

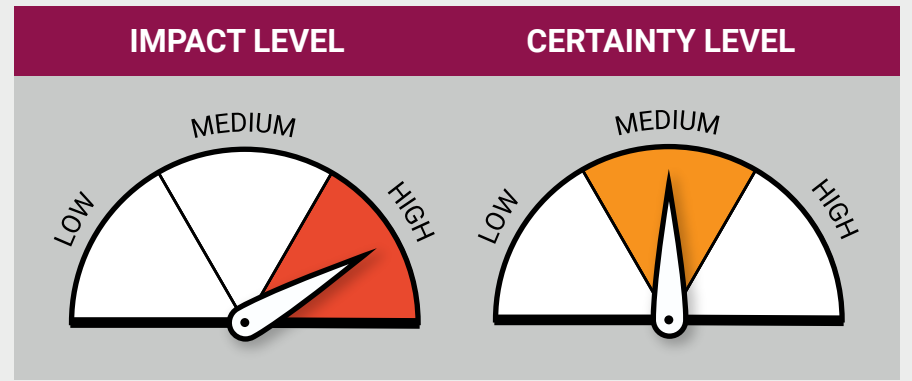
CLIMATE TRANSITION TYPE
Market Access, Legal and Policy

LOCATION
Global

SECTOR
Beef, Palm Oil, Soy, Cocoa

## LAND-USE PACT SIGNED BY TOP COMPANIES AT COP 26

During COP 26, 10 commodity companies (including JBS, Cargill, Bunge, and Wilmar International) pledged to end deforestation in their supply chains by 2030. They join over 140 countries who have agreed to reinforce existing commitments to halt forest loss from agricultural commodity production and trade. If upstream soft commodity producers refuse to adhere to policies implemented by their buyers, they risk facing sanctions such as suspension of trade, exposing firms to market access risks.



Income Statement
Revenue
Expenses
Net income

### Income Statement Impacts

Climate-related risks that affect income, expenses and revenue

#### Sales Revenue

Soft commodity producers could lose market access due to increased scrutiny and stricter regulations.

———— RISK ————>

Those who do will lose market access will see **decreased sales and revenue.**

#### SG&A

Soft commodity producers may face regulatory penalties, fines and/or legal action.

———— RISK ————>

These result in **increased SG&A expenses.**

Balance Sheet
Assets
Liabilities
Shareholders' equity

### Balance Sheet Impacts

Climate-related risks that affect assets, liabilities and shareholder equity

#### Goodwill

Attention on compliance is increasing.

———— RISK ————>

Laggards can suffer reputational damage and **loss of customer loyalty.**

———— OPPORTUNITY ————>

First-movers can build a reputation as an environmental good actor and **improve customer opinion and retention.**

#### Write-downs and Impairment

Business practices and trade policy are changing in response to a warming climate.

———— RISK ————>

At-risk assets can **lose their value** as a result of changes in business practices and government policy.

#### Weighted Cost of Capital (WACC)

Lenders and investors increasingly require compliance with environmental and social standards.

———— RISK ————>

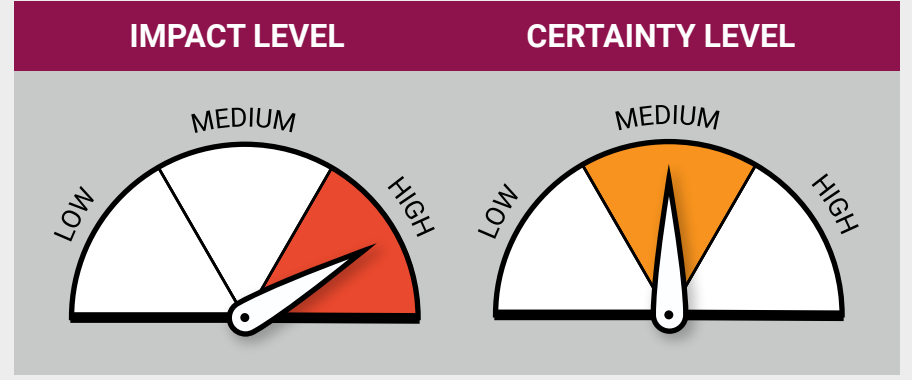
Laggards may face **higher financing costs and increased liabilities.**

———— OPPORTUNITY ————>

Leaders may find **fewer barriers to capital** as a result of responsible actions.

## INCREASED LAND USE COMPETITION

Deforestation restrictions will increase land competition in the beef industry, driving up land prices. This could spur land sales and conversion to higher margin and lower carbon agricultural activities or sustainable intensification and overall, increase costs for cattle small-holders who are unable to change their practices.



**Income Statement**

- Revenue
- Expenses
- Net income

### Income Statement Impacts

Climate-related risks that affect income, expenses and revenue

#### Sales Revenue

Pressures on producers could push many of them to convert their land to more sustainable productions.

— OPPORTUNITY —>

Those who do could see **increased revenue from more diversified streams.**

#### Cost of Goods Sold (COGS)

Land costs will increase as a result of increased competition.

— RISK —>

Land is an input into beef production, so the **cost of production goes up.**

**Balance Sheet**

- Assets
- Liabilities
- Shareholders' equity

### Balance Sheet Impacts

Climate-related risks that affect assets, liabilities and shareholder equity

#### Weighted Cost of Capital (WACC)

Lenders and investors grow increasingly concerned about increased land prices.

— RISK —>

Smallholders who do not sustainably intensify production may face **higher financing costs and increased liabilities.**

— OPPORTUNITY —>

Those who change production patterns could have **easier access to capital at lower cost.**

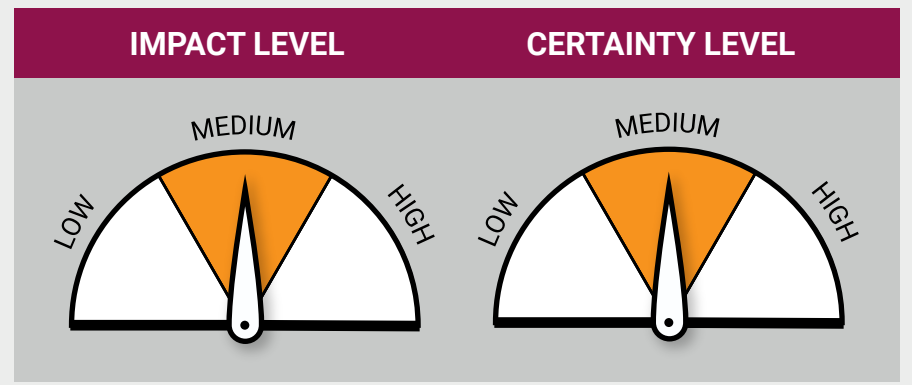
**CLIMATE TRANSITION TYPE**  
Upstream Technology, Legal and Policy

**LOCATION**  
Indonesia

**SECTOR**  
Palm Oil

## UPGRADED MILLING TECHNOLOGIES

Emerging agroforestry techniques such as upgrading mill technology, particularly through emission reduction technologies like biogas capture and cogeneration facilities, can reduce carbon emissions, increase yield, lower costs and create additional revenue streams for palm growers. New milling technologies can increase efficiency, productivity and higher yields for agri-businesses. This can lead to lower costs, higher yield and production and increased profits, which can increase NPV for firms.



**Income Statement**  
Revenue  
Expenses  
Net income

### Income Statement Impacts

Climate-related risks that affect income, expenses and revenue

Sales Revenue		
New technologies could increase yields.	— OPPORTUNITY —>	Those who adopt the new technology could see <b>increased revenue</b> from more diversified streams.
Cost of Goods Sold (COGS)		
New technologies could decrease production costs by improving efficiency.	— RISK —>	Those who do not adopt these technologies could see relatively <b>higher COGS</b> compared to competitors.
	— OPPORTUNITY —>	First adopters could see <b>decreased COGS</b> .
SG&A		
Technological changes can lower non-production costs.	— OPPORTUNITY —>	Biogas generation facilities using palm oil effluent (POME) provide triple-bottom-line benefits, <b>reducing costs</b> for on-site diesel fuel and GHG emissions.

**Balance Sheet**  
Assets  
Liabilities  
Shareholders' equity

### Balance Sheet Impacts

Climate-related risks that affect assets, liabilities and shareholder equity

Goodwill		
Attention on emissions throughout supply chains is increasing.	— RISK —>	Laggards can suffer reputational damage and <b>loss of customer loyalty</b> .
	— OPPORTUNITY —>	First-movers can build a reputation as an environmental good actor and <b>improve customer opinion and retention</b> .
Weighted Cost of Capital (WACC)		
Lenders and investors may prefer companies who adopt the latest technologies.	— RISK —>	Laggards may face <b>higher financing costs</b> and increased liabilities.
	— OPPORTUNITY —>	Leaders may find <b>fewer barriers to capital</b> as a result of technological adaptation.

CLIMATE TRANSITION TYPE

Downstream Technology, Market

LOCATION

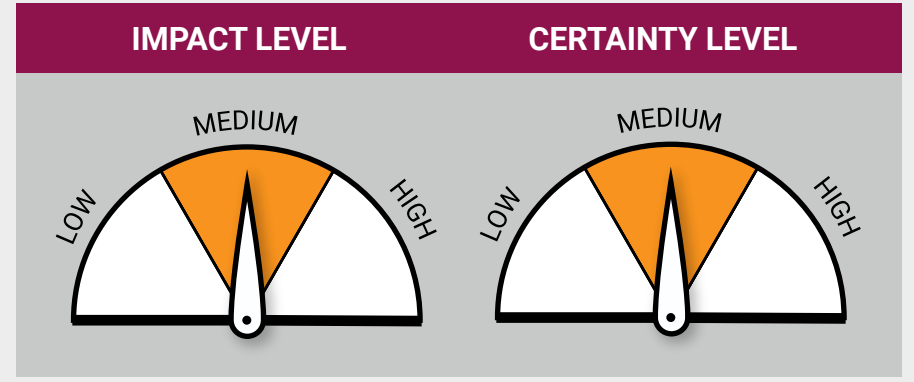
Brazil

SECTOR

Beef

## CUSTOMERS REPLACE BEEF WITH ALTERNATIVE PROTEINS

New technologies in the production of meat and protein alternatives could be substituted for meats, especially as they become cheaper to make and more affordable and desirable to customers. Brazilian cattle small-holders that have low-intensity low-yield will be the most exposed to these substitution effect risks and will be less likely to survive demand shocks due to the lack of economies of scale and scope.



### Income Statement

Revenue  
Expenses  
Net income

### Income Statement Impacts

Climate-related risks that affect income, expenses and revenue

#### Sales Revenue

Beef could become less desirable to consumers.

RISK

Producers could see **lower demand, falling prices, and fewer units sold** resulting in decreased revenue.

OPPORTUNITY

Those who diversify production could see **increased revenue.**

#### Cost of Goods Sold (COGS)

Decrease in demand could change production costs

RISK

**Operational costs** such as holding costs for cattle ranchers and smallholders **could increase.**

### Balance Sheet

Assets  
Liabilities  
Shareholders' equity

### Balance Sheet Impacts

Climate-related risks that affect assets, liabilities and shareholder equity

#### Write-downs and Impairment

Available technologies and consumer preferences are changing with increased awareness of climate change.

RISK

As customers substitute away from beef, **some assets could lose their value.**

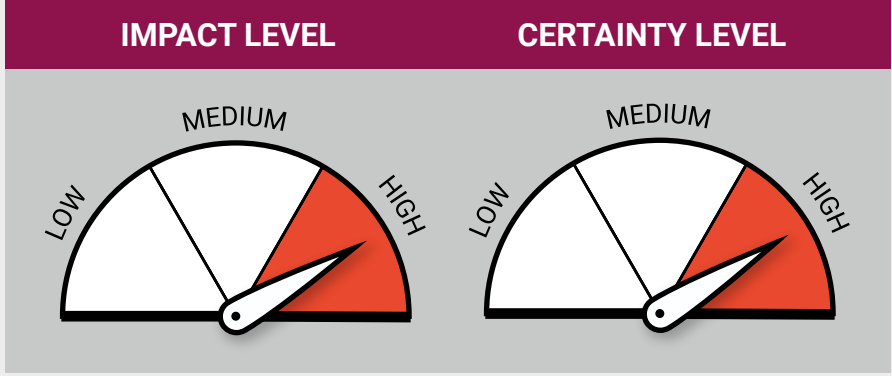
OPPORTUNITY

Producers who change production patterns could avoid this and **diversify their income streams.**

CLIMATE TRANSITION TYPE	LOCATION	SECTOR
Reputation	U.S.	Palm Oil, Soy, Beef

## EXPECTED SEC CLIMATE DISCLOSURES RULE

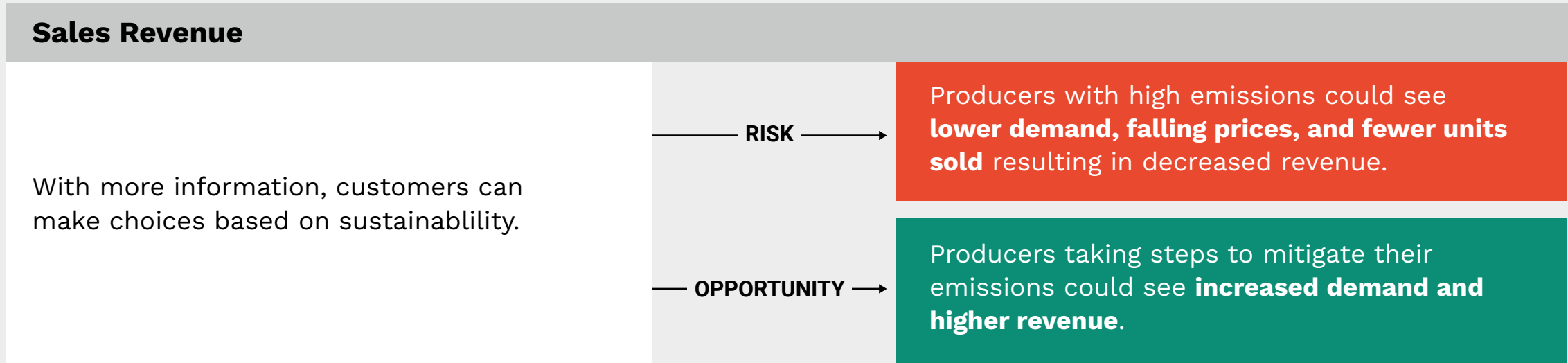
The SEC has proposed a rule that will require businesses to disclose to investors how their operations affect climate change, specifically Scope 1, 2 and 3 emissions. This will expose short-, medium-, and long-term climate-related risks and standardize ESG reporting and data collection. As a consequence, it will expose high-emitting companies as high-risk investment.



Income Statement
Revenue
Expenses
Net income

### Income Statement Impacts

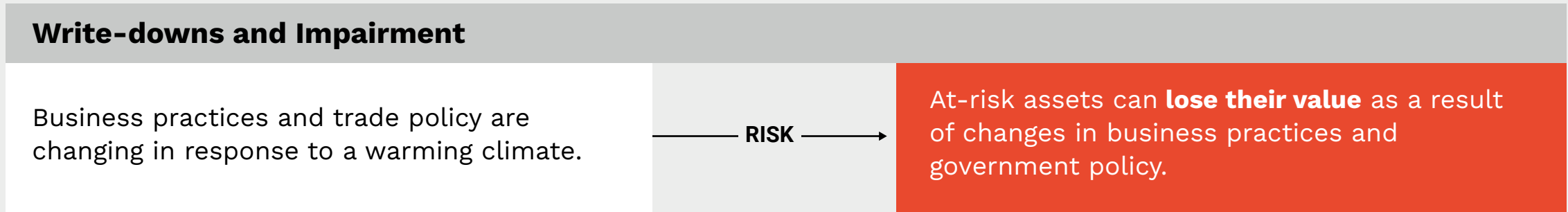
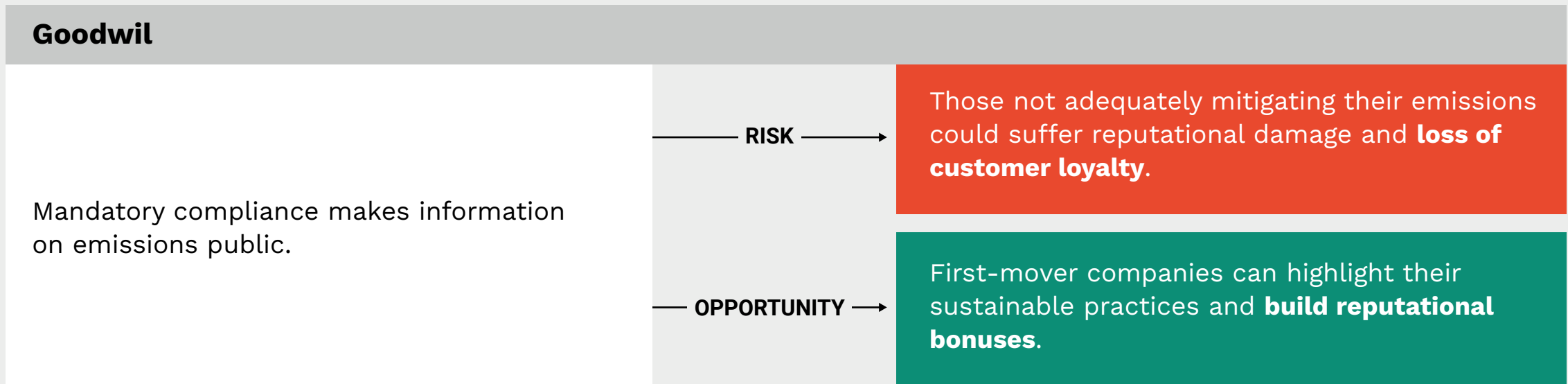
Climate-related risks that affect income, expenses and revenue



Balance Sheet
Assets
Liabilities
Shareholders' equity

### Balance Sheet Impacts

Climate-related risks that affect assets, liabilities and shareholder equity



Source: SEC

CLIMATE TRANSITION TYPE

Reputation, Technology

LOCATION

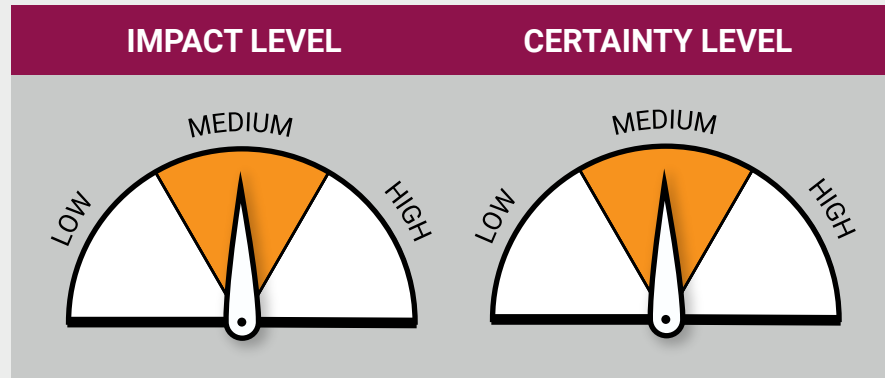
Latin America

SECTOR

Palm Oil, Soy, Beef

# SATELLITE MONITORING OF DEFORESTATION

Satellite monitoring tools and initiatives have made it difficult for companies to maintain opaque supply chains and engage in deforestation. Increased scrutiny of palm oil producers can lead to reputation loss and decreased market access among non-compliant firms.



## Income Statement

- Revenue
- Expenses
- Net income

### Income Statement Impacts

Climate-related risks that affect income, expenses and revenue

#### Sales Revenue

Soft commodity producers could lose market share due to increased scrutiny.

RISK

Those who do will lose will see **decreased sales and revenue.**

#### SG&A

With increased scrutiny, companies may do more due diligence of their supply chains

RISK

These result in **increased SG&A expenses.**

OPPORTUNITY

Could **save the company from litigation, penalties or fines** over the long-term.

## Balance Sheet

- Assets
- Liabilities
- Shareholders' equity

### Balance Sheet Impacts

Climate-related risks that affect assets, liabilities and shareholder equity

#### Goodwil

Consumers have more information about companies' supply chains.

RISK

Producers involved in deforestation could suffer reputational damage and **loss of customer loyalty.**

OPPORTUNITY

Deforestation-free producers can highlight their sustainable practices and build **reputational bonuses.**

#### Weighted Cost of Capital (WACC)

Lenders and investors increasingly require compliance with environmental and social standards.

RISK

Laggards may face **higher financing costs** and increased liabilities.

OPPORTUNITY

Leaders may find **fewer barriers to capital** as a result of responsible actions.

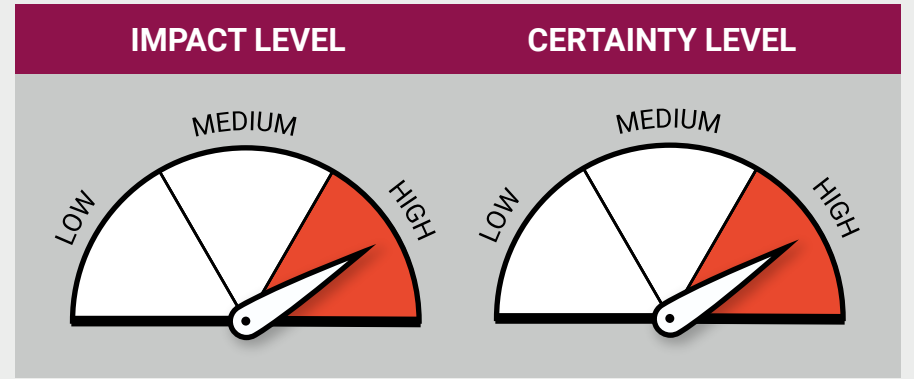
**CLIMATE TRANSITION TYPE**  
Legal and Policy, Reputation

**LOCATION**  
European Union

**SECTOR**  
Beef, Palm Oil, Soy, Cocoa

## EU DEFORESTATION REGULATION (EUDR)

Under this regulation, operators and traders importing to or exporting from the EU market will have to prove that their products are free of both legal and illegal deforestation. If upstream suppliers refuse to adhere to policies implemented by their buyers, they risk suspension of trade, exposing firms to market access risks and more.



**Income Statement**  
Revenue  
Expenses  
Net income

### Income Statement Impacts

Climate-related risks that affect income, expenses and revenue

#### Sales Revenue

Soft commodity producers with deforestation in their supply chains will lose access to the EU market.

— RISK —>

Those who lose market access will see **decreased sales and revenue**.

— OPPORTUNITY —>

Firms without deforestation in their supply chains can **increase sales revenue** due to increased market access and demand.

#### SG&A

Soft commodity producers may face regulatory penalties, fines and/or legal action.

— RISK —>

These result in **increased SG&A expenses**.

**Balance Sheet**  
Assets  
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### Balance Sheet Impacts

Climate-related risks that affect assets, liabilities and shareholder equity

#### Goodwil

Attention on compliance is increasing.

— RISK —>

Laggards can suffer reputational damage and **loss of customer loyalty**.

— OPPORTUNITY —>

First-movers can build a reputation as an environmental good actor and **improve customer opinion and retention**.

#### Write-downs and Impairment

Business practices and trade policy are changing in response to a warming climate.

— RISK —>

At-risk assets can **lose their value** as a result of changes in business practices and government policy.

#### Weighted Cost of Capital (WACC)

Lenders and investors increasingly require compliance with environmental and social standards and laws.

— RISK —>

Laggards may face **higher financing costs** and increased liabilities.

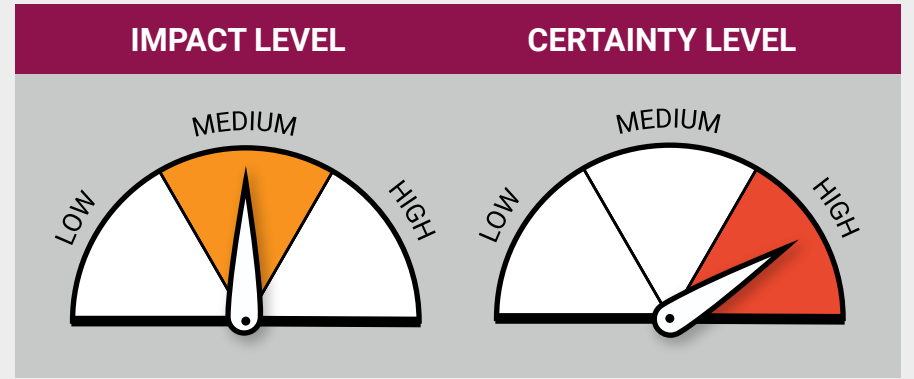
— OPPORTUNITY —>

Leaders may find **fewer barriers to capital** as a result of responsible actions.

CLIMATE TRANSITION TYPE	LOCATION	SECTOR
Legal and Policy	United Kingdom	Beef, palm oil, and soy

## UK ENVIRONMENTAL ACT OF 2021

This act requires UK companies to implement due diligence systems (DDS) for high forest risk commodities to block illegally produced forest risk commodities, extending existing legal obligations. Non-compliant companies face penalties up to £250,000. However, revenues may increase in the long term as a result of more efficient and sustainable production processes, reducing the burden of compliance costs.



Income Statement
Revenue
Expenses
Net income

### Income Statement Impacts

Climate-related risks that affect income, expenses and revenue

#### Sales Revenue

Soft commodity producers with deforestation in their supply chains will lose access to the UK market.

RISK

Those who lose market access will see **decreased sales and revenue.**

OPPORTUNITY

Firms without deforestation in their supply chains can **increase sales revenue** due to increased market access and demand.

#### SG&A

Soft commodity producers may face regulatory penalties, fines and/or legal action.

RISK

These result in **increased SG&A expenses.**

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