization's greenhouse gas emissions (GHG) and to proactively manage the associated risks and opportunities.

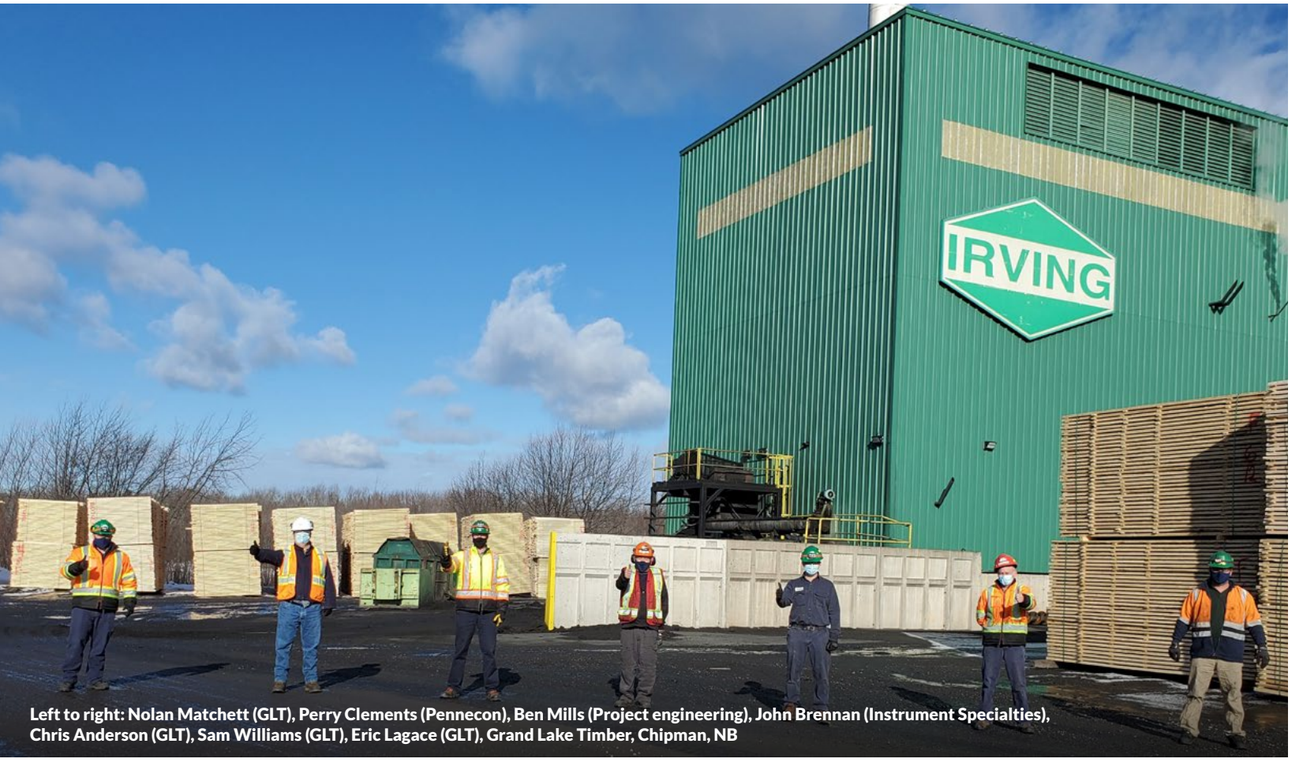
The framework consists of first identifying the various sources of emissions in order to establish the overall GHG of our operations. This also includes measuring the carbon sink associated with our forest inventory and products in our value chain.

Secondly, the committee is continuously evaluating strategies to mitigate our GHG by reducing consumption at the source or looking to switch to less carbon intensive energy sources. This strategy also contemplates assessing new business opportunities that may benefit the "green economy" while achieving our objective of reducing the overall GHG of our operations.

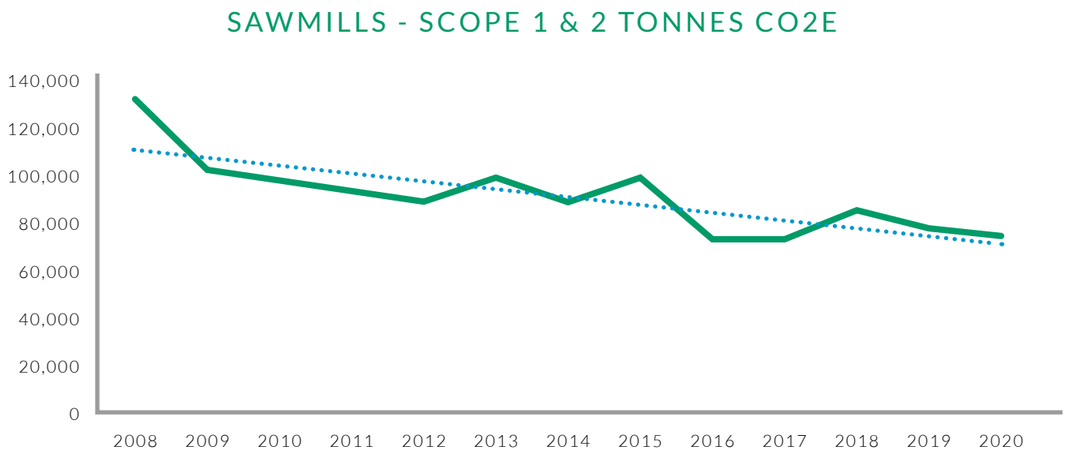
The final step of the framework is to ensure that we continually update our key stakeholders on our objectives and progress towards achieving our sustainability goals.

PATH TO NET ZERO – SUSTAINABILITY FRAMEWORK

Measurement	Reduction of CO2 & Carbon Tax		Reporting & Communications	
Emissions calculation	Fuel switching capital projects	Energy efficiency Initiative	ESG reporting	Government stakeholders
NET ZERO	Carbon credit sales & trading	Green/ Bio energy business development	Stakeholder engagement	
Forest carbon inventory				



Left to right: Nolan Matchett (GLT), Perry Clements (Pennecon), Ben Mills (Project engineering), John Brennan (Instrument Specialties), Chris Anderson (GLT), Sam Williams (GLT), Eric Lagace (GLT), Grand Lake Timber, Chipman, NB



3.4.1

EMISSIONS AND ENERGY MANAGEMENT

Sawmills

Increased power generation and reduction of fossil fuels

North American construction regulations require that softwood lumber used for interior building applications have a moisture content of less than 19 per cent. To achieve this requirement, our products are dried using heat transferred from pressured steam.

Historically, this heating process was fueled by heavy oil. To reduce the cost of manufacturing lumber and reduce GHG emissions, we have invested $37 million in biomass boilers. As of 2014, all J.D. Irving, Limited sawmills operate biomass boilers. The biomass used is mainly bark removed from logs consumed in the sawmill and is one way we ensure we use 100 per cent of every tree.

In addition to switching heavy oil to biomass, we have developed ways to use steam production to generate electricity. In 2011, at our Dixfield, ME sawmill, we commissioned our first steam recovery system commonly known as a back-pressure turbine. This turbine uses the pressured steam produced through the drying process to make electricity. Since 2011, we have commissioned two additional back-pressure turbines, one located in Ashland, ME and one to be operational in Chipman, NB in 2021 for a total investment of $3.5 million. The three turbines have a capacity to produce over 2.5 megawatts annually, enough to power over 1,000 homes.

Our Sawmill Division has been focused on reducing idle time on loaders. This reduces the cost of fuel and maintenance and reduces direct GHG emissions.

Irving Tissue, Toronto, ON

3.4.2

EMISSIONS AND ENERGY MANAGEMENT

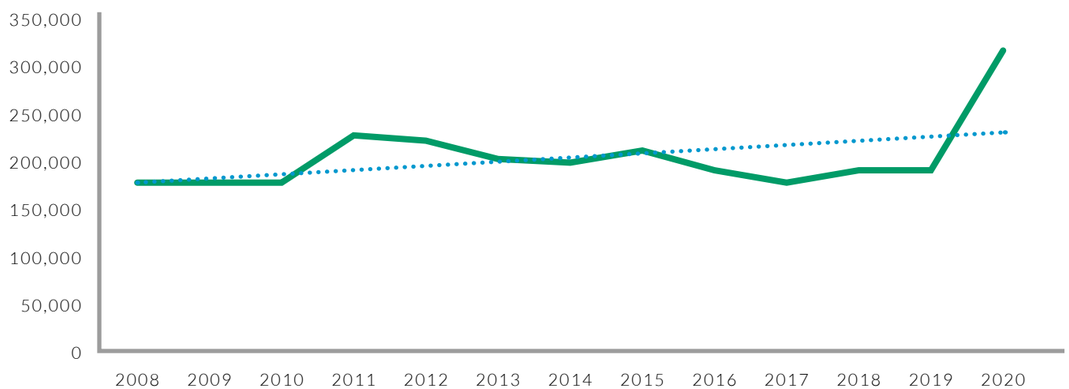
Tissue

Co-Generation (Toronto plant)

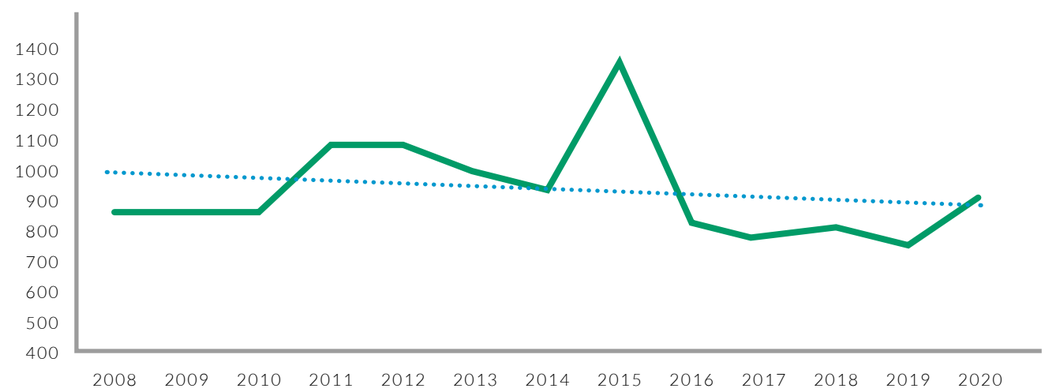
Irving Tissue invested nearly $60 million to improve energy efficiency, reduce greenhouse gas emissions and modernize steam plant operations at our Toronto, Ontario tissue facility in 2020. The investment in a fully integrated power co-generation plant uses a natural gas turbine to generate approximately half of the total electricity required by the plant. The waste heat generated from the turbine exhaust is then recovered and used in place of natural gas to dry our through-air dried tissue products. This reduces emissions from additional fuel for the tissue making process.

With the addition of a new tissue machine in Macon, Georgia commissioned in late 2019, and a second machine in late 2021, Irving Tissue continues to grow. This will cause an increase to absolute scope 1 and 2 emissions and intensity through 2022. Following full commissioning of the new assets in Macon, and a continued focus on energy efficiency initiatives and conservation investments like the co-generation plant at Toronto Tissue, overall emissions performance will return to an improving trend.

TISSUE - SCOPE 1 & 2 TONNES CO2E



TISSUE - KG CO2E/TONNE OF PRODUCTION



Our reduction by 54 per cent in GHG emissions since 2005, exceeds Paris Climate Accord targets.

Jacob Wall, Irving Pulp & Paper, Saint John, NB

3.4.3

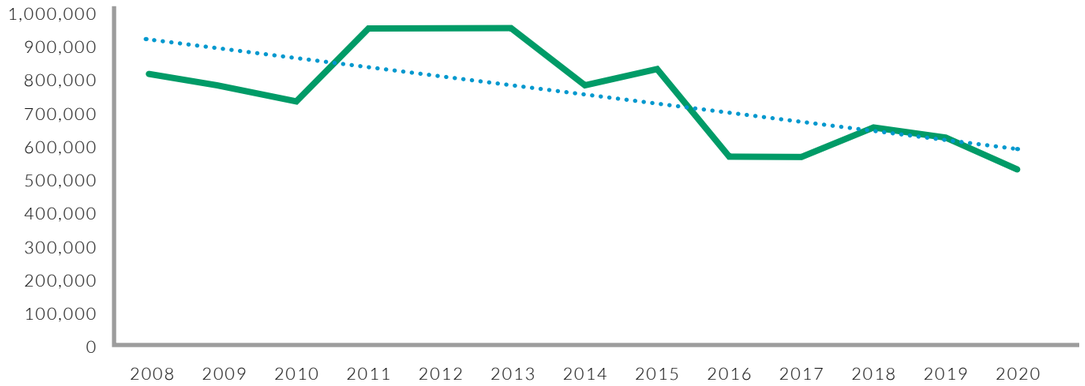
EMISSIONS AND ENERGY MANAGEMENT

Pulp & Paper

In the early 1990s, the Pulp and Paper Division established an internal committee (Energy Intensity Committee) to develop initiatives to meet or exceed the Kyoto Protocol targets. Since that time, the division has invested $135 million (between 2009 - 2015) on various projects established by the committee that have reduced GHG emissions in the group by over 65 per cent - far exceeding the Kyoto targets.

In 2015, Canada committed to a 30 per cent reduction from 2005 levels by 2030 in GHG emissions ratified in the Paris Climate Accord in 2016. By 2010, the Pulp and Paper Division met this reduction target (fully five years before it was established) and has continued to reduce its emissions since then. Currently the Pulp and Paper Division has achieved a 54 per cent reduction from its 2005 levels.

PULP & PAPER - SCOPE 1 & 2 TONNES CO2E



3.4.4

THE PATH TO NET ZERO

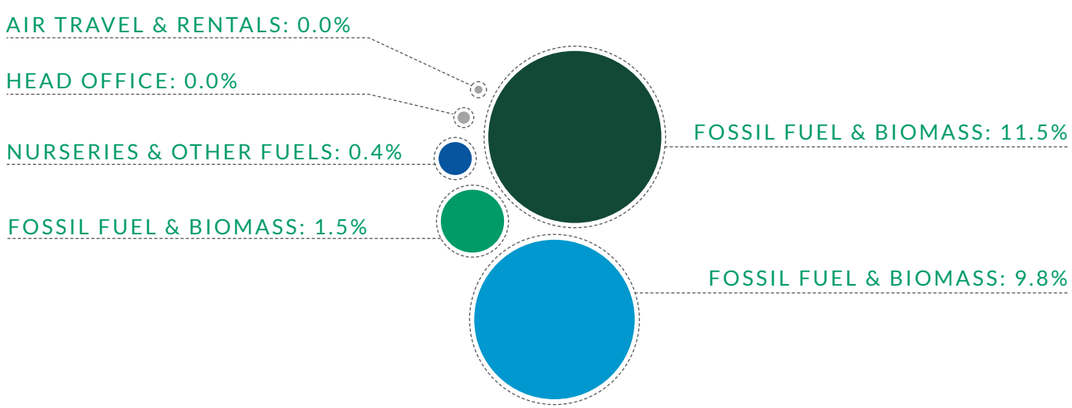
In 2013 we participated in a study with the University of New Brunswick's Dr. Chris Hennigar, to model the carbon balance from forestry activities, manufacturing facilities and forest products to end of life. The study showed that our forestry business will absorb more carbon than emitted over the next 50 years. Carbon neutrality and net zero standards have been adapting since 2013. To improve transparency, our path to net zero will follow the PAS2060 standard. For 2020, we will include an accounting of our Scope 1, 2 and 3 emissions. In 2021, we will include the net emissions from forest growth and land use and account for the net emissions from our harvested wood products.

Understanding our carbon footprint will highlight opportunities to reduce greenhouse gas emissions and reduce business exposure to direct and indirect carbon tax. The approach will also highlight how we might increase the CO2 removed from the atmosphere in forests and forest products. ***Emissions reporting currently under third party audit and 2020 emissions are subject to change.***

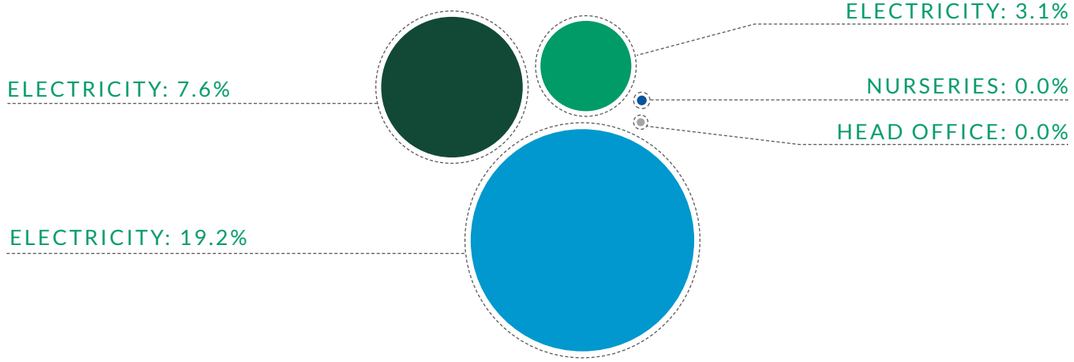
TOTAL EMISSIONS: 1,684,621 tCO^2e
(TONNES OF CARBON DIOXIDE EQUIVALENT)

SAWMILLS | WOODLANDS | PULP AND PAPER | TISSUE | ALL

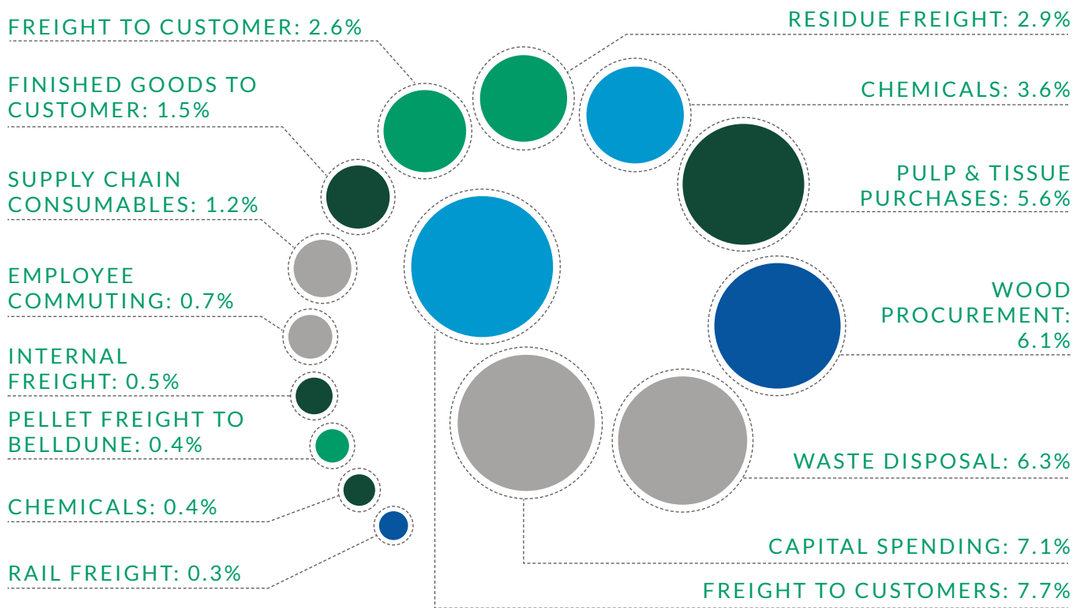
SCOPE 1: 391,379 tCO^2e ALL DIRECT GREENHOUSE GAS (GHG) EMISSIONS



SCOPE 2: 504,787 tCO^2e INDIRECT GHG EMISSIONS FROM CONSUMPTION OF PURCHASED ELECTRICITY, HEAT OR STEAM



SCOPE 3: 788,455 tCO^2e INDIRECT GHG EMISSIONS THAT OCCUR THROUGHOUT THE SUPPLY CHAIN



St George Hydro Facility Headpond, St George, NB

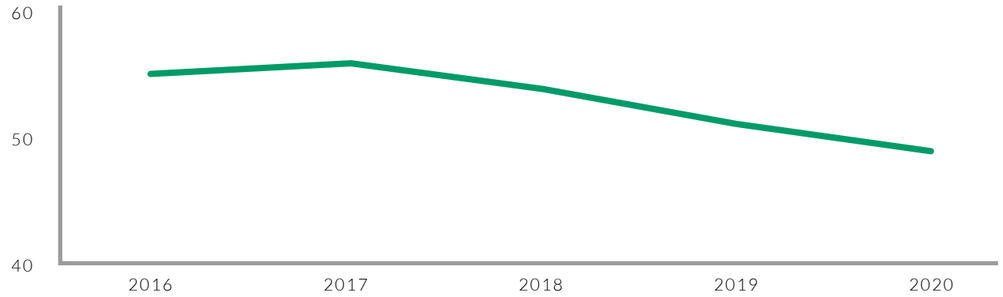
3.5

WATER MANAGEMENT

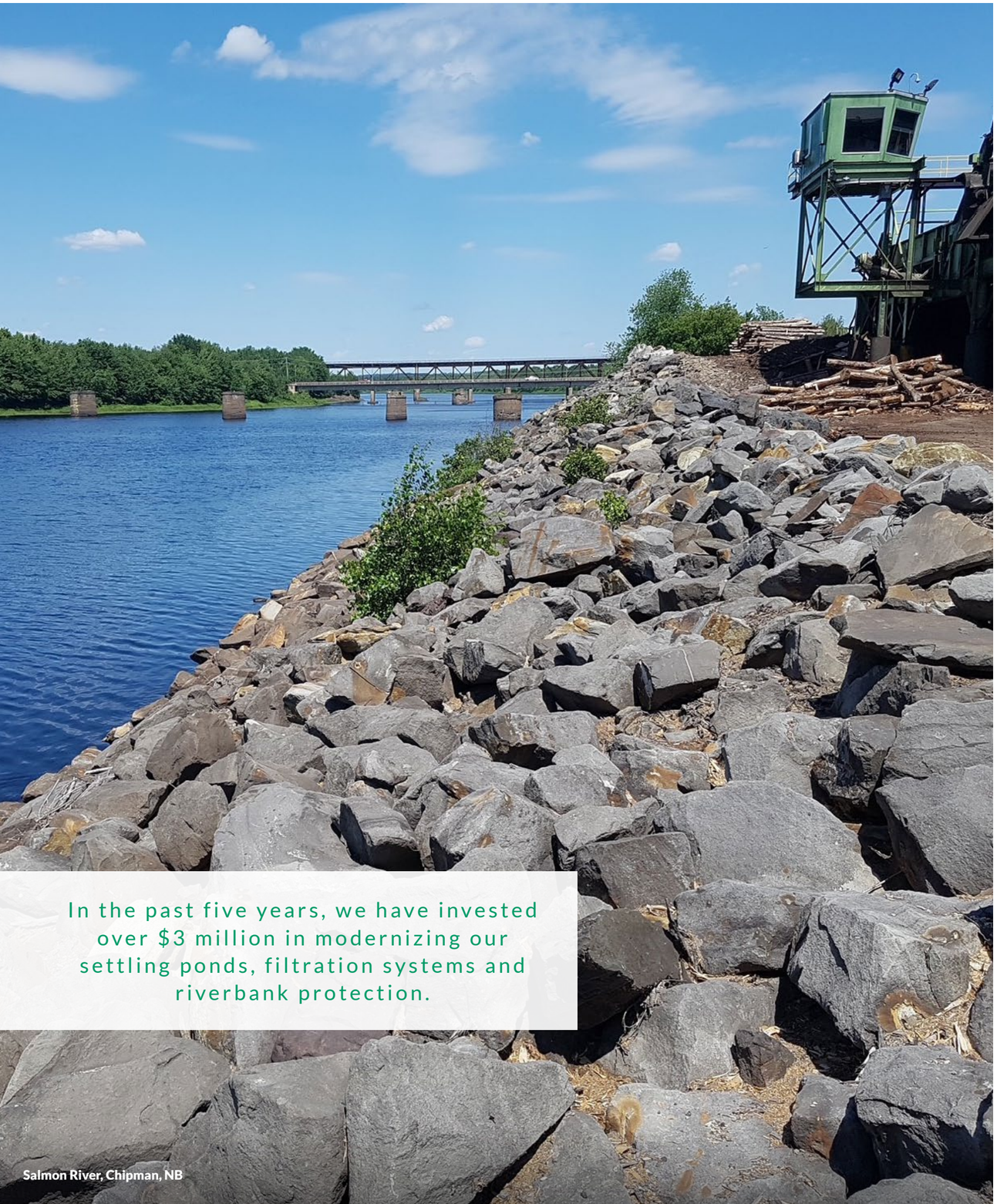
Our operations use and have the potential to impact hundreds of millions of litres of fresh water per year. Our pulp and paper and tissue operations use surface water from local lakes and rivers in their manufacturing processes; our wood and lumber yards have the potential to create runoff and siltation in local streams, rivers and lakes; our woodlands operations frequently cross and work around watercourses.

Each year, we invest in ways to reduce the consumption of fresh water in our processes and monitor water quality on our operations through rigorous third party certification audits – both by regulators and independent auditors. We also work with several academic and non-profit groups on various water and aquatic habitat projects. We are pleased to report that in 2020, we received no non-conformances on our water related programs.

WATER CONSUMPTION - m^3 per tonne of production



In 2020, our forest product companies reduced water consumption by 3.5 per cent. They use 49m^3 of water per tonne of production.



In the past five years, we have invested over $3 million in modernizing our settling ponds, filtration systems and riverbank protection.

Salmon River, Chipman, NB

3.5.1

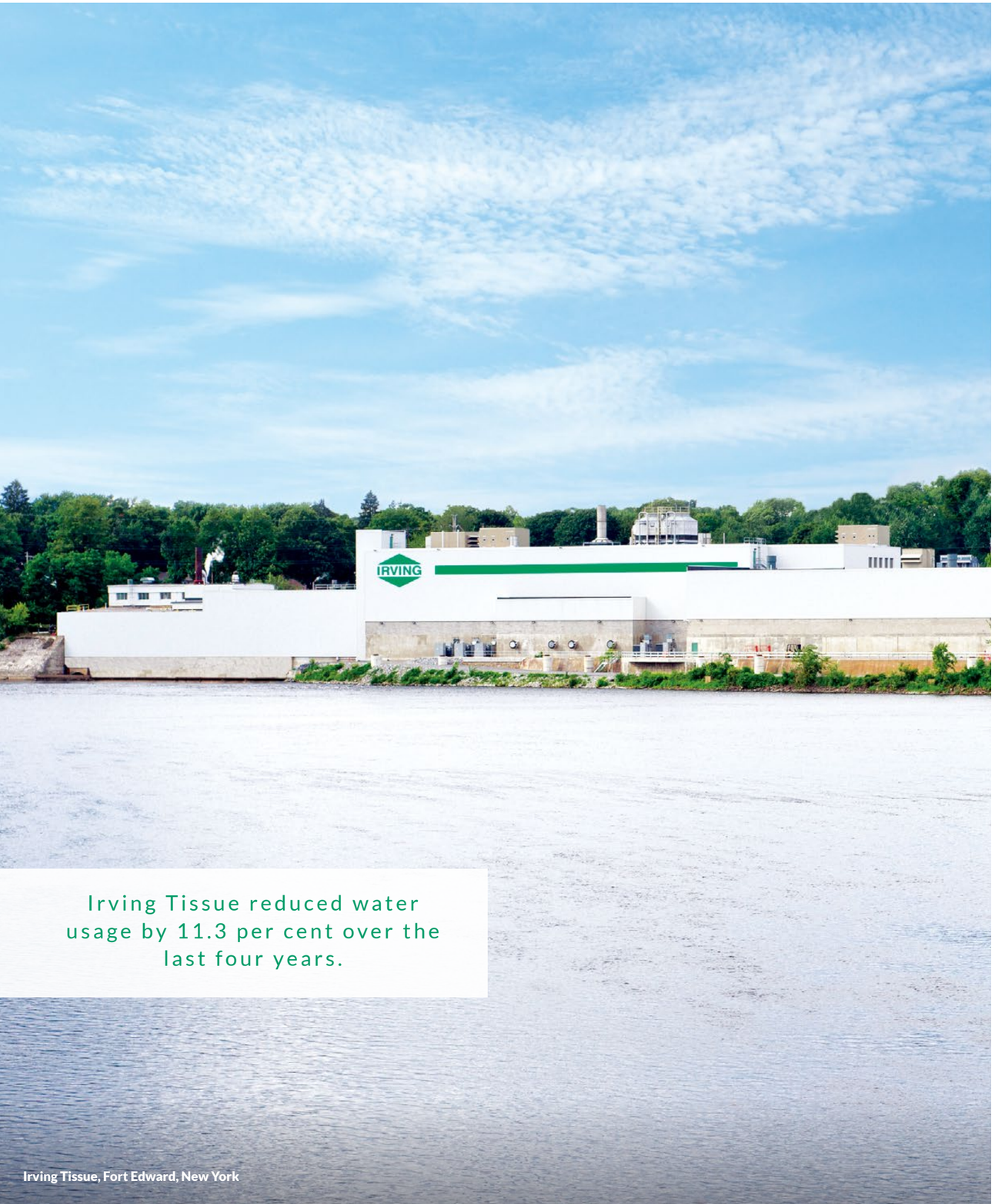
WATER MANAGEMENT

Sawmills

Water management (clean water)

Log and lumber yards surrounding JDI's sawmill sites cover an area of approximately 100 hectares (244 acres). We manage the levels of total suspended solids (TSS) in the watercourses near our operations through settling, filtrating or separating suspended solids found in the storm water before releasing it to the environment. When the engineering and infrastructure at the site is built to our rigorous environmental principals and standards, all three of these techniques are effective.

Understanding the topography of the log and lumber yards via hyper-accurate LiDAR technology and applying rain and snowfall modeling has allowed us to design and build infrastructure that minimizes the TSS.



Irving Tissue reduced water usage by 11.3 per cent over the last four years.

Irving Tissue, Fort Edward, New York

3.5.2

WATER MANAGEMENT

Tissue

Water management (clean water)

Irving Tissue achieved a total water usage reduction of 11.3 per cent across its tissue machines (Fort Edward, NY; Toronto, ON; Saint John, NB) from 2016-2020, exceeding its targeted 5 per cent reduction for that goal period. Total intensity of 36.2 m3/metric tonne usage in 2016 was reduced to 32.1 m3/metric tonne through a focused set of conservation initiatives including process water recycling in tissue manufacturing.

The most significant improvement was at the Fort Edward, NY facility where usage was reduced by 18.2 per cent during that same goal period from 2016-2020. In 2020 alone, the site reduced its water use intensity by 7.1 per cent from 39.8 to 32.5 m3/metric tonne. This improvement was accomplished through a series of water conservation efforts executed in concert with productivity improvements.

We announced an $80-million investment to build a state-of-the-art effluent treatment facility.

Environmental Treatment Facility, Lake Utopia Paper, St George, NB

3.5.3

WATER MANAGEMENT

Pulp & Paper

The Pulp and Paper Division uses a significant amount of freshwater (over 38 million m3 per year) in its operations. Water is treated and released into the environment under strict environmental controls and regulations.

In 1993, Irving Pulp and Paper was recognized as the only organization in Canada to meet the new pulp and paper effluent regulations through novel, in house technology which focused on pollution prevention rather than treatment. Using reverse osmosis treatment has allowed the mill to function without secondary treatment for more than 20 years. In 2000, Irving Pulp & Paper received an award from the Canadian Council of Environment Ministers for its commitment to pollution prevention.

New effluent treatment regulations in Canada are being proposed which could impose stricter discharge limits. These changes are expected to come into effect before 2025. In response to this, Irving Pulp & Paper has developed plans to invest approximately $80 million in new, state-of-the-art secondary treatment to meet these targets. This facility will result in a 40 per cent reduction in water consumption and a 65 per cent reduction in regulated emissions associated with water treatment (BioChemical Oxygen Demand (BOD) and Total Suspended Solids (TSS)). We expect to begin construction of this facility in late 2022.

In 2017, Lake Utopia Paper commissioned a new, state-of-the-art, effluent treatment and biogas facility. Not only does this facility allow us to meet future proposed effluent treatment regulation, but it has also allowed us to reduce energy consumption (and resulting emissions) by over 50 per cent through the generation and use of resulting biogas as a process fuel.

Recycled Material, Lake Utopia Paper. St George, NB

In 2020, over 50,000 tonnes of waste paper were consumed at Lake Utopia Paper.

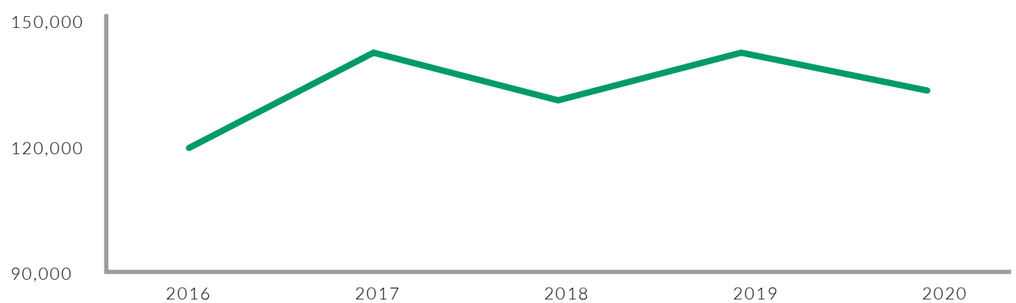
3.6

WASTE REDUCTION

Maximizing value and reducing our impact on the environment

In addition to our goal to use 100 per cent of each tree and using mill by-products like bark, sawdust and shavings for green energy production, our manufacturing operations leverage innovation to reduce waste and increase value. Our sawmills and Irving Pulp & Paper (IPP) divert ash and lime from boilers to local farmers to enrich their fields. IPP is the only pulp mill in Canada to operate without a solid waste landfill. Lake Utopia Paper is the largest consumer of old corrugated containers (recycled cardboard) in Atlantic Canada and uses recycled cardboard as 30 per cent of the feedstock to produce new corrugated containers. The Toronto Tissue operations burn waste generated on-site for energy.

WASTE DIVERTED FROM LANDFILL FOR BENEFICIAL USE - TONNES



The Sawmills team is very proud of the strategic investments in mill technology and implementation of the multi-mill optimizer leading to an 8 per cent improvement in log yield over the last five years.

Julia Hill, Grand Lake Timber, Chipman, NB

3.6.1

WASTE REDUCTION

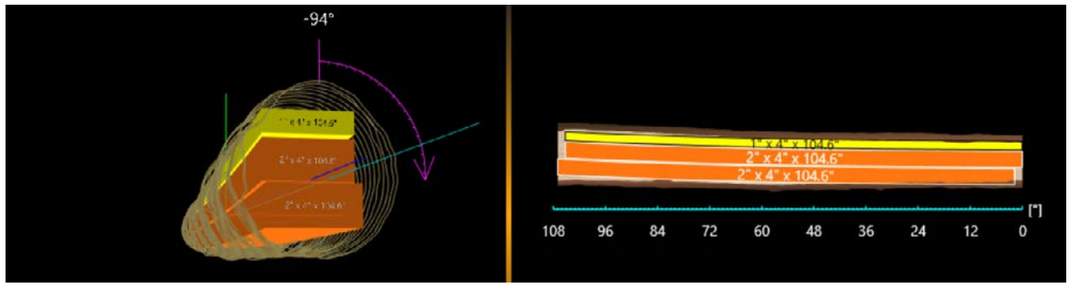
Sawmills

Improving log yield

It takes several decades to grow a tree but only a few seconds to process it into lumber. That's why we need to ensure we use the best tools, technologies and processes, yielding the highest volume of boards for each log consumed.

In 2016, following the advancement of new technologies for log optimization and lumber grading, we made the decision to modernize over 50 per cent of our machine centres. This $50 million investment involved new saw lines with advanced scanning, optimization and cutting tool technologies, which create a 3-D image for each log to extract the most volume or value of lumber.

The Sawmill Division also implemented a lumber supply optimization system, interconnecting all softwood framing lumber mills, to determine the best cutting solution for each log specific to each mill, each week. This optimization tool considers the current log mix, sales constraints and the machine capacity to determine the optimum solution to produce the lumber required by our customers, while maximizing the log yield.



Irving Tissue saw an 8.1 per cent reduction in manufacturing waste to landfills over the last four years.

Angela Beauchamp, Irving Tissue, Toronto, ON

3.6.2

WASTE REDUCTION

Tissue

Irving Tissue's waste reduction focuses on manufacturing-related waste across both papermaking and converting operations. This focus maximizes the recycling of product waste to convert back into the papermaking process and attempts to keep product and packaging materials out of landfills. During the 2016-2020 goal period, Irving Tissue facilities diverted waste from landfills by nearly double the goal and achieved an 8.1 per cent reduction. The most significant improvement was at the Toronto, ON plant where a waste-to-energy initiative enabled the site to divert all solid manufacturing waste to become the first Irving Tissue facility to achieve 'zero waste to landfill'.

Biomass (Hog Fuel) Boiler, Lake Utopia Paper, St George, NB

3.6.3

WASTE REDUCTION

Pulp & Paper

J.D. Irving, Limited's Pulp and Paper Division produces no solid waste from its manufacturing process; it is the only pulp and paper company in North America that operates without a solid waste landfill. This means no solid waste from the manufacturing process (other than what would be considered household waste) is sent to the landfill. Process waste includes limestone, ash from our boilers, bio-sludge from wastewater treatment plants, and grits and dregs.

Investments in treatment and refining at our facilities have allowed us to work with local agronomists, farmers, and composting facilities to make use of this material and generate value. The lime and ash residues supplied to local farmers have a Canadian Food Inspection Agency certificate, and the compost we generate is rated as “Category A” (the highest grade) and could be certified organic.

ENVIREM ORGANICS INC. Creating Healthy Soils

CFIA·ACIA

People & Communities

At J.D. Irving, Limited, the most important thing we cultivate is our people. We offer our employees a rich and diverse environment where they can grow their careers. We also strongly believe in supporting the communities we operate in.

IN THIS SECTION:

Irving Nature Park, Saint John, NB

Scott Lutz, Irving Tissue, Toronto, ON

4.1

EMPLOYEE ENGAGEMENT

Annually, employees across J.D. Irving, Limited participate in a third-party-administered employee engagement survey. The survey has approximately 60 questions and covers employee perspectives on a wide range of topics including continuous improvement, safety, training, teamwork, values, leadership, communications, and most recently, the impact of the coronavirus pandemic. All JDI businesses create detailed action plans, which are monitored quarterly for progress and focus on continuing to drive positive engagement across our teams.

In 2020, we added four new voluntary self-select demographic questions to our employee engagement survey to better understand the needs of our diverse workforce. These questions centered around self identification of visible minority group, persons with disabilities, and members of the LGBTQ+ community.

2020 SURVEY HIGHLIGHTS

3,884
Respondants

OVERALL ENGAGEMENT SCORE 81%

87% MY DIRECT SUPERVISOR TREATS ME WITH RESPECT.

86% WE ARE COMMITTED TO EXCEEDING OUR CUSTOMERS' EXPECTATIONS.

86% I INTEND TO STAY WITH THIS COMPANY FOR AT LEAST THE NEXT 12 MONTHS.

EMPLOYEES BELIEVE THE COMPANY'S GREATEST STRENGTHS ARE:

PEOPLE

CULTURE

EFFICIENCY

Multi-pack bundler - Plant Automation, Irving Tissue Dieppe, Dieppe, NB

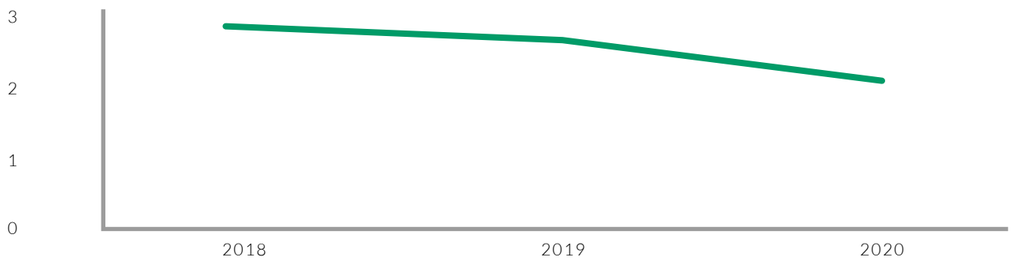
4.2

BUILDING SAFER WORKPLACES, EVERY DAY

J.D. Irving, Limited has Health, Safety & Environment as a core value. Like all that we do, we are driven to improve with a target of eliminating workplace injuries and illnesses. Throughout 2020 we emphasized a standard approach to leading safety indicators. These indicators include employee participation in identifying hazards, timely completion of corrective actions, and monitoring completion of required safety training. Supported by a Health and Safety Information and Data Collection System implemented across all sites, we are leveraging technology to drive insight and analytics to improve operations and prevent injury. We manage safety like we manage our operations – with a focus on continuous improvement .

Safety programs are established at all sites and locations. While recognizing a decline in Recordable Incident Rate (RIR) over the past decade, our programs expanded to measuring the injuries that prevent an employee from returning to work as Lost-Time Injuries (LTI). In addition to LTIs, JDI refined the measurement of severity of incidents in 2018 and tracking a Critical Injury Rate (CIR) to identify the most severe injuries per 200,000 hours worked (equivalent to 100 full-time workers).

RECORDABLE INCIDENT RATE -
# of incidents per 200,000 hours worked



Stephanie Lockhart, Saint John Head Office, Saint John, NB

4.3

WELLNESS

Wellness programs and champions are integral to the employee experience at JDI. COVID-19 however, brought a new focus on employee wellbeing in 2020 due to the restrictions on the availability of in-person medical care, increased mental anxiety and stress, and frequent closing of workout centres.

Existing tools such as our Employee and Family Assistance Program (EFAP) were emphasized to provide resources, tips, and training for employee mental health. Through the EFAP, we also provided videos and guidance to maintain physical fitness at home while fitness facilities were closed. In the early stages of the pandemic, it became clear that physical access to medical professionals was going to be restricted. As a result, we established a partnership with Maple Health, a leading tele-medicine provider. Through Maple, Canadian employees and their families were given 24-hour per-day access to a medical care professional over the phone or through apps available on their mobile devices.

We fundamentally believe that maintaining a connection to the workplace is essential for successful recovery from injuries or illness. Our team of disability case managers provide support with the shared goal of safely returning our employees to meaningful work as quickly as possible.

Continuous Improvement Team, Saint John Head Office, Saint John, NB (2019 Photo)

4.4

LEADERSHIP DEVELOPMENT

At J.D. Irving, Limited, we provide our employees with the opportunity to develop their skills through a variety of operational, safety, and leadership development programs. While all of our training programs provide valuable skills for our employees to successfully contribute to creating value, our core leadership training programs provide our employees with the necessary mindset to identify opportunities for improvement and effectively execute their plan with their teams.

In 2020 the pandemic presented some unique challenges for the delivery of training programs. Weekly virtual 45-minute workshops called 'Training Track Tuesdays' were offered on a variety of leadership topics to ensure our employees continued to receive learning and development opportunities, despite the challenges of COVID-19. In addition, we were able to convert all internal and external leadership development offerings to virtual training in 2020 and will add virtual offerings to our existing suite of training programs for the future.

Left to right: Tomi Ijaola, Graham Taylor, Aamir Khan, Alex Korol, Saint John Head Office, Saint John, NB

BUSINESS & LEADERSHIP

Learning that builds cross functional skills and employee knowledge in the areas of business acumen and leadership capability

3,388
Total hours of leadership training

$45,825
$ invested in leadership training

428
# of participants

NEXTGEN/EMERGING TALENT PROGRAM

New graduate and future leader development is offered through structured programs that provide a foundation of core skills required to progress into general leadership at J.D. Irving, Limited. The programs focus on early career development, leadership expectations, and J.D. Irving, Limited's culture and values.

LEADERSHIP FUNDAMENTALS PROGRAM

The Leadership Fundamentals Program provides tools and resources to best prepare front line leaders for people management. By embracing a safe learning style environment, participants will learn from theory and its application, from one another, and from experts (mentors) in the field. Leaders will be equipped to drive productivity, minimize waste, and develop their people.

SKILLSOFT

As employees shifted to remote work during Covid-19, J.D. Irving, Limited partnered with Skillsoft, an online learning platform, to provide accessible and effective online learning resources to all employees. Having online and on-demand learning available anywhere – on any device – at any time, employees will develop their skills to further enhance their experience and grow their career.

The Santos Family, International Woodlands Recruits

4.5

DIVERSITY AND INCLUSION

As our company grows, so does our need for talent. Keeping, investing in, and bringing Atlantic Canadians home is a key part of our talent strategy. In addition, we are proud to welcome newcomers from all over the world. We have sponsored over 220 new employees from 25 different countries since 2017. Many of these diverse employees bring their families to begin lives in Canada. We invest in settlement support to make sure all our newcomers and their families feel welcome in the communities where we live and work.

While diversity and inclusion has been a growing area of focus across JDI companies, 2020 saw us expand our investment. We did this by creating support roles with a diversity and inclusion emphasis, and we expanded our partnerships with market-leading agencies like Catalyst Canada to leverage best practices.

SUPPORTING DIVERSITY THROUGH IMMIGRATION IN WOODLANDS

Driven by workforce shortages in the Woodlands division over the last several years, the leadership team embarked on a strategy to hire international forest operators and truck drivers. In recent years, 99 full-time hires primarily from Eastern Europe and Brazil have permanently relocated to New Brunswick. Most of these new employees had families who accompanied them; so to ensure their successful settlement and long-term success in their new communities, the Woodlands team established a robust program the included language, housing, spousal employment, and involvement with their communities. This strategy is key to meeting workforce demands and also increasing diversity, both in our communities and within JDI.

Isabella Vautour, Grand Lake Timber, Chipman, NB

4.5.1

PROGRESSING WOMEN IN TRADES

J.D. Irving, Limited is a proud supporter of New Boots – Progressing Women in Trades, a program that offers career opportunities for women interested in the skilled trades.

The Skilled Trades Exploration Program for Women is a provincial network and resource hub that aims to promote, support, and mentor women in non-traditional skilled trades, such as construction, maintenance, automotive, truck and transport.

JDI forecasts 2,938 full-time hires within the forest product divisions over the next three years, and 229 of those roles are for skilled trades. By partnering with and sponsoring New Boots, it encourages women in non-traditional roles and empowers the younger generation to pursue an unconventional career path.

NEW BOOTS
Progressing women in trades
NOUVELLES BOTTES
Le progrès des femmes dans les métiers

PALS Volunteers, Saint John Head Office, Saint John, NB (2019 Photo)

4.6

COMMUNITY ENGAGEMENT

While our reach may be global, we're focused on local – by working to make a positive impact in the communities where we do business. This starts with education, where we believe community is rooted.

GROWING THE NEXT GENERATION

As one of New Brunswick's largest employers of New Brunswick Community College (NBCC) graduates and a continued supporter of the University of New Brunswick (UNB), J.D. Irving, Limited is committed to investing in the next generation of employees. Keeping and growing the talented next generation here at home with rewarding work experiences is important to us. Each year the company awards scholarships to students pursuing post-secondary education whose parents are our valued employees.

In 2020, with all divisions offering continued scholarship programs, J.D. Irving, Limited supported its employees and their children with over $100,000 in funding.

Each year we also award the J.D. Irving, Limited NB Leadership Scholarship at UNB. Valued at $10,000 per year and renewable for up to four years, the J.D. Irving, Limited NB Leadership Scholarship at UNB is one of the university's most prestigious awards. The scholarships are funded by a $1 million gift made in 2007 by J.D. Irving, Limited to UNB to allow New Brunswick students to fully commit to and concentrate on their studies and to better prepare for their future careers.

SUPPORTING OUR PALS

Supporting and inspiring youth is another of J.D. Irving, Limited's many priorities. Year over year we work with Partners Assisting Local Schools (PALS) and the Boys and Girls Club, and we sponsor a number of initiatives designed to encourage and inspire young people to consider continuing their education, and growing their careers within their home community. In 2020 PALS celebrated its 20th year and continues to grow and support the communities we do business in.

HOME FOR EVERY PET

Each year there are over 100,000 cats and dogs in need of adoption across Canada. As The Kitten Brand®, ROYALE® believes that everyone deserves to experience the joy of companionship. To raise awareness and funding for animal shelters across the country, ROYALE® launched the Home for Every Pet Project in 2020 and invested more than $100,000 to help participating animal shelters continue to find forever homes for these animals. The program was expanded in 2021 to include over 100 partner animal shelters.

Left to Right: Dale Hicks, president of Food Depot Alimentaire; Robert K. Irving, Co-CEO J.D. Irving, Limited, Moncton, NB

Left to Right: Matt Thibodeau, Zach Quinlan, Justin Kingston, Irving Tissue, Saint John, NB

4.7

2020 HIGHLIGHTS

The charitable sector was greatly impacted by the COVID-19 pandemic. Donors re-evaluated their capacity to give, and most fundraising events were cancelled. Like our many community partners, J.D. Irving, Limited pivoted to ensure we were responding to areas of greatest need.

TISSUE DONATIONS

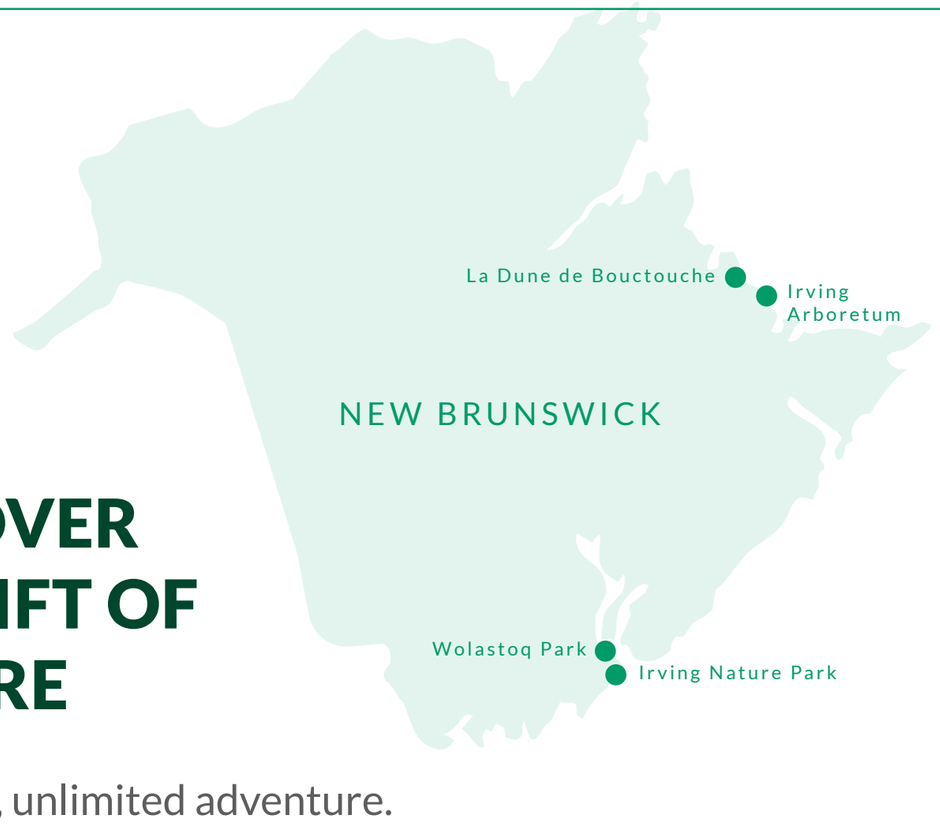
When cities across the continent first enacted emergency lockdown orders in response to the pandemic, people began to bulk buy toilet paper and other household goods – leaving supplies limited and in some cases shelves bare for weeks at a time. J.D. Irving, Limited stepped in to ensure employees, partners and community groups didn't go without. Over the course of many months in 2020, more than 5,000 cases of bathroom tissue were donated.

FOOD BANKS

Rising unemployment in 2020 led many to conclude that hunger and food insecurity had worsened as a result of COVID-19. Meanwhile, food banks were charting unknown waters as they worked to meet a growing demand. In addition to a total donation of over $1 million to food banks in the regions where we work, J.D. Irving, Limited supported food banks with volunteer hours and through unique donations like the one to Romero House in Saint John, NB. When the pandemic hit, this well-known soup kitchen pivoted their operations from eat-in to take-out, with J.D. Irving, Limited donating all of the necessary containers – made with cardboard from Lake Utopia Paper.

COVID-19-SAFE EVENTS

The summer months of 2020 saw the end of the COVID-19 first wave and the reopening of some jurisdictions. Many traditionally outdoor events were successfully hosted outdoors, following social distancing and COVID-19 protocols. Among those were a variety of fishing derbies and tournaments, including those in Minto and Long Lake. Though some of the outdoor events could not take place this year, we continued to financially support these communities that thrive from the annual events, such as Fort Kent, Maine, where the annual Can-Am Crown International sled dog race has taken place for nearly 30 years. Each year this event invites hundreds of dogsled teams to compete in the woods of Northern Maine. Irving Woodlands has been a proud sponsor of this event and continues to sponsor the community.



4.8

DISCOVER THE GIFT OF NATURE

Four parks, unlimited adventure.

The Irving Nature Park, Wolastoq Park, Irving Eco-Centre: La Dune de Bouctouche, and the Irving Arboretum are parks that have been established by J.D. Irving, Limited for use by the public - free of charge. The parks offer an excellent opportunity for recreation and for connecting with nature either alone or with family and friends. The parks are used by hundreds of thousands of local people and tourists each year.

For further information visit: jdirvingconservation.com

379,000

VISITORS TO THE PARKS IN 2020!

(IRVING NATURE PARK & IRVING ECO-CENTRE: LA DUNE DE BOUCTOUCHE)

2020 Travellers' Choice Tripadvisor

IRVING NATURE PARK

This is a 600 acre site owned, gifted and maintained by J.D. Irving, Limited. It is our commitment to help protect this environmentally significant area. This special part of the Fundy coastline is a place where everyone can come and experience the various ecosystems of the southern New Brunswick coastline. It is open year round to help encourage visitors to experience nature with geological treasures and many other stunning features.

IRVING ECO-CENTRE: LA DUNE DE BOUCTOUCHE

Irving Eco-Centre was developed and opened to the public in 1997, designated to preserve and restore one of the few remaining great sand dunes on the northeastern coastline of North America. Stretching 12 km (7.5 miles) across Bouctouche Bay, the dune features a rich variety of marine and aquatic plants and animals, including shorebirds and other migratory birds that make the dune their habitat.

WOLASTOQ PARK

Built in 2004, Wolastoq Park overlooks the Reversing Falls Rapids. Wolastoq means "the beautiful river" in the language of the Maliseet people who originally lived on the shores. Learn about how the lands provided the Maliseet people with food, materials, and medicines, along with transportation routes for hunting and trade.

IRVING ARBORETUM

Located in Bouctouche, this park includes walking and biking trails and is the perfect place to observe local flora and fauna. The trails in this park are connected to the trail system that leads to the downtown and to La Dune de Bouctouche. Take your time and enjoy the surroundings with the plentiful rest areas and bridges throughout the park.

Governance

Our approach to governance is built on a strong foundation of accountability and oversight. This ensures that our programs and initiatives are aligned across the organization and embedded into how we manage the business in a sustainable and meaningful way for future generations.

IN THIS SECTION:

Chris Clark, Irving Tissue, Saint John, NB

Left to Right: Andrew Marshall, Brittni Bremner, Saint John Head Office, Saint John, NB (2019 Photo)

5.1

GOVERNANCE

At J.D. Irving, Limited, we take a comprehensive approach to integrity and ethical business practices. Integrity is one of our core Irving Way values. We take a rigorous approach to governance and how we conduct ourselves, and we place the same level of expectations on our employees and suppliers to deliver on our shared value proposition. Responsibility for our governance and legal compliance is administered by our general counsel and legal department.

WHISTLEBLOWING & GRIEVANCE SYSTEM

Consistent with our values, we encourage all employees who experience any unethical behaviours or harassment at work to report directly to our anonymous whistleblower program. Our JDI Tips Line, “See Something – Say Something", is staffed 24 hours a day, seven days a week by trained security officers from our in-house security monitoring centre.

All anonymous tips are reviewed and actioned by an independent investigator. The JDI Tips Line is advertised throughout the organization on posters, and through presentations by our security staff. Physical security of all buildings and assets are also managed by our professional internal security team, including a team of investigators.

Pulp & Paper Team, Saint John Head Office, Saint John, NB

5.2

BUSINESS ETHICS

Every employee that is hired to work at our company must comply with and sign off on the following governance policies:

Business Code of Conduct

Health and Safety Policy

IT Policy

Our business code of conduct is comprehensive and covers a wide range of topics, including: conflicts of interest, gifts and gratuities, insider and other trading, relationships with competitors, anti-corruption and bribes, confidentiality, information security, respectful workplace, political activities, and canadian anti-spam legislation.

All new hires must also complete the following standardized training, in addition to any specialized training required to meet their job function.

Safe and Respectful Workplace

Drug & Alcohol Policy

Safety Orientation

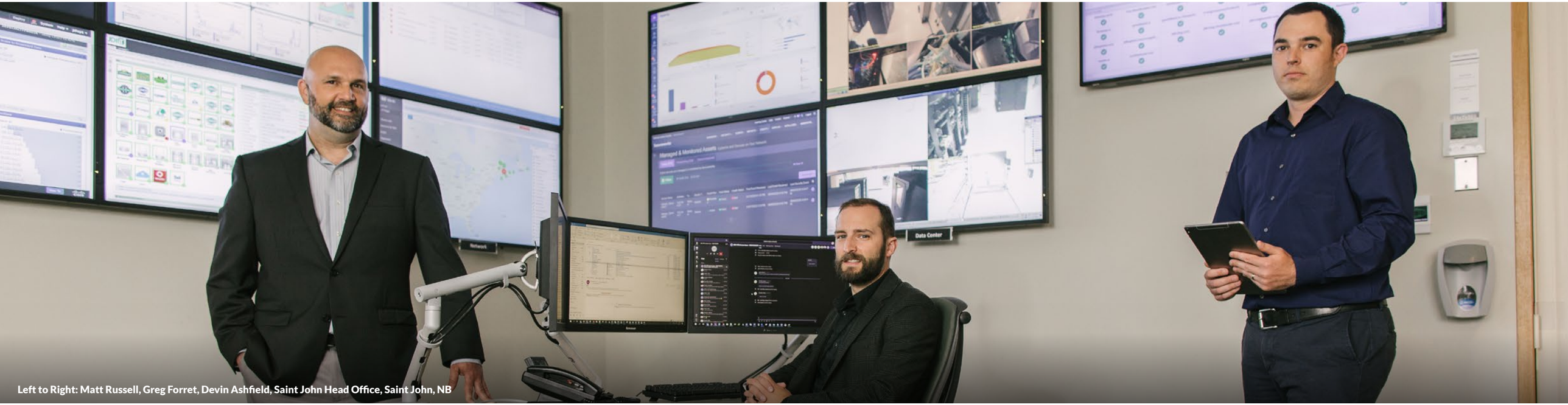
REGULATORY COMPLIANCE

Our operations manage a wide range of industry and site-specific regulatory requirements that apply at a federal, state, and provincial level from an environmental perspective. These regulatory requirements impose limits and reporting requirements related to air, water, and waste emissions from the operations. In addition to these environmental laws that apply to our operations, there are operating approvals and permits issued at the site level which introduce additional conditions on a site-by-site basis. All regulatory requirements are given the highest priority for ongoing compliance. When unforeseen problems occur that affect our ability to comply, we follow up to make sure steps are taken to prevent a recurrence.

Odour complaints must be logged and shared with regulators, whether they have been substantiated or not. We investigate all odour complaints or inquiries to identify whether we may have opportunities to improve. The chemical pulping sites in the Pulp and Paper Division are most vulnerable to fugitive odour. At Lake Utopia Paper, process and wastewater treatment upgrades have been successful in capturing or eliminating sources of odour in recent years. At Irving Pulp & Paper, capital investments have occurred over the years to virtually eliminate the potential for odour from this site to be detected off-site during normal operation. We are proud of this achievement at our kraft mill which is located within the community, and we are dedicated to minimizing odour every day.

OPERATION (SITE)	COMPLAINTS	NON-COMPLIANCES	FINES/ CONVICTIONS
Woodlands	-	0	0
Sawmills	-	0	0
Pulp & Paper	19	2	0
Tissue	0	0	0

In 2020 there were two regulatory non-compliances related to the wastewater from Irving Pulp and Paper Limited. In both cases the effluent failed the acute lethality test. This test involves exposing Rainbow trout to 100% effluent for a period of 72 hours. Following both incidents, an in-depth review was undertaken to identify the potential cause, as the reason for the failure was not identifiable. Since the effluent returned to compliance immediately following these incidents, there was no further opportunity to conduct a deeper Toxicity Identification Evaluation (TIE) to help identify a cause. This site currently uses a pollution prevention approach to meet regulatory limits in their effluent. Given the vulnerability of this approach, there is work underway to implement a new effluent treatment plant at this location soon, which will eliminate this vulnerability and enable 100% compliance going forward.



Left to Right: Matt Russell, Greg Forret, Devin Ashfield, Saint John Head Office, Saint John, NB

5.3

DATA PRIVACY

We take data privacy seriously

J.D. Irving, Limited believes in strong governance practices around protecting the integrity, security, and privacy of data across the entire organization. Our data privacy policy is managed and governed by our Privacy Officer. Feedback, complaints, requests for access to personal information, and information breach reports may all be directed to our Privacy Officer at privacyofficer@jdirving.com.

EMPLOYEE PRIVACY

JDI complies with applicable privacy legislation and manages employee personal information and employee personal health information in a manner consistent with the legislation principles for managing such information. We encourage feedback on the policy and practices we employ in managing employee personal information.

THIRD-PARTY PRIVACY AND ANTI-SPAM LEGISLATION

We comply with applicable privacy and anti-spam legislation and manage personal information in a manner consistent with the principles reflected in such legislation.

WEBSITE PRIVACY

We maintain websites that may require individuals to register by providing us with personal information. Our use and disclosure of personal information collected through the registration process is governed by this privacy policy.

Eric Hamilton, Saint John Head Office, Saint John, NB

5.4

WE BELIEVE CYBERSECURITY IS EVERYONE'S BUSINESS

Part of our preventive and proactive philosophy is to arm all of our employees with the education required to identify and stop malware breaches and phishing scams before they enter our network. This ensures that our employees form the first line of defense against any malicious cyberattacks. All employees must pass an annual on-line IT awareness assessment to maintain their system access privilege and credentials. System access is also actively managed using best practices.

Protecting the integrity and reliability of our value chain is a key priority at J.D. Irving, Limited. As our operations are highly integrated and interdependent, we ensure that all aspects of our organization can continue to function in the case of any unforeseen events, thereby ensuring continuity of supply to our valued customers.

Each of our operating companies has a robust business continuity plan that has been developed with the senior leadership teams of each division and our corporate shared services team. These plans are reviewed on an annual basis by our executive leadership in each business. All critical IT systems undergo a scheduled rigorous disaster recovery exercise to ensure that critical systems and processes can be recovered with minimal disruption to the business, employees, supply chains, and our customers. Annual third-party audits are also conducted on key IT infrastructure to ensure reliability.

100% COMPLIANCE ON ANNUAL IT AWARENESS ASSESSMENT

Atlantic Superstore, Quispamsis, NB

5.4.1

A SECURE PART OF YOUR SUPPLY CHAIN

Communicate Securely

We provide a secure environment for sharing EDI and other electronic information and documents with external business partners.

Protected Information

Appropriate security and controls are in place to ensure an auditable process of management access to all JDI applications and information.

Security Analytics

Automated intelligent systems and partnerships with leading cyber-security companies are in place to continuously monitor and discover pattern variances or irregular activity.

Dedicated Team of Experts

A dedicated internal team of certified information security professionals are in place continuously improving our processes and systems to address the evolving cyber-threats.

Threat Management

Technology is managed in accordance with industry-recognized best practice processes for change management, incident management, risk management, vulnerability management, and availability management.

Audits & Controls

- ISO 27001 Certified
- NIST CyberSecurity Framework Certified
- Industry standard – CSAE 3416 Type 2 Audit
- Multiple penetration & attack scenarios
- Registered and audited by the Canadian Industrial Security Directorate (CISD) & Controlled Goods Directorate as a defense contractor

Appendix

IN THIS SECTION:

Deersdale, NB

Data	Measurement	2018	2019	2020	Footnote
ENVIRONMENT					
GREENHOUSE GAS EMISSIONS					
Scope 1 Emissions, Total	**t CO2e**	**350,455**	**343,691**	**391,379**	
by division					
Woodlands and Sawmills	t CO2e	24,867	25,728	32,221	a
Pulp and paper	t CO2e	209,301	200,896	166,168	
Irving Pulp & Paper, Limited	t CO2e	72,586	69,934	62,900	
Irving Paper Limited	t CO2e	92,582	95,895	82,228	
Lake Utopia Paper LP	t CO2e	44,133	35,067	21,041	
Tissue	t CO2e	116,287	117,068	192,989	
Scope 2 Emissions (location-based), Total	**t CO2e**	**578,495**	**549,222**	**504,788**	
by division					
Woodlands and Sawmills	t CO2e	60,085	54,002	53,020	a
Pulp and paper	t CO2e	437,561	418,471	323,212	
Irving Pulp & Paper, Limited	t CO2e	1,521	3,046	3,838	
Irving Paper Limited	t CO2e	396,475	377,555	287,439	
Lake Utopia Paper LP	t CO2e	39,566	37,870	31,935	
Tissue	t CO2e	80,849	76,749	128,556	
Scope 3 Emissions, Total	**t CO2e**	**-**	**-**	**788,454**	
by division					
Woodlands	t CO2e	-	-	114,212	a
Sawmills	t CO2e	-	-	208,739	
Pulp and paper	t CO2e	-	-	237,816	
Tissue	t CO2e	-	-	227,687	
Scope 1, 2 and 3 Emissions, Total	**t CO2e**	**-**	**-**	**1,684,621**	
by division					
Woodlands and Sawmills	t CO2e	-	-	293,980	
Pulp and paper	t CO2e	-	-	727,196	
Tissue	t CO2e	-	-	549,232	
Scope 1 and 2 Emissions, Total	**t CO2e**	**928,950**	**892,913**	**896,167**	
by division					
Woodlands and Sawmills	t CO2e	84,952	79,730	85,241	
Pulp and paper	t CO2e	646,863	619,367	489,380	
Irving Pulp & Paper, Limited	t CO2e	74,107	72,980	66,738	
Irving Paper Limited	t CO2e	489,057	473,450	369,666	
Lake Utopia Paper LP	t CO2e	83,699	72,937	52,975	
Tissue	t CO2e	197,136	193,817	321,545	
GREENHOUSE GAS EMISSIONS INTENSITY					
Scope 1 emissions intensity, Total	**t CO2e / t product**	**0.038**	**0.037**	**0.043**	
by divison					
Woodlands and Sawmills	t CO2e / t product	0.005	0.006	0.003	
Pulp and paper	t CO2e / t product	0.232	0.218	0.182	
Tissue	t CO2e / t product	0.474	0.464	0.566	
Scope 2 emissions intensity, Total	**t CO2e / t product**	**0.063**	**0.059**	**0.055**	
by division					
Woodlands and Sawmills	t CO2e / t product	0.013	0.012	0.005	
Pulp and paper	t CO2e / t product	0.485	0.454	0.353	
Tissue	t CO2e / t product	0.329	0.304	0.377	
Scope 3 emissions intensity, Total	**t CO2e / t product**	**-**	**-**	**0.086**	
by division					
Woodlands and Sawmills	t CO2e / t product	-	-	0.030	
Pulp and paper	t CO2e / t product	-	-	0.260	
Tissue	t CO2e / t product	-	-	0.668	

Data	Measurement	2018	2019	2020	Footnote
Scope 1 and 2 Emissions intensity, Total	**t CO2e / t product**	**0.101**	**0.096**	**0.098**	
by division					
Woodlands and Sawmills	t CO2e / t product	0.018	0.017	0.008	
Pulp and paper	t CO2e / t product	0.717	0.672	0.535	
Tissue	t CO2e / t product	0.803	0.768	0.943	
Scope 1, 2 and 3 Emissions intensity, Total	**t CO2e / t product**	**-**	**-**	**0.18**	
by division					
Woodlands and Sawmills	t CO2e / t product	-	-	0.027	
Pulp and paper	0	-	-	0.795	
Tissue	t CO2e / t product	-	-	1.611	
OTHER AIR EMISSIONS					
Nitrous oxide (NOx), Total	**Tonnes**	**1665**	**1719**	**1724**	**b**
by division					
Woodlands	Tonnes	-	-	-	c
Sawmills	Tonnes	284	287	255	
Pulp and Paper	Tonnes	1,288	1,339	1,372	
Irving Pulp & Paper, Limited	Tonnes	926	982	1,034	
Irving Paper Limited	Tonnes	179	179	181	
Lake Utopia Paper Limited	Tonnes	183	178	158	
Tissue	Tonnes	92	94	96	
Sulphur dioxide (SOx), Total	**Tonnes**	**1,247**	**1,344**	**1,130**	**b**
by division					
Woodlands	Tonnes	-	-	-	c
Sawmills	Tonnes	65	114	75	
Pulp and Paper	Tonnes	1,181	1,229	1,054	
Irving Pulp & Paper, Limited	Tonnes	750	776	575	
Irving Paper Limited	Tonnes	25	12	7 3	
Lake Utopia Paper Limited	Tonnes	406	441	472	
Tissue	Tonnes	0.6	0.6	0.6	
Particulate matter (PM), Total	**Tonnes**	**2,085**	**2,009**	**1,953**	**b**
by division					
Woodlands	Tonnes	-	-	-	c
Sawmills	Tonnes	1,971	1,856	1,795	
Pulp and Paper	Tonnes	114	152	156	
Irving Pulp and Paper, Limited	Tonnes	93	127	131	
Irving Paper Limited	Tonnes	6	6	5 3	
Lake Utopia Paper Limited	Tonnes	15	19	21	
Tissue	Tonnes	1.1	0.9	1.1	
ENVIRONMENTAL COMPLIANCE					
Odour Complaints, Total	**#**	**28**	**9**	**19**	**d**
by division					
Woodlands	#	-	-	-	c
Sawmills	#	-	-	-	c
Pulp and paper	#	28	9	19	
Irving Pulp & Paper, Limited	#	13	2	5	
Irving Paper Limited	#	0	0	0	
Lake Utopia Paper	#	15	7	14	
Tissue	#	0	0	0	
Environmental Permit non-compliances, Total	**#**	**0**	**1**	**2**	**b**
by division					
Woodlands	#	0	0	0	e
Sawmills	#	-	-	-	f
Pulp and paper	#	0	1	2	f

Data	Measurement	2018	2019	2020	Footnote
Irving Pulp & Paper, Limited	#	0	1	2	f
Irving Paper Limited	#	0	0	0	f
Lake Utopia Paper	#	0	0	0	f
Tissue	#	0	0	0	f
Environmental Fines/Convictions, Total	**#**	**1**	**0**	**0**	
by division					
Woodlands	#	0	0	0	
Sawmills	#	0	0	0	
Pulp and paper	#	1	0	0	
Irving Pulp & Paper, Limited	#	1	0	0	
Irving Paper Limited	#	0	0	0	
Lake Utopia Paper	#	0	0	0	
Tissue	#	0	0	0	
ENERGY					
Direct and indirect energy consumption, Total	**Gigajoules**	**27,730,942**	**28,167,715**	**29,672,145**	**b**
by division					
Woodlands	Gigajoules	-	-	-	c
Sawmills	Gigajoules	3,851,565	3,874,360	3,519,995	
Pulp and paper	Gigajoules	19,290,815	19,580,592	19,260,219	
Irving Pulp & Paper, Limited	Gigajoules	11,244,649	11,621,985	11,750,122	
Irving Paper Limited	Gigajoules	5,969,049	5,958,323	5,582,466	
Lake Utopia Paper	Gigajoules	2,077,117	2,000,284	1,927,631	
Tissue	Gigajoules	4,588,561	4,712,763	6,891,931	
Direct energy consumption, Total	**Gigajoules**	**21,022,581**	**21,381,159**	**22,404,948**	**b**
by division					
Woodlands	Gigajoules	-	-	-	c
Sawmills	Gigajoules	3,226,207	3,257,645	2,910,345	
Pulp and paper	Gigajoules	14,721,312	14,938,643	14,786,960	
Pulp & Paper, Limited	Gigajoules	11,181,886	11,535,880	11,697,525	
Irving Paper Limited	Gigajoules	1,891,346	1,839,867	1,603,420	
Lake Utopia Paper	Gigajoules	1,648,080	1,562,896	1,486,014	
Tissue	Gigajoules	3,075,061	3,184,871	4,707,643	
Indirect energy consumption, Total	**Gigajoules**	**6,708,361**	**6,786,556**	**7,267,197**	**b**
by division					
Woodlands	Gigajoules	-	-	-	c
Sawmills	Gigajoules	625,358	616,715	609,650	
Pulp and Paper	Gigajoules	4,569,503	4,641,949	4,473,259	
Irving Pulp & Paper, Limited	Gigajoules	62,762	86,106	52,596	
Irving Paper Limited	Gigajoules	4,077,703	4,118,456	3,979,046	
Lake Utopia Paper	Gigajoules	429,037	437,388	441,617	
Tissue	Gigajoules	1,513,500	1,527,892	2,184,288	
Percentage of energy from electric grid from grid, Total	**%**	**23.9**	**23.9**	**22.4**	**b**
by division					
Woodlands	%	-	-	-	c
Sawmills	%	16.2	15.9	17.3	
Pulp and paper	%	23.6	23.7	23.2	
Irving Pulp & Paper, Limited	%	0.6	0.7	0.4	
Irving Paper Limited	%	68.0	69.0	71.3	
Lake Utopia Paper Limited	%	20.7	21.9	22.9	
Tissue	%	31.8	31.3	22.5 1	
Percentage of energy from renewable sources, Total	**%**	**59.3**	**60.4**	**57.3**	**b**
by division					
Woodlands	%	-	-	-	c
Sawmills	%	82.1	82.2	80.6	
Irving Pulp and paper	%	63.2	63.2	63.2	

Data	Measurement	2018	2019	2020	Footnote
Irving Pulp & Paper, Limited	%	90.4	90.1	91.0	
Irving Paper Limited	%	18.4	19.4	18.5	
Lake Utopia Paper	%	44.4	51.4	63.4	
Tissue	%	23.8	24.9	17.6	
WASTE					
Total weight of waste generated, Total	**Tonnes**	**208,970**	**223,438**	**245,537**	
by division					
Woodlands	Tonnes	-	-	-	c
Sawmills	Tonnes	113,620	113,103	120,336	
Pulp and paper	Tonnes	89,926	103,532	103,872	
Irving Pulp & Paper, Limited	Tonnes	24,938	25,272	24,449	
Irving Paper Limited	Tonnes	52,672	57,370	52,764	
Lake Utopia Paper	Tonnes	12,316	20,890	26,659	
Tissue	Tonnes	5,423	6,802	21,329	
Total hazardous waste generated, Total	**Tonnes**	**394**	**413**	**608**	
by division					
Woodlands	Tonnes	-	-	-	
Sawmills	Tonnes	49	43	35	
Pulp and paper	Tonnes	1	16	10	
Irving Pulp & Paper, Limited	Tonnes	1	16	10	
Irving Paper Limited	Tonnes	0	0	0	
Lake Utopia Paper	Tonnes	0	0	0	
Tissue	Tonnes	344	355	563	
Total non-hazardous waste generated, Total	**Tonnes**	**207,261**	**221,643**	**243,365**	
by division					
Woodlands	Tonnes	-	-	-	c
Sawmills	Tonnes	113,571	113,060	120,301	
Pulp and paper	Tonnes	89,925	103,517	103,862	
Irving Pulp & Paper, Limited	Tonnes	24,937	25,256	24,439	
Irving Paper Limited	Tonnes	52,671	57,370	52,764	
Lake Utopia Paper	Tonnes	12,316	20,890	26,659	
Tissue	Tonnes	3,765	5,066	19,202	
Waste disposal method					
Total weight of waste sent to landfill, Total	**Tonnes**	**80406**	**84385**	**114137**	
by division					
Woodlands	Tonnes	-	-	-	c
Sawmills	Tonnes	74,726	78,944	95,388	
Pulp and paper	Tonnes	3,863	3,669	3,640	
Irving Pulp & Paper, Limited	Tonnes	897	854	503	
Irving Paper Limited	Tonnes	453	578	476	
Lake Utopia Paper	Tonnes	2,512	2,237	2,661	
Tissue	Tonnes	1,818	1,772	15,108	
Total weight of waste diverted from disposal , Total	**Tonnes**	**126,855**	**137,257**	**129,228**	
by division					
Woodlands	Tonnes	-	-	-	c
Sawmills	Tonnes	38,846	34,116	24,913	
Pulp and paper	Tonnes	86,062	99,847	100,222	
Irving Pulp & Paper, Limited	Tonnes	24,040	24,402	23,936	
Irving Paper Limited	Tonnes	52,218	56,792	52,288	
Lake Utopia Paper	Tonnes	9,804	18,653	23,998	
Tissue	Tonnes	1,947	3,294	4,094	

Data	Measurement	2018	2019	2020	Footnote
WATER					
Water withdrawn, surface water, Total	**Thousand cubic meters (m^3)**	**62,140**	**60,140**	**62,203**	**g**
Water consumption, Total	**Thousand cubic meters (m^3)**	**62,140**	**60,140**	**62,203**	**g**
by division					
Woodlands	Thousand cubic meters (m^3)	-	-	-	c
Sawmills	Thousand cubic meters (m^3)	-	-	-	c
Pulp and Paper	Thousand cubic meters (m^3)	53,482	51,545	51,486	g
Irving Pulp & Paper, Limited	Thousand cubic meters (m^3)	34,732	32,548	33,470	g
Irving Paper, Limited	Thousand cubic meters (m^3)	12,574	12,854	12,135	g
Lake Utopia Paper	Thousand cubic meters (m^3)	6,176	6,143	5,880	g
Tissue	Thousand cubic meters (m^3)	8,658	8,595	10,718	g
Water discharge, Total	**Thousand cubic meters (m^3)**	**62,751**	**62,756**	**64,243**	
by division					
Woodlands	Thousand cubic meters (m^3)	-	-	-	
Sawmills	Thousand cubic meters (m^3)	-	-	-	
Pulp and Paper	Thousand cubic meters (m^3)	54,201	54,166	54,017	
Irving Pulp & Paper, Limited	Thousand cubic meters (m^3)	35,711	35,329	36,237	
Irving Paper, Limited	Thousand cubic meters (m^3)	12,057	12,439	11,655	
Lake Utopia Paper	Thousand cubic meters (m^3)	6,433	6,399	6,125	
Tissue	Thousand cubic meters (m^3)	8,551	8,590	10,226	
MATERIALS					
Volume of input materials, Total	**tonnes**	**6,296,005**	**6,308,467**	**6,323,488**	
by division					
Woodlands	tonnes	-	-	-	c
Sawmills	tonnes	4,726,247	4,628,659	4,551,880	
Pulp and paper	tonnes	1,316,666	1,423,707	1,443,464	
Irving Pulp & Paper, Limited	tonnes	638,963	754,408	783,528	
Irving Paper Limited	tonnes	453,417	453,148	436,759	
Lake Utopia Paper	tonnes	224,286	216,151	223,176	
Tissue	tonnes	253,092	256,101	328,144	
Volume of input materials, Total	**tonnes materials/tonne product**	**1.02**	**1.01**	**1.02**	
by division					
Woodlands	tonnes materials/tonne product	-	-	-	c
Sawmills	tonnes materials/tonne product	.02	1.01	1.02	
Pulp and paper	tonnes materials/tonne product	1.46	1.54	1.58	
Irving Pulp & Paper, Limited	tonnes materials/tonne product	2.04	2.21	2.26	
Irving Paper Limited	tonnes materials/tonne product	1.13	1.14	1.15	
Lake Utopia Paper	tonnes materials/tonne product	1.18	1.19	1.19	
Tissue	tonnes materials/tonne product	1.03	1.01	0.96	
Wood fiber sourced and harvested					
% of wood fiber sourced from third-party certified forestlands and % to each standard	%	100	100	100	
Total wood fiber harvested and procured	Tonnes	6,519,703	6,605,190	6,367,009	
Trees planted	# of Seedlings	15,278,463	18,804,112	12,693,827	
Recycled input materials/fibre procured	tonnes	63,739	63,739	57,436	h
LAND CERTIFICATIONS					
Total land base, Woodlands	Hectares	2,327,820	2,376,695	2,381,405	
Percentage of resource holdings SFI certified	%	100	100	100	
Percentage of resource holdings ISO14001 certified	%	100	100	100	
Percentage of resource holdings FSC® certified	%	20	20	20	

Data	Measurement	2018	2019	2020	Footnote
BIODIVERSITY CONSERVATION					
Area of freehold land, Total	Hectares	1,280,790	1,314,216	1,318,934	
Area of JDI freehold land CAN	Hectares	776,820	801,158	801,723	
Area of JDI freehold land US	Hectares	503,970	513,058	517,211	
Area of Crown land, Total	**Hectares**	**1,047,030**	**1,062,479**	**1,062,471**	
Area of Crown land managed, CAN	Hectares	1,047,030	1,062,479	1,062,471	
Conservation areas on JDI land	Hectares	-	-	253,894	i
Conservation areas on JDI land	%	-	-	19%	i
Conservation areas on Crown land	Hectares	-	-	318,600	i
Conservation areas on Crown land	%	-	-	30%	i
Total conservation area managed	Hectares	-	-	572,494	i
Total conservation area managed	%	-	-	24%	i
Total unique areas managed	# of unique areas	1,561	1,627	1,739	
Number of species at risk within operational areas	#	51	44	44	
SOCIAL					
EMPLOYMENT					
Full-time equivalent employees, Total	**FTE**	**4,890**	**5,146**	**4,925**	**j**
by division					
Woodlands	FTE	508	606	540	j
Sawmills	FTE	1,572	1,626	1,522	j
Pulp and paper	FTE	839	840	820	j
Tissue	FTE	1,346	1,480	1,473	j
Head Office	FTE	625	594	570	j
Permanent employees by gender, Total	**#**	**4,197**	**3,960**	**4,057**	**k**
Female	#	490	457	475	k
Male	#	3,614	3,480	3,519	k
Gender unspecified	#	93	23	63	k
Temporary employees by gender, Total	**#**	**57**	**10**	**28**	**k**
Female	#	9	0	3	k
Male	#	40	8	21	k
Gender unspecified	#	8	2	4	k
by region					
Permanent employees, CAN	#	3,148	3,025	3,095	k
Temporary employees, CAN	#	43	9	23	k
Permanent employees , US	#	1,049	935	962	k
Temporary employees, US	#	6	1	3	k
Full-time employees by gender, Total	**#**	**4,189**	**3,937**	**4,034**	**k**
Female	#	487	446	466	k
Male	#	3,602	3,467	3,501	k
Gender unspecified	#	100	24	67	k
Part-time employees by gender, Total	**#**	**65**	**34**	**51**	**k**
Female	#	12	11	12	k
Male	#	52	22	39	k
Gender unspecified	#	1	1	0	k
Employee Engagement, Total	**%**	**81**	**82**	**83**	
by division					
Woodlands	%	-	85	90	l
Sawmills	%	-	79	79	l
Pulp and paper	%	-	76	77	l
Irving Pulp & Paper, Limited	%	-	63	63	l
Irving Paper, Limited	%	-	80	83	l
Lake Utopia Paper	%	-	81	81	l
Tissue	%	-	75	86	l

Data	Measurement	2018	2019	2020	Footnote
Total number of new employee hires	#	663	665	491	
Total rate of new employee hires	%	14	13	10	
Total employee turnover number	#	387	506	457	
Total employee turnover rate	%	8	10	10	
OCCUPATIONAL HEALTH & SAFETY					
Number of fatalities that occurred in a location, Totals	**#**	**1**	**0**	**0**	**m**
by division					
Woodlands	#	0	0	0	
Sawmills	#	1	0	0	
Pulp and paper	#	0	0	0	n
Tissue	#	0	0	0	n
Number of critical injuries that occurred in a location, Totals	**#**	**17**	**6**	**9**	**m**
by division					
Woodlands	#	4	0	0	
Sawmills	#	9	5	6	
Pulp and paper	#	1	1	2	n
Tissue	#	3	0	1	n
Rate of critical injuries that occurred in a location, Totals	**#**	**0.4**	**0.1**	**0.2**	
by division					
Woodlands	#	0.7	0.0	0.0	
Sawmills	#	0.5	0.3	0.3	
Pulp and paper	#	0.1	0.1	0.2	n
Tissue	#	0.2	0.0	0.1	n
Number of Recordable injuries that occurred in a location, Totals	**#**	**130**	**140**	**101**	**m**
by division					
Woodlands	#	20	17	8	
Sawmills	#	82	87	59	
Pulp and paper	#	7	20	19	n
Tissue	#	21	16	15	n
Rate of Recordable injuries that occurred in a location, Totals	**#**	**2.9**	**2.8**	**2.1**	**o**
by division					
Woodlands	#	3.6	2.6	1.3	
Sawmills	#	4.6	4.7	3.3	
Pulp and paper	#	0.7	2.1	2.1	n
Tissue	#	1.7	1.1	1.0	n
Number of Lost Time injuries that occurred in a location (students are included), Totals	**#**	**41**	**51**	**40**	**m**
by division					
Woodlands	#	5	7	2	
Sawmills	#	24	35	24	
Pulp & Paper	#	7	7	8	n
Irving Tissue	#	5	2	6	n
Rate of Lost Time injuries that occurred in a location (students are included), Totals	**#**	**0.9**	**1.0**	**0.8**	**p**
by division					
Woodlands	#	0.9	1.1	0.3	
Sawmills	#	1.4	1.9	1.4	
Pulp and paper	#	0.7	0.7	0.9	
Irving Forest Services	#	0.0	0.0	0.0	n
Tissue	#	0.4	0.1	0.4	n

Data	Measurement	2018	2019	2020	Footnote
Rate of employees who report a Hazard ID each financial period, Totals	**%**	**16**	**29**	**34**	**q**
by division					
Woodlands	%	16	37	36	
Sawmills	%	30	59	61	
Pulp and paper	%	2	2	2	n
Tissue	%	13	16	18	n
TRAINING & EDUCATION					
Number of employees participating in the Leadership Development Training	#	-	-	428	
Hours of Leadership Development Training	hours	-	-	3,388	
Spend on Leadership Development Training	$ CAD	-	-	$ 45,824.90	
DIVERSITY & INCLUSION					
by gender					
Percentage of women in executive positions	%	28	16	24	
Proportion of female employees, Total	%	13	13	13	
Proportion of male employees, Total	%	84	86	85	
Proportion of employees with an unspecified gender, Total	%	2	1	2	
by age group					
Proportion of employees that are less than 30 years old, Total	%	25	18	18	
Proportion of employees that are 30-50 years old, Total	%	48	49	49	
Proportion of employees that are over 50 years old, Total	%	27	34	33	
ECONOMIC					
PRODUCTION					
Production, Total	**tonnes**	**9,203,569**	**9,299,784**	**9,115,747**	
by division					
Production, Woodlands	tonnes	6,519,703	6,605,190	6,367,009	r
Production, Woodlands harvested	tonnes	4,620,863	4,625,883	4,966,807	s
Production, Woodlands purchased	tonnes	1,898,840	1,979,307	2,166,381	t
Production, Sawmills	tonnes	4,611,471	4,574,169	4,462,613	
Production, Sawmills, Lumber	tonnes	1,535,575	1,520,049	1,493,039	u
Production, Sawmills, Lumber	MFBM	1,172,105	1,160,253	1,139,636	u
Production, Sawmills, Residuals	tonnes	3,075,895	3,011,922	2,867,092	
Production, Sawmills, Pellets	tonnes	-	42,198	102,483	
Production, Pulp and paper	tonnes	902,718	922,182	914,809	
Production, Irving Pulp & Paper, Limited	tonnes	313,108	341,621	346,611	
Production, Irving Paper Limited	tonnes	400,236	398,705	381,266	
Production, Lake Utopia Paper	tonnes	189,374	181,856	186,932	
Production, Tissue	tonnes	245,572	252,363	340,891	
ECONOMIC PERFORMANCE					
Capital Investment,CAD, Total	**$ millions CAD**	**390**	**512**	**632**	
by division					
Woodlands	$ millions CAD	22	27	22	
Sawmills	$ millions CAD	41	66	66	
Pulp and paper	$ millions CAD	49	89	155	

Data	Measurement	2018	2019	2020	Footnote
Tissue	$ millions CAD	269	328	388	
Head Office	$ millions CAD				
Capital Investment, USD, Total	**$ millions USD**	**253**	**316**	**406**	
by division					
Woodlands	$ millions USD	17	20	16	
Sawmills	$ millions USD	32	49	49	
Pulp and paper	$ millions USD	38	67	116	
Tissue	$ millions USD	208	247	289	
Head Office	$ millions USD	7	2	1	
Spend on local suppliers, CAD, Total	**$ millions USD**	**1,401**	**1,539**	**1,626**	
by division					
Woodlands	$ millions CAD	465	484	435	
Sawmills	$ millions CAD	250	306	289	
Pulp and paper	$ millions CAD	301	359	435	
Tissue	$ millions CAD	330	339	411	
Head Office	$ millions CAD	55	50	56	
Spend on local suppliers, USD, Total	**$ millions USD**	**1,079**	**1,160**	**1,212**	
by division					
Woodlands	$ millions USD	359	365	325	
Sawmills	$ millions USD	193	231	216	
Pulp and paper	$ millions USD	232	271	324	
Tissue	$ millions USD	252	256	306	
Head Office	$ millions USD	42	38	41	
WAGES AND EMPLOYEE BENEFITS					
Total spend on employee wages and benefits	$ millions CAD	956	1,108	1,140	
Direct, Indirect and Induced jobs	$ millions USD	738	835	850	
Median total compensation for female employees, CAN	FTE	15,278	15,824	15,945j	
Median total compensation for male employees, CAN	CAD/year	57,120	54,939	56,000	v
Median total compensation for employees with an unspecified gender, CAN	CAD/year	72,226	69,604	70,674	v
Median total compensation for female employees, US	CAD/year	69,058	62,830	69,482	v
Median total compensation for male employees, US	USD/year	47,635	44,554	48,959	w
Median total compensation for employees with an unspecified gender, US	USD/year	56,455	53,355	56,805	w
Ratio of median salary women to men, CAN	USD/year	39,792	39,356	42,916	w
Ratio of median salary women to men, US	-	0.79	0.79	0.79	
Defined benefit plan percentage of salary contirbuted by employee	-	0.84	0.84	0.86	
Defined benefit plan percentage of salary contirbuted by employee	%				
Median entry level wage ratio for female employees, Total, CAN	%				
Median entry level wage ratio for male employees, Total, CAN	-	1.7	1.6	1.6	x
Median entry level wage ratio for employees with an unspecified gender, Total, CAN	-	1.7	1.6	1.6	x
	-	1.9	1.6	2.1	x

Data	Measurement	2018	2019	2020	Footnote
Median entry level wage ratio for female employees, Total, US	-	2.0	1.6	1.6	x
Median entry level wage ratio for male employees, Total, US	-	2.0	1.7	1.7	x
Median entry level wage ratio for employees with an unspecified gender, Total, US	-	2.1	2.3	2.0	x
GOVERNANCE					
Number of countries	#	2	2	2	y
Number of facilities, Total	**#**	**20**	**21**	**21**	
by division					
Sawmills	#	11	12	11	
Pulp and paper	#	3	3	3	
Tissue	#	4	4	5	
Corporate administration	#	2	2	2	
Percentage of total employees covered by collective bargaining agreements	%	42	43	43	
Substantiated complaints from outside parties regarding breach of customer privacy and loss of customer data	#	0	0	0	
Complaints from regulatory bodies regarding breach of customer privacy and loss of customer data	#	0	0	0	
Total number of identified leaks, thefts, or losses of customer data	#	0	0	0	
Total percentage of governance body members that the organization's anti-corruption policies and procedures have been communicated to	%	100	100	100	
Total percentage of governance body members that the organization's anti-corruption policies and procedures have been communicated to, US	%	100	100	100	
Total percentage of governance body members that the organization's anti-corruption policies and procedures have been communicated to, CAN	%	100	100	100	
Total number and nature of confirmed incidents of corruption	#	0	0	0	
Number of legal actions pending or completed during the reporting period regarding anti-competitive behavior and violations of anti-trust and monopoly legislation in which the organization has been identified as a participant	#	0	0	0	

Data	Measurement	2018	2019	2020	Footnote
OTHER					
University and college partnerships	#	-	-	21	z
Community based partnerships	#	-	-	119	z
Outdoor associations	#	-	-	13	z
Motorized recreation	#	-	-	2	z
Stakeholder based group partnerships	#	-	-	53	z
Non government organizations	#	-	-	13	z
Government organizations	#	-	-	5	z
Fishing and hunting clubs	#	-	-	9	z
Industry associations	#	-	-	26	z
# of partner meetings	#	-	-	411	z
New partners	#	-	-	4	z
# of people reached	#				
Volunteer hours	hours				
Scholarships	$	100,000.00	100,000.00	100,000.00	
Stakeholder/social media presence	# of followers	-	-	67,198	
Stakeholder/social media engagement	# of posts	-	-	1,858	
Stakeholder/social media engagement	# of engagements	-	-	848143	
Charitable donations	$	0	0	2,345,446	
Events/ initiatives sponsored	#	90	85	62	
Employee time volunteered	hours	0	0	0	
Recruitement of newcomers	#	134	136	213	
Countries that newcomers were recruited from	#	23	21	11	

FOOTNOTES:

a - 2020 is the first year that woodlands ghg emissions have been calculated
b - forest product facilities only, excludes woodlands
c - not applicable
d - forest product facilities only; excluding sawmills and woodlands
e - stream crossing permits
f - water discharge non compliance
g - 100% from surface water
h - occ (old corrugate cardboard) used as input material at lake utopia paper
i - conservation land includes unique areas, buffers, deer wintering areas, old forest habitats, protected natural areas, and areas that will not or cannot be operated on.
j - full time equivalent, fte
k - head count
l - 2018 is excluded bacause a different survey was used prior to 2019.
m - students are included
n - includes divisional head office, and sites
o - recordable injury rate=(sum of recordable injuries*200000)/number of hours ; students are included
p - lost time injury rate=(sum of lost time injuries*200000)/number of hours ; students are included
q - hazard id participation rate=(count of employees that reported at least 1 hazard id in a period/number of employees in the location) / 13
r - trees harvested
s - includes harvesting on crown land plus freehold land
t - purchased from private landowners
u - lumber production only, excludes residuals and pellets
v - only includes canadian operations; cad
w - only includes us operations; usd
x - entry level wages compared to local minimum wage
y - Canada and United States
z - new company metric in 2020

GRI / SASB INDEX

GRI

GRI Standard		Location
GRI 102: GENERAL DISCLOSURES		
ORGANISATIONAL PROFILE		
102-1	Name of the organisation	About this report (7)
102-2	Activities, brands, products, and services	1.4 Our product lines at a glance (22-23)
102-3	Location of the headquarters	1.2 Our Operations (19)
102-4	Location of operations	1.2 Our operations (19)
102-6	Markets served	About this report (7) 1.4 Our product lines at a glance (22-23)
102-7	Scale of the organisation	1.2 Our operations (19) Data tables - Employement (131)
102-8	Information on the employees and other workers	Data tables - Employement (131)
102-9	Supply chain	Data tables - Production (131)
102-12	External initiatives	4.7 Community engagement (107) Data tables - Other (137)
STRATEGY		
102-14	Statement from senior decision-maker	A message form our co-CEOs (4-5)
102-15	Key impacts, risks, and opportunities	2.4 Sustainable development goals (41)
ETHICS AND INTEGRITY		
102-16	Values, principles, standards, and norms of behavior	Our values (12-13)
102-21	Consulting stakeholders on economic, encironmental, and social topics	2.3.1. How we engage with stakeholders (34-35)
102-29	Identifying and managing economic, environmental, and social impacts	2.2 Sustainability governance (34-35)
102-32	Highest governance body's role in sustainability reporting	2.2 Sustainability governance (34)
102-34	Nature and total number of critical concerns	Data tables - governance (136)
STAKEHOLDER ENGAGEMENT		
102-40	List of stakeholder groups	2.3.1 How we engage with stakeholders (38)
102-41	Collective bargaining agreements	Data tables - governance (136)
102-43	Approach to stakeholder engagement	2.3.1 How we engage with stakeholders (38)
102-44	Key topics and concerns raised	2.3.1 How we engage with stakeholders (38)
REPORTING PRACTICE		
102-47	List of material topics	2.4 Sustainable development goals (41)
102-50	Reporting period	About this report (7)
102-51	Date of most recent report	About this report (7)
102-52	Reporting cycle	About this report (7)
102-53	Contact point for questions regarding the report	About this report (7)
102-55	GRI content index	GRI Content Index (139-x)
GRI 201: ECONOMIC PERFORMANCE		
ECONOMIC PERFORMANCE		
103	Management approach	1.3 How we create value (20-21)
201-1	Direct economic value generated and distributed	1.3 How we create value (21)
201-2	Financial implications and other risks and opportunities due to climate change	3.4.4. The path to Net Zero (72)
201-3	Defined benefit plan obligation and other retirement plans	Data tables - Wages and employee benefits (134)
GRI 203: INDIRECT ECONOMIC IMPACTS		
INDIRECT ECONOMIC IMPACTS		
103	Management approach	1.3 How we create value (20)
203-1	Infrastructure investments and services supported	3.5.1 Water management - Sawmills (77); 4.9 Discover the gift of nature (110); Data tables - Economic (133)
203-2	Significant indirect economic impacts	1.3 How we create value (20)
GRI 204: PROCUREMENT PRACTICES		
PROCUREMENT PRACTICES		
204-1	Proportion of spending on local suppliers	1.3 How we create value (21); Data tables - Economic (134)
GRI 205: ANTI-CORRUPTION		
ANTI-CORRUPTION		
205-2	Communication and training about anti-corruption policies and procedures	Data tables - governance (136)
205-3	Confirmed incidents of corruption and actions taken	Data tables - governance (136)

GRI Standard		Location
GRI 206: ANTI-COMPETITIVE BEHAVIOUR		
ANTI-COMPETITIVE BEHAVIOUR		
206-1	Legal actions for anti-competitive behavior, anti-trust, and monopoly practices	Data tables - governance (136)
TAX		
GRI 301: MATERIALS		
MATERIALS		
103	Management approach	1.3 How we create value (21); 1.4 Our product lines at a glance (22-23); 2.1 Sustainability approach: Rooted in the forest (32-33)
301-1	Materials used by weight or volume	Data tables - Materials (130)
301-2	Recycled input materials used	3.6 Waste Reduction (84), Data Tables (138)
GRI 302: ENERGY		
ENERGY		
103	Management approach	3.4 Emissions and energy managemment (65)
302-1	Energy consumption within the organization	Data tables - Energy (128)
302-3	Energy intensity	Data tables - Energy (128)
WATER AND EFFLUENTS		
Management approach disclosures		
303-1	Interactions with water as a shared resources	3.5 Water management (74)
303-2	Management of water discharge-related impacts	3.5.1 Water management - Sawmills (75); 3.5.2 Water management - Pulp & Paper (81)
TOPIC-SPECIFIC DISCLOSURES		
303-3	Water withdrawal	3.5 Water Management (76), Data Tables (136)
303-4	Water discharge	Data tables - water (129)
303-5	Water consumption	Data tables - water (129)
GRI 304: BIODIVERSITY		
BIODIVERSITY		
103	Management approach	3.2 Our commitment to conservation and biodiversity (58)
304-1	Operational sites owned, leased, managed in, or adjacent to, protected areas and areas of high biodiveristy value outside protected areas	Data tables - Biodiversity conservation (130)
304-2	Significant impacts of activities, products, and services on biodiveristy	3.1 Environmental commitment (57)
304-3	Habitats protected or restored	Data tables - Biodiversity conservation (130)
304-4	IUCN Red List species and national conversation list species with habitats in areas affected by operations	Data tables - Biodiversity conservation (130)
GRI 305: EMISSIONS		
EMISSIONS		
103	Management approach	3.4 Emissions and energy managemment (65)
305-1	Direct (scope 1) GHG emissions	3.4.4 The path to Net Zero (72); Data tables - Emissions (126)
305-2	Energy indirect (scope 2) GHG emissions	3.4.4 The path to Net Zero (73); Data tables - Emissions (126)
305-3	Other indirect (scope 3) GHG emissions	3.4.4 The path to Net Zero (73); Data tables - Emissions (126)
305-4	GHG emissions intensity	Data tables - Emissions (126)
305-5	Reduction of GHG emissions	3.4.3 Emissions and energy managemment (71)
305-7	Nitrogen oxides (NOx), sulfur oxides (SOx), and other significant air emissions	Data tables - Other air emissions (127)
GRI 306: WASTE		
WASTE		
Management approach disclosures		
306-1	Waste generation and significant waste-related impacts	2.1 Sustainability approach: Rooted in the forest (32-33); 3.6 Waste reduction (82)
306-2	Management of significant waste-related impacts	3.6.1 Waste reduction - Sawmills (85); 3.6.1 Waste reduction - Sawmills (85); 3.6.2 Waste reduction - Irving Pulp & Paper (87); 3.6.3 Waste reduction - Tissue (89)
TOPIC-SPECIFIC DISCLOSURES		
306-3	Waste generated	Data tables - Waste (128)
306-4	Waste diverted from disposal	Data tables - Waste (129)
306-5	Waste directed to disposal	Data tables - Waste (129)
GRI 307: ENVIRONMENTAL COMPLIANCE		
ENVIRONMENTAL COMPLIANCE		
103	Management approach	3.1 Environmental commitment (57)
307-1	Non-compliance with envionmental laws and regulations	3.2 Business ethics & regulatory compliance (117); Data tables - Environmental Compliance (127)
GRI 401: EMPLOYEMENT		
EMPLOYMENT		
103	Management approach	4.1 Employee engagement (92)
401-1	New employee hires and employee turnover	Data tables - employment (131)
401-3	Parental leave	Data tables - parental leave (135-136)

GRI Standard		Location
LABOR MANAGEMENT RELATIONS		
OCCUPATIONAL HEALTH AND SAFETY		
Management approach disclosures		
403-1	Occupational health and safety management system	4.2 Building safer workplaces, everyday (95)
403-2	Hazard identification, risk assesment, and incident investigation	4.2 Building safer workplaces, everyday (95)
403-3	Occupational health services	5.3 Data privacy - employee privacy (119)
403-4	Worker participation, consultation, and communication on occupational health and safety	4.2 Building safer workplaces, everyday (95)
403-5	Worker training on occupational health and safety	4.2 Building safer workplaces, everyday (95)
403-6	Promotion of worker health	4.3 Wellness (97)
403-7	Prevention and mitigation of occupational health and safety impacts directly linked to business relationships	4.2 Building safer workplaces, everyday (95)
TOPIC-SPECIFIC DISCLOSURES		
403-9	Work related injuries	Data tables - occupational health & safety (132)
403-10	Work-related ill health	4.3 Wellness (97)
GRI 404: TRAINING AND EDUCATION		
TRAINING AND EDUCATION		
103	Management approach	4.4 Leadership development & training (98)
404-1	Average hours of training per year per employee	Data tables - Training & Education (133)
404-2	Programs for upgrading employee skills and transition assistance programs	4.4 Leadership development & training (101)
404-3	Percentage of employees receiving regular performance and career development reviews	Data tables - training and education (133)
GRI 405: DIVERSITY AND EQUAL OPPORTUNITY		
DIVERSITY AND EQUAL OPPORTUNITY		
103	Management approach	4.5 Diversity & inclusion (103)
405-1	Diversity of governance bodies and employees	Data tables - Diversity and inclusion (133)
405-2	Ratio of basic salary and remunaration of women to men	Data tables - Wages and employee benefits (134)

GRI Standard		Location
FREEDOM OF ASSOCIATION AND COLLECTIVE BARGAINING		
GRI 413: LOCAL COMMUNITIES		
LOCAL COMMUNITIES		
413-1	Operations with local community engagement, impact assesments, and development programs	2.3 Stakeholder engagement & community partnerships (36-39); 4.7 Community engagement (106-109)
GRI 418: CUSTOMER PRIVACY		
CUSTOMER PRIVACY		
103	Management approach	5.3 Data privacy (118-119); 5.4 We believe cybersecurity is everyone's business (121)
418-1	Substancial complaints concerning breaches of customer privacy and losses of customer data	Data tables - Governance (136)
GRI 419: SOCIOECONOMIC COMPLIANCE		
SOCIOECONOMIC COMPLIANCE		
103	Management approach	3.2 Business ethics & regulatory compliance (117)
419-1	Non-compliance with laws and regulations in the social and economic area	3.2 Business ethics & regulatory compliance (117)

SUSTAINABILITY DISCLOSURE TOPICS & ACCOUNTING METRICS (SASB)

CODE	ACCOUNTING METRIC	LOCATION
PULP & PAPER INDUSTRY		
GREENHOUSE GAS EMISSIONS		
RR-PP-110a.1	Gross global Scope 1 emissions	Data tables - Emissions (126)
RR-PP-110a.2	Discussion of long-term and short-term strategy or plan to manage Scope 1 emissions, emissions reduction targets, and an analysis of performance against those targets	3.4 Emissions and energy management (65) 3.4.4 The path to Net Zero (71)
AIR QUALITY		
RR-PP-120a.1	Air emissions of the following pollutants:	
	1) NOx (excluding N2O)	Data tables - Other air emissions (127)
	2) SO2	Data tables - Other air emissions (127)
	4) particulate matter (PM)	Data tables - Other air emissions (127)

CODE	ACCOUNTING METRIC	LOCATION
ENERGY MANAGEMENT		
RR-PP-130a.1	1) total energy consumed	Data tables - Energy (128)
	2) percentage grid electricity	Data Table (134)
	3) percentage from biomass	Data tables - Energy (128)
	4) percentage from other renewable energy	Data Tables (134)
WATER MANAGEMENT		
RR-PP-140a.1	1) total water withdrawn	3.5 Water Management (76), Data Tables (136)
	2) total water consumed, percentage of each in regions with High or Extremely High Baseline Water Stress	Data tables - Water (129)
RR-PP-140a.2	Description of water management risks and discussion of strategies and practices to mitigate those risks	3.5 Water management (74)
SUPPLY CHAIN MANAGEMENT		
RR-PP-430a.1	Percentage of wood fiber sourced from:	
	1) third-party certified forestlands and percentage to each standard	Data tables - Materials (130)
	2) meeting other fiber sourcing standards and percentage to each standard	Data tables - Land certification (130)
RR-PP-430a.2	Amount of recycled and recovered fiber procured	3.6 Waster Reduction (84), Data Tables (138)

CODE	ACTIVITY METRIC	LOCATION
ACTIVITY METRICS		
RR-PP-000.A	Pulp production	3.4.3 Emissions and energy management (71) 3.5.2 Water management (81) 3.6.2 Waste reduction (87)
RR-PP-000.B	Paper production	3.4.3 Emissions and energy management (71) 3.5.2 Water management (81) 3.6.2 Waste reduction (87)
RR-PP-000.C	Total wood fiber sourced	Data tables - Materials (130)

CODE	ACCOUNTING METRIC	LOCATION
FORESTRY MANAGEMENT		
ECOSYSTEM SERVICES & IMPACTS		
RR-FM-160a.1	Area of forestland certified to a third-party forest management standard, percentage certified to each standard	Data tables - Land certification (130)
RR-FM-160a.2	Area of forestland with protected conservation status	Data tables - Biodiversity conservation (130)
RR-FM-160a.3	Area of forestland in endangered species habitat	Data tables - Biodiversity conservation (130)
RR-FM-160a.4	Description of approach to optimizing opportunities from ecosystem services provided by forestlands	3.2 Our commitment to conservation and biodiversity (58)
RIGHTS OF INDIGENOUS PEOPLES		
RR-FM-210a.2	Description of engagement processes and due diligence practices with respect to human rights, indigenous rights, and the local community	2.3.1 How we engage with stakeholders (39)
CLIMATE CHANGE ADAPTATION		
RR-FM-450a.1	Description of strategy to manage opportunities for and risks to forest management and timber production presented by climate change	2.7 Long term thinking - growing more wood than we harvest (47)

CODE	ACTIVITY METRIC	LOCATION
ACTIVITY METRICS		
RR-FM-000.A	Area of forestland owned, leased, and/or managed by the entity	Data tables - Biodiversty and conservation (130)
RR-FM-000.B	Aggregate standing timber inventory	2.6 Abundant forests: managing the land (45)
RR-FM-000.C	Timber harvest volume	Data Tables (144)

PO Box 5777
300 Union Street
Saint John, New Brunswick
E2L 4M3 Canada

Toll Free:
1-800-518-7999
Main Switchboard:
1-506-632-7777

www.jdirving.com
info@jdirving.com