ENVIRONMENTAL & SOCIAL RESEARCH 2025

Summary of Findings

WORLD TRAVEL & TOURISM COUNCIL

December 2025

SUSTAINABILITY DATA PARTNER:

OMRAN

STRATEGIC PARTNERS:

AMERICAN EXPRESS

وزارة السياحة
Ministry of Tourism

RESEARCH PARTNER:

OXFORD ECONOMICS

Key Takeaways

Global direct and indirect T&T GDP surpassed its 2019 peak by 6% in 2024

T&T contributed 7.3% to global GHG emissions in 2024, well below its pre-pandemic peak of 8.3% in 2019

Total T&T GHG emissions per unit of T&T GDP fell by 3% between 2023 and 2024, and were 15% below 2019. Part of this is due to the slower recovery of T&T in Asia-Pacific, which is more emissions intensive

T&T contributed 8.7% of global energy use in 2024, up from 8.6% in 2023 but well below the 10.1% contribution in 2019

T&T directly contributed 1.1% of global water use in 2024, with an additional 4.0% share coming from its supply chain

T&T's contribution to global air pollution increased for all pollutants between 2023 and 2024 as the sector grew, but its share of global emissions is still slightly below its 2019 peak

Materials use in the T&T value is estimated to have surpassed 2019 levels across all types of materials, with fossil fuel use around 4% higher in 2024

Female employment made up a total of 40% (49% for hospitality) of direct T&T jobs, with people aged 15-24 making up 16%

T&T supported 96.7 million high wage jobs in 2024, 7.1 million more than the previous peak in 2019

T&T-linked tax revenues were $3.5 trillion in 2024 across all channels, 9.7% of total government revenues

Contents

Introduction

Glossary – Environmental impacts

This report uses several shorthand terms for conciseness and simplicity. These terms are defined below.

Shorthand used	Definition
Environmental intensity	A measure of the environmental impact per $1 of T&T GDP generated (in real terms). We measure the T&T intensity of all environmental impacts, including GHG emissions intensity and energy intensity.
T&T air pollution	The air pollutants generated by economic activities in the T&T sector and its value chain.
T&T emissions	The emissions generated by T&T. This includes Scope 1-3 emissions, unless otherwise stated.
T&T energy use	The energy used by T&T, both in direct activities and in supply chains. We specify when we are referring only to energy used in direct activities.
T&T GDP	T&T's contribution to overall GDP. This includes the contribution of T&T's direct economics activities to GDP (direct) as well as the indirect contribution of the economic activities which support T&T's supply chain (indirect).
T&T materials use	The materials use associated with spending on T&T. T&T activities do not generate materials extraction directly – so all (raw) material use associated with T&T spending occurs through the supply chain.
T&T water use	The water used by T&T-related economic activities. This includes direct activities (eg, in hotels) as well as water used in the supply chain (indirect).
Total T&T impact	The impacts of the T&T sector's direct economic activities, as well as the impacts associated with the supply chains that support T&T's supply chain.

Glossary – Social impacts

This report uses several shorthand terms for conciseness and simplicity. The precise definitions of these terms are outlined below.

Shorthand used	Precise definition
High-wage jobs	For the purposes of this study, 'high-wage' industries are defined as those in which average wages are roughly in the top third of earnings in a given country (i.e. above the 65th percentile).
Income groups	We adopt the World Bank's classification of income groups which classifies countries as being low, lower-middle, upper-middle, or high-income countries based on thresholds of per capita income.
Pandemic period	While most pandemic-related lockdowns and travel restrictions have eased, the impacts of the pandemic on the T&T sector have lingered. As such, we refer to the pandemic period as the 2020-2022 period over which these impacts were the strongest.
T&T employment	The employment supported by the T&T spending. This include direct, indirect, and induced employment. On each measure of employment, the channels considered are specified.
Youth employment	For the purposes of this study, 'youth' refers to those aged between 15 to 24.

Introduction to environmental impacts: Interpreting intensities

- **Reporting metrics**
- We report environmental impacts of T&T in three categories:
  - Absolute impact – e.g., tonnes of CO_2e emitted.
  - Contribution to global totals – e.g., share of global GHG emissions.
  - Intensities – e.g., kilograms of CO_2e emitted per $1 of T&T GDP.
- These headline results are the primary indicator of the sector's overall environmental impact. However, headline findings can reflect several underlying trends, and it is important to keep these factors in mind when drawing conclusions.

A note on different indicators of environmental performance
It is worth noting that while intensities are an important indicator of industries' performance, and useful for environmental management, it is absolute impacts that are meaningful for environmental outcomes.

Interpreting trends in environmental intensities

- Intensities vary by country and industry. For example, Mexican agriculture has a different GHG emissions intensity than both Mexican accommodation, and US agriculture.
- Moreover, changes in intensity over time are unique to each industry and country. Trends are calculated based on observed data between 2010 and 2019 (the latest year available).

Changes in global and regional T&T intensities therefore capture both:

1. **Changes in the underlying environmental performance** in the countries and industries that contribute to the T&T sector and its supply chains; and
2. **Changes in global patterns of Travel & Tourism spending** – in other words, changes in the countries and industries in which tourists are spending money.

Introduction to social impacts: The channels of social impact

The social impact of the Travel & Tourism sector acts largely through its employment of different groups of people.

T&T encompasses many activities which employ people both directly and indirectly via their value chains. The people employed are of different ages and genders, and T&T supports different levels of wages. Our study focuses on the impact of T&T employment on young workers, women, and the share of workers on high wages.

Channels of employment impact

We assess employment across three channels.

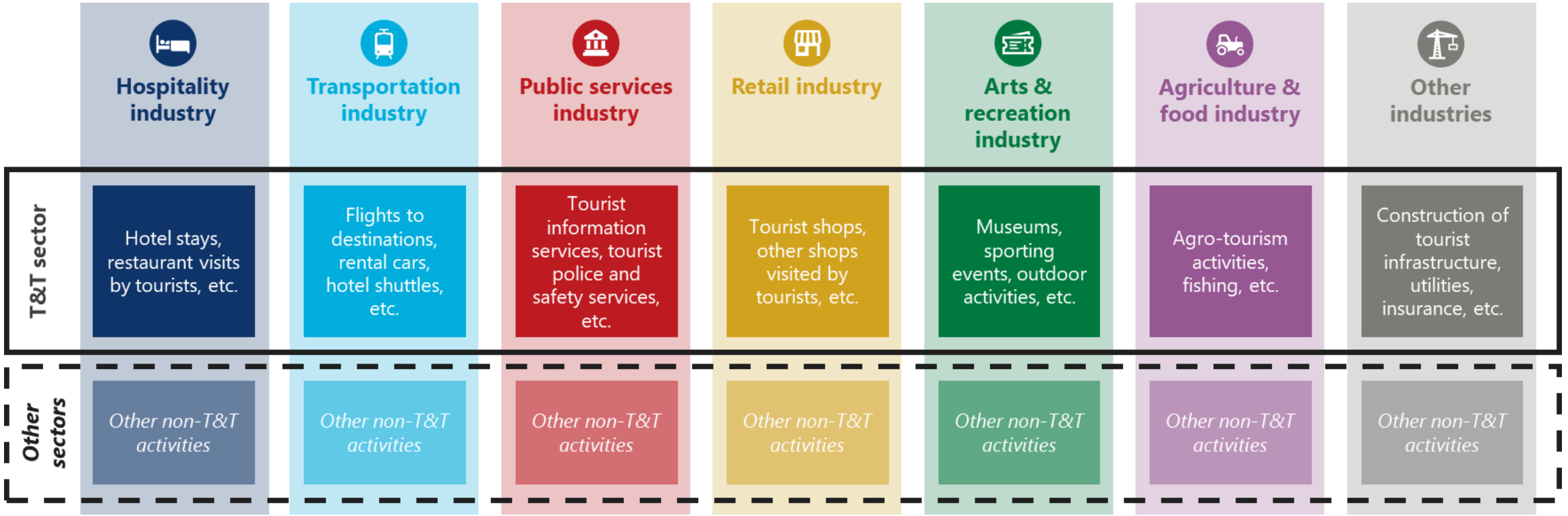
Direct	The workforce directly employed in the Travel & Tourism sector.
Indirect	The workforce supported by Travel & Tourism's value chain.
Induced	The workforce supported by the wages spent by those directly employed within the Travel & Tourism sector in the consumer economy.

Example: What is the employment impact associated with a tourist's resort vacation in Mexico?

Direct	The resort directly employs receptionists, cleaning and maintenance workers, chefs, waiters, and managers.
Indirect	The resort purchases many products and services for a resort stay, such as food for meals, or towels, sheets, and other products. The employment associated with the manufacture and transport of these products is attributable to the resort's purchases – and the tourist's resort stay.
Induced	The price the tourist pays for the resort stay goes, in part, to the employees of the resort in the form of wages. The employees spend their wages in the consumer economy on products and services such as groceries, clothing, electronic goods, etc. The employment associated with the manufacture, sale, and transport of these products is therefore induced by the wages paid to the resort staff, which is attributable, in part, to the tourist's resort stay.

Defining the T&T sector

The T&T sector refers to all economic activities that contribute to T&T GDP, which may occur across several different industries. There are seven industry breakdowns: hospitality, transport, public services, retail, arts & recreation, agriculture & food, and other industries.



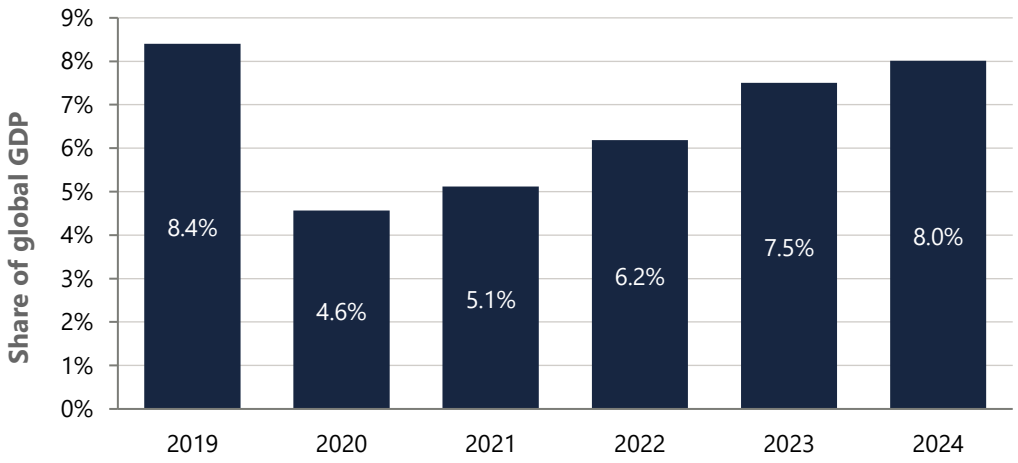
Economic context: T&T GDP surpassed its 2019 peak globally in 2024

- T&T contributed 8.0% of global GDP to the global economy in 2024, compared to 7.5% in 2023.
- The Travel & Tourism sector was more heavily affected by the pandemic than the economy overall.
- In 2024, T&T GDP was 6% higher than its previous 2019 peak, signalling a return to normal after the disruption of the pandemic.
- T&T GDP has seen the fastest growth in the Middle East, which was 16% larger than in 2019. In contrast, in Asia-Pacific, was only slightly above its 2019 peak by 2024.

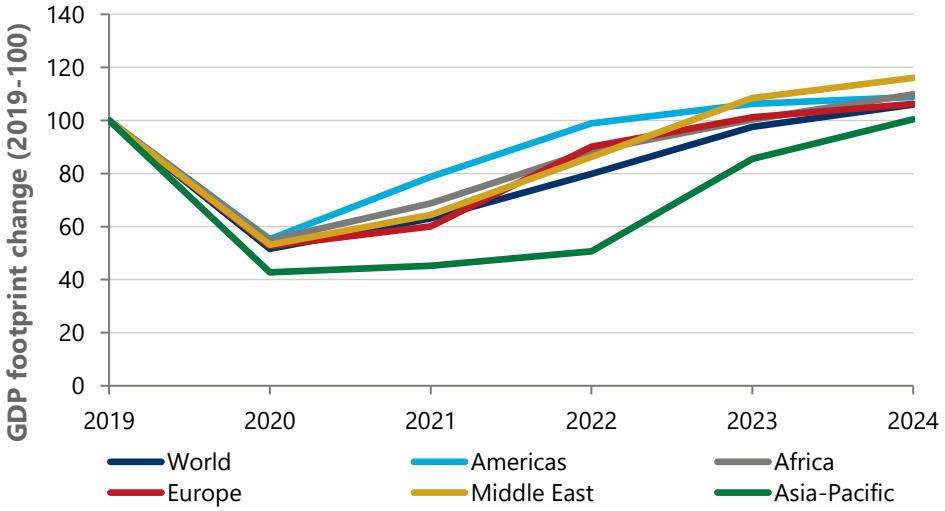
Why is Travel & Tourism GDP important for understanding environmental impact?

Travel & Tourism's economic contribution – and its recovery from the pandemic disruptions – provides important context for understanding its environmental impact. Travel & Tourism and its value chain generate impacts on the environment. Higher emissions, energy use, water use, air pollution and material use can therefore represent either an increase in economic output, or an increase in the amount of environmental impact per dollar of Travel & Tourism GDP (higher environmental intensity, or in other words, a reduction in efficiency) – or both.

T&T's share of global GDP, 2019-2024



T&T's change in total GDP by region, 2024 prices, 2019-2024



Travel & Tourism's Greenhouse Gas Emissions

Understanding GHG emissions impacts

Activities that burn fossil fuels, like transportation and electricity generation, contribute to GHG emissions. To understand the emissions impact of T&T, we assess the sector's direct economic activities – like driving a car and using electricity – as well as the emissions associated with the supply chains that support those activities.

Channels of impact

We assess emissions across four channels of impact.

SCOPE 1	All GHG emissions from **direct** T&T activities.
SCOPE 2	All **indirect** GHG emissions from T&T's consumption of power, heat, and stream.
SCOPE 3	All **indirect** GHG emissions which occur along the supply chain which supports T&T.
Inter-national transport	All GHG emissions from T&T-related **international transportation.**

Example: What are the emissions associated with a tourist's hotel stay in Spain?

SCOPE 1	The hotel's vehicle fleet, such as the van used for airport pickups, may run on petrol or diesel, which generates greenhouse emissions at the tailpipe.
SCOPE 2	The hotel uses electricity for heating, lighting, cleaning, and other uses. The share of this electricity which is generated using fossil fuels produces emissions.
SCOPE 3	The hotel purchases many products and services for a hotel stay, such as food for hotel meals, or towels, sheets, and other products. The emissions associated with the manufacturing and transport of these products is attributable to the hotel's purchases – and the tourist's hotel stay.
Inter-national transport	The tourist's flight to Spain generates emissions as it burns jet fuel.

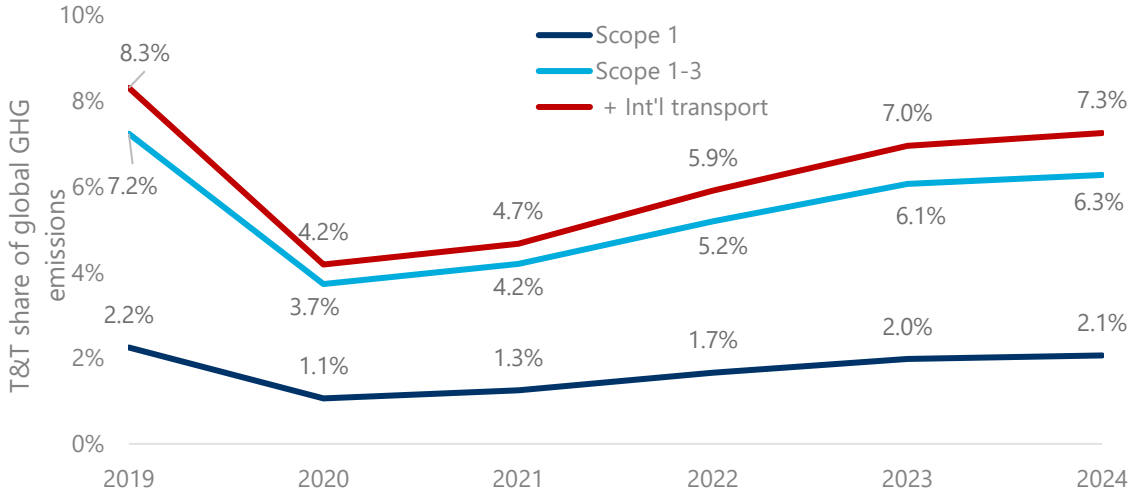
Travel & Tourism contributed 7.3% of global GHG emissions in 2024, which remains below its pre-pandemic peak of 8.3% in 2019

- T&T directly contributed 2.1% of global GHG emissions in 2024 (Scope 1). Including its supply chain and international transport, the sector contributed 7.3% to global GHG emissions.
- T&T Scope 1 GHG emissions were 1,057 billion kg CO_2e. GHG emissions across all scope increased by 5% since 2023 to 3,748 billion kg CO_2e.
- However, GHG emissions remained 9% below 2019, even as global T&T GDP surpassed its pre-pandemic peak. This indicates a reduction in overall GHG intensity of T&T.
- GHGs from international transportation were 6% below the 2019 peak. This was primarily driven by reductions in international aviation emissions, which are 7% below 2019.

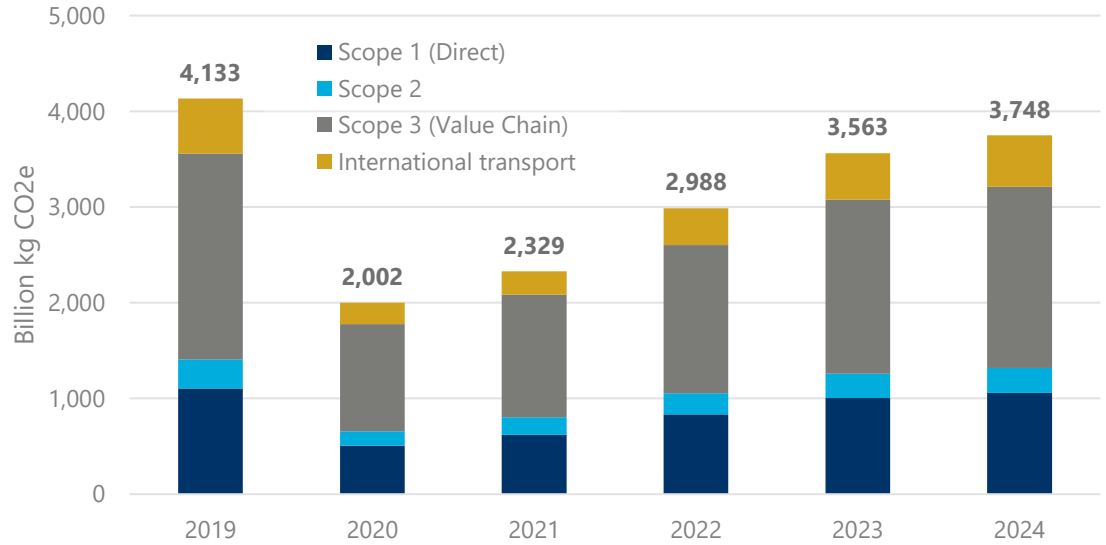
A note on the divergence between Travel & Tourism GDP and emissions

Travel & Tourism GDP and GHG emissions have diverged due to changes in the pattern of Travel & Tourism spending and reductions in emissions intensity, as outlined on the next slide.

T&T's contribution to global emissions by Scope, 2019-2024



T&T's global GHG emissions by scope, 2019-2024

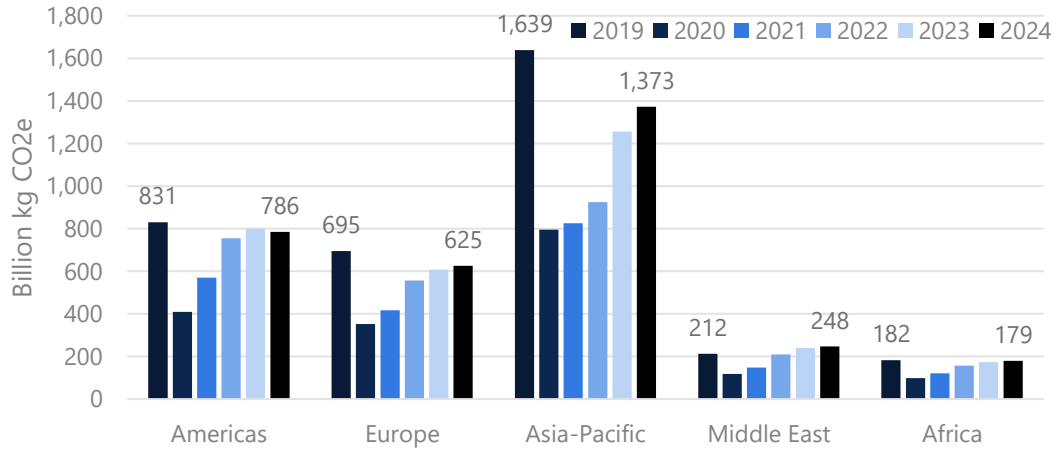


T&T GHG exceeded the 2019 peak in the Middle East but remained 16% below the 2019 peak in Asia Pacific

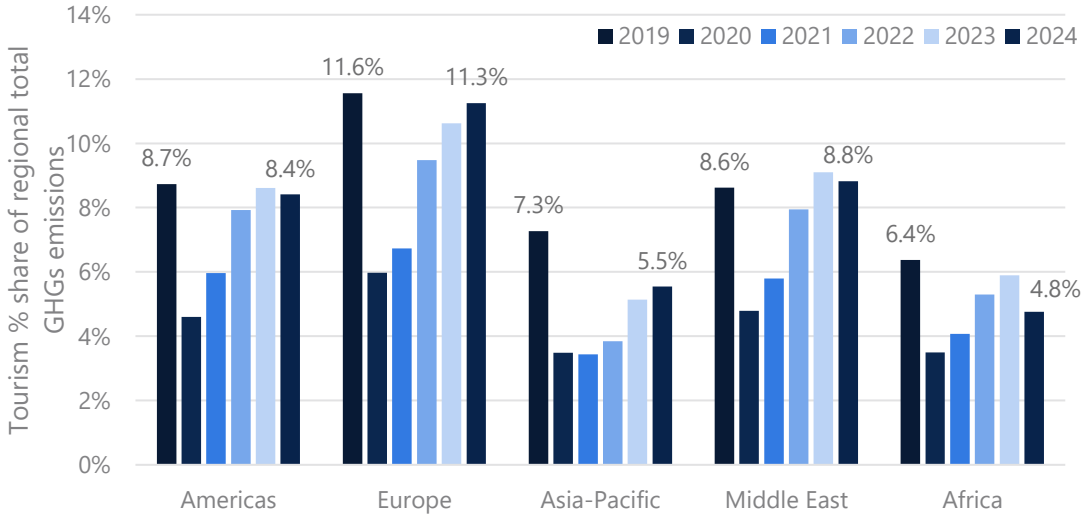
- Total T&T emissions increased between 2023 and 2024 across most regions as the sector continued its post-pandemic recovery, with the exception of the Americas where the sector's growth slowed.
- Total emissions remain below the 2019 peak in all regions aside from the Middle East, where rapid economic growth has led to an estimated 17% increase in the absolute emissions but a 0.3pp decrease in the share of regional emissions.
- This reflects (1) increases in GHG intensity of some value chain industries in the Middle East, including construction, and (2) an increase in the share of T&T spending going to industries with GHG-intensive value chains, including food and accommodation.
- Asia-Pacific had the highest-emitting T&T sector by volume, driven partly by its very large T&T sector. However, total emissions in the region remained 16% below 2019 levels due to its slower recovery.

A note on units of measurement for GHG's:
Greenhouse gases include carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), and ozone. Each gas has a different 'global warming potential.' CO_2e is a measure in which all GHGs are converted into comparable units based on how much CO_2 emissions would produce the same warming impact.

T&T's total GHG emissions excl. international transport by region, 2019-2024



T&T's contribution to regional GHG emissions, incl. international transport, 2019-2024



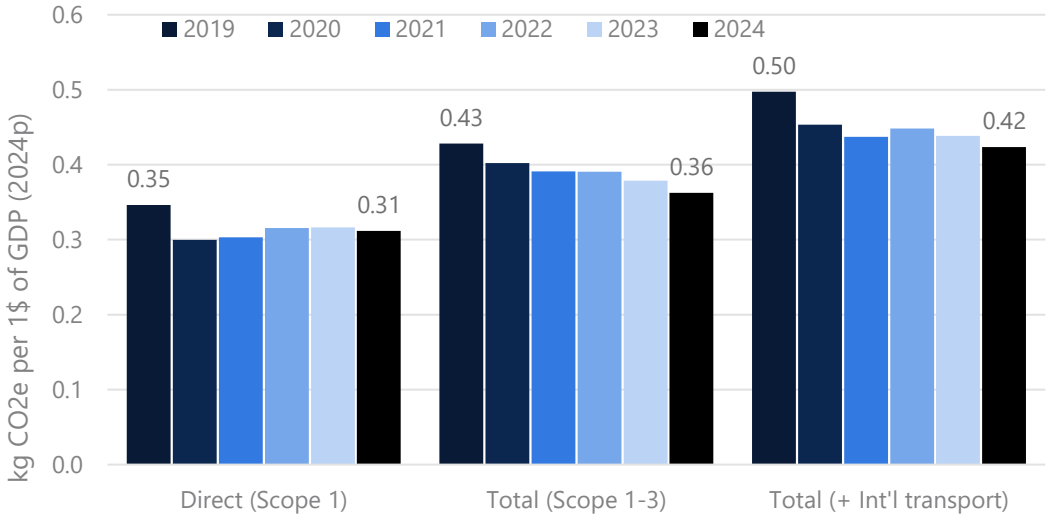
Total T&T GHG emissions per unit of GDP in 2024 fell by 3% compared to 2023 and were 15% below 2019 levels

- T&T GHG emissions per unit of GDP (intensity) fell relative to 2023, continuing a declining trend since 2019.
- T&T direct GHG intensity has improved since 2019, however the largest improvements are in the other sources of emissions Scopes 2 and 3.
- This reflects broad reduction in emissions intensities. However, the size of the change is exaggerated by the slow recovery of T&T in Asia-Pacific, which tends to be more emissions intensive.
- The GHG emissions intensity of tourism varies widely across regions, with this intensity significantly higher in the Middle East and Africa than in the America's or Europe.

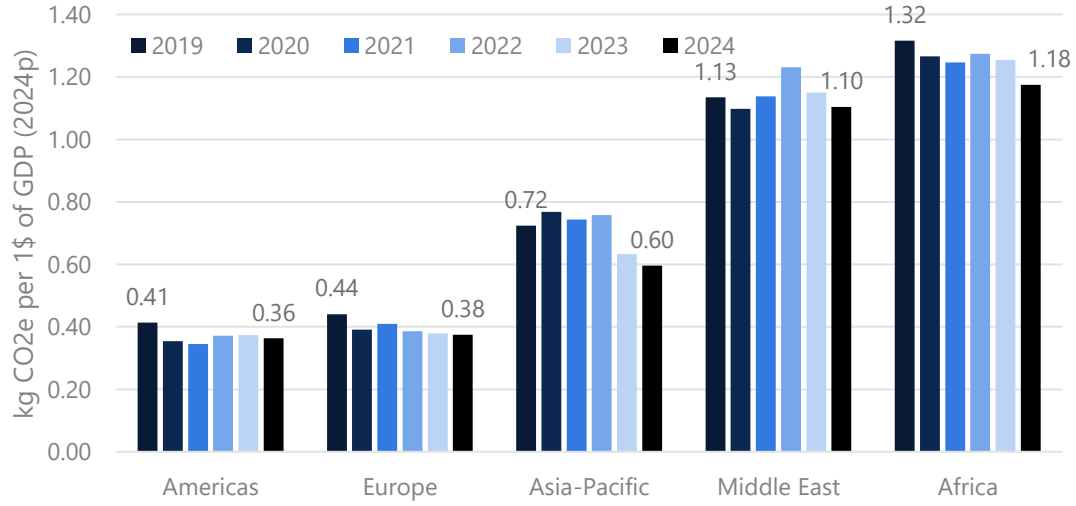
Why does T&T generate so many GHG emissions per $ in Africa?

The high GHG emissions intensity of African tourism is partly driven by the region's emissions-intensive economies, where energy use, agricultural practices, and industrial processes tend to be high-emitting. However, it is also driven by the relative cheapness of T&T in Africa - $1 can buy you far more T&T-related activities in Africa than in the Americas or Europe. Part of the regions high emissions intensity is therefore simply because there are more T&T activities (and supply chains) associated with equivalent tourism spending.

T&T's global GHG emissions intensity by scope, 2019-2024



T&T's total GHG emissions intensity incl. international transport by region, 2019-2024



Travel & Tourism's Energy Usage

Understanding energy use

The Travel & Tourism sector encompasses many activities that use energy both directly and indirectly via their value chains. This energy comes from different sources and fulfils different needs: aeroplanes rely on carbon-derived jet fuel, manufacturers use electricity purchased from the grid to produce products such as souvenirs, and hotels may use gas for heating and cooking.

Types of fuels

We assess energy use across three fuel types. Note that a major category of Travel & Tourism energy use occurs in the form of electricity. We assess the fuel which is used to generate the electricity, which is a better measure of its emissions impact.

Fossil fuels include coal, oil, and natural gas that are burned to produce electricity, power modes of transportation, or directly in industrial processes.

Low-carbon energy includes renewables such as solar, wind, wave, and geothermal, as well as traditional hydroelectricity and nuclear. In the context of Travel & Tourism, these fuels are mostly used to generate electricity.

Biofuels and waste are presented separately as they describe different activities in different regions and income levels. In lower-income regions, they predominantly involve wood and charcoal fires, and domestic and industrial waste burning. In higher-income areas, there is a higher prevalence of bio-additives to gasoline and diesel, such as crop-derived ethanol.

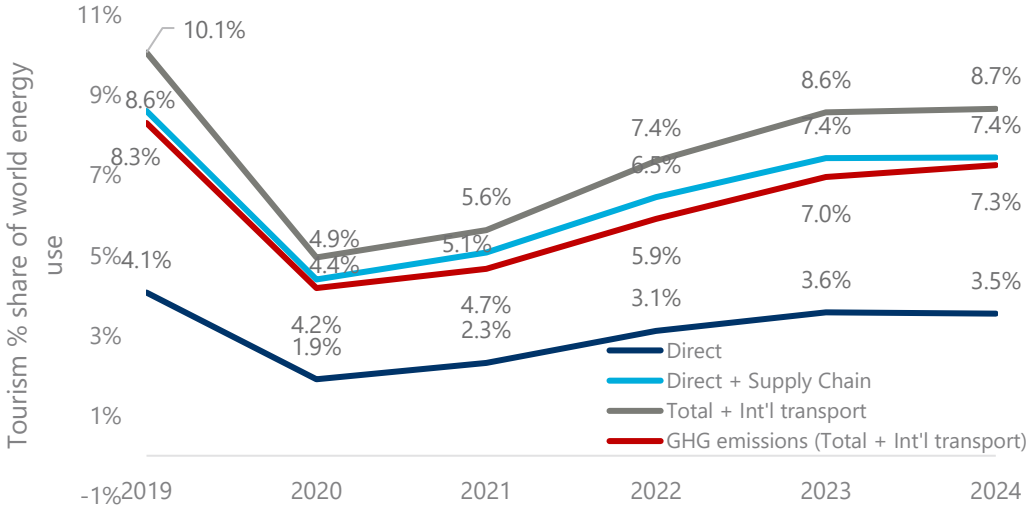
A note on energy use

While energy use can have negative environmental impacts, energy use is not inherently bad – in fact, energy has enabled many of the major developments of human history. Higher energy use in Travel & Tourism can therefore be a positive development, enabling better Travel & Tourism services and economic prosperity, when coupled with a growing share of low carbon sources in the fuel mix.

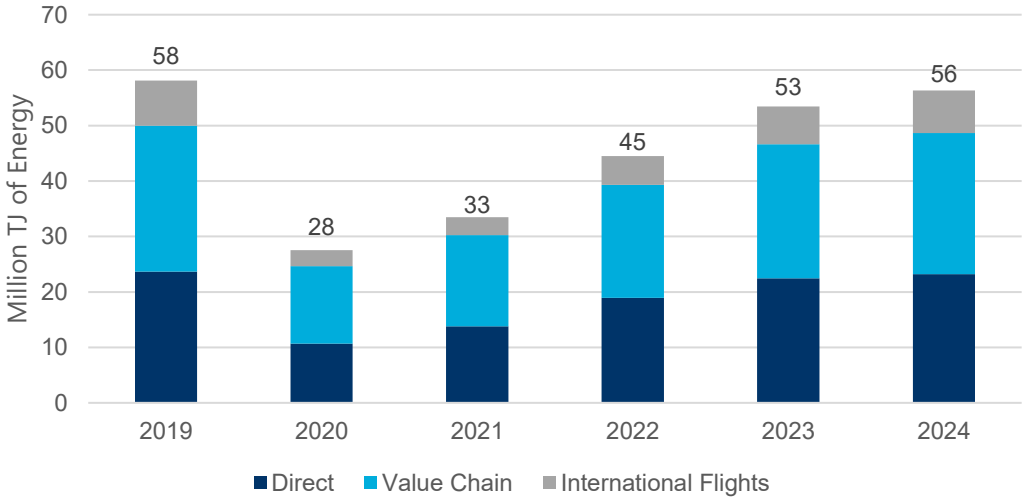
T&T contributed 8.7% of global energy use in 2024, up from 8.6% in 2023 but well below the 10.1% contribution in 2019

- T&T contribution to global energy increased by 0.1 percentage point (pp) between 2023 and 2024. However, it remained well below the pre-pandemic peak of 10.1% in 2019.
- Total T&T energy use increased steadily since the pandemic low in 2020. Energy use across all channels in 2024 increased by 5% compared to 2023.
- Most T&T energy use occurs in the supply chain (45% in 2024) and through international transport (14%).
- Energy use from international transport grew by 12% between 2023 and 2024, the fastest growth across all channels.

T&T contribution to global energy use and GHG emissions, 2019-2024



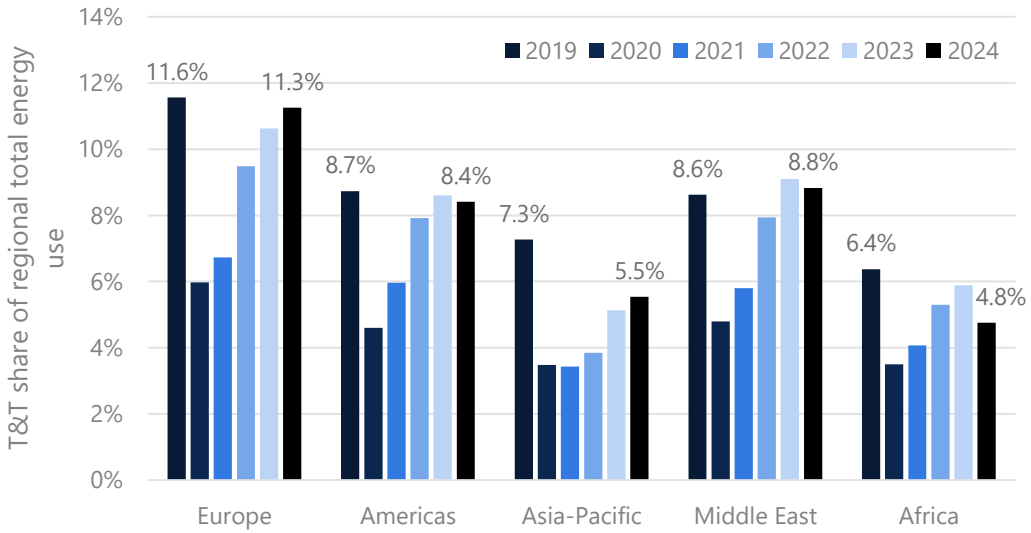
T&T's global energy use by channel, 2019-2024



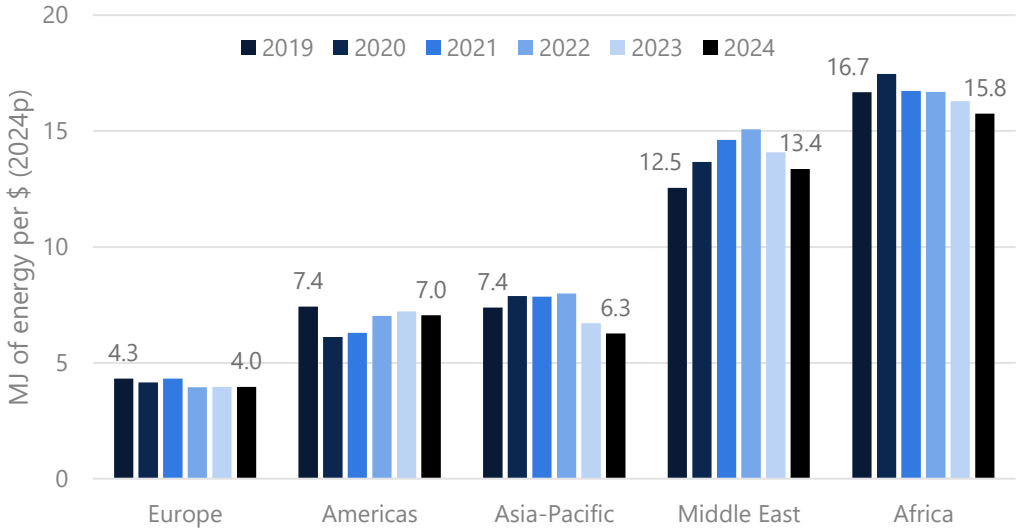
T&T contributed 11.3% of regional energy use in Europe in 2024, the highest across all regions

- T&T's contribution to regional energy use only grew in Europe (+0.6pp) and Asia-Pacific (+0.4pp) between 2023 and 2024, and remained below 2019 levels in all but the Middle East – reflecting the reduction in energy use intensity across many regions.
- T&T's contribution to regional energy use varied by region, between 4.8% in Africa to 11.3% in Europe in 2024.
- Despite being lower than in 2023, T&T's contribution to energy use in the Middle East was the only region to exceed its pre-pandemic peak in 2024.

T&T share of total regional energy use, 2019-2024



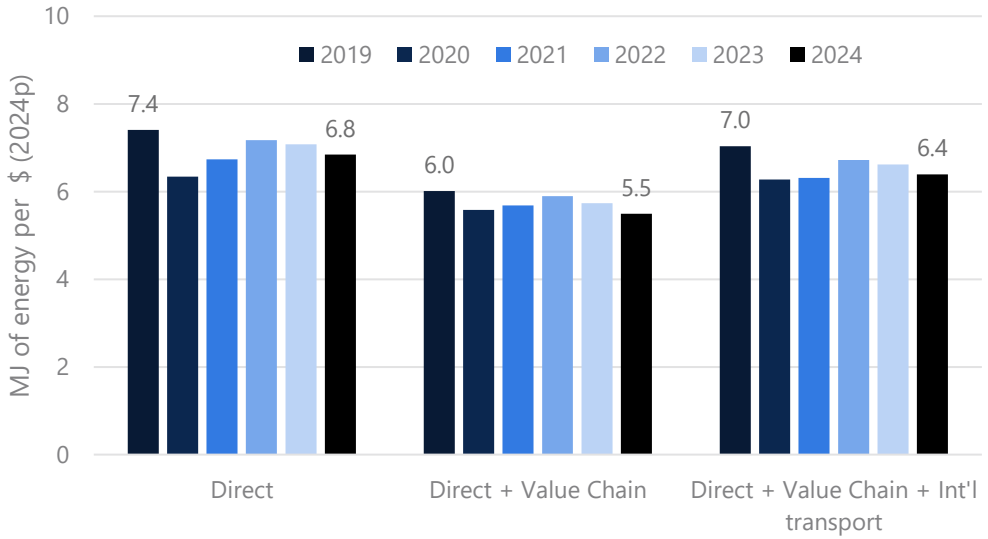
T&T energy intensity by region, 2019-2024



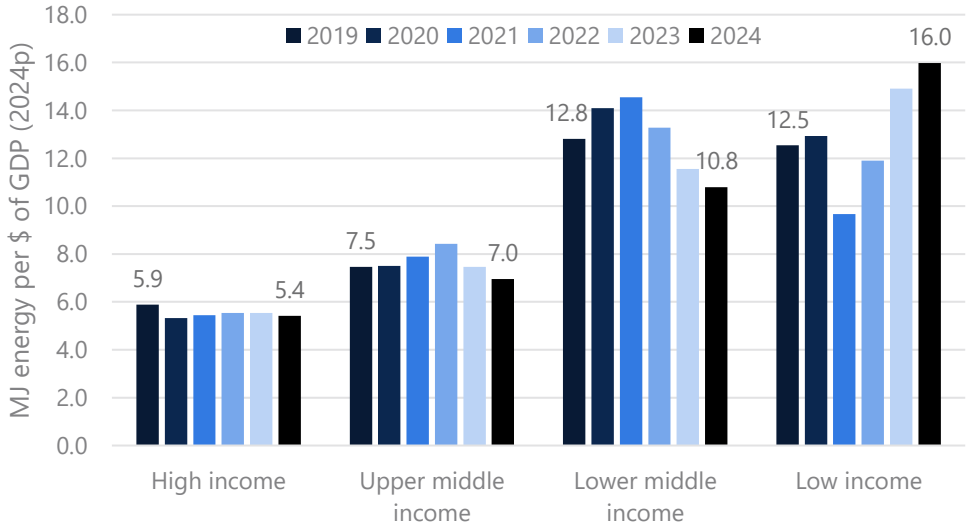
Energy intensity of T&T fell since 2023, and remained 9.1% below 2019 levels

- The energy intensity of T&T fluctuated over the pandemic period as spending patterns changed. T&T energy intensities is estimated to have fallen in 2024, relative to 2023, and remained below 2019 levels.
- Across all channels, US$1 of T&T GDP was associated with 6.4MJ of energy use globally in 2024, compared to 7.0MJ per US$1 in 2019.
- The energy intensity of T&T varies significantly by income group. Intensities tend to be higher in countries at a lower income level.
- This may be related to lower energy-efficiency levels across T&T activities in low-income countries, leading the local industries to use more energy than their high-income counterparts.
- However, the purchasing power of US$1 of T&T spending is also greater in low-income countries, so tourists can purchase more (energy using) T&T activities per $1.

Energy intensity of T&T by channel, 2019-2024



Energy intensity of T&T by income group, 2019-2024



T&T energy use is more dependent on fossil fuels than the economy as a whole

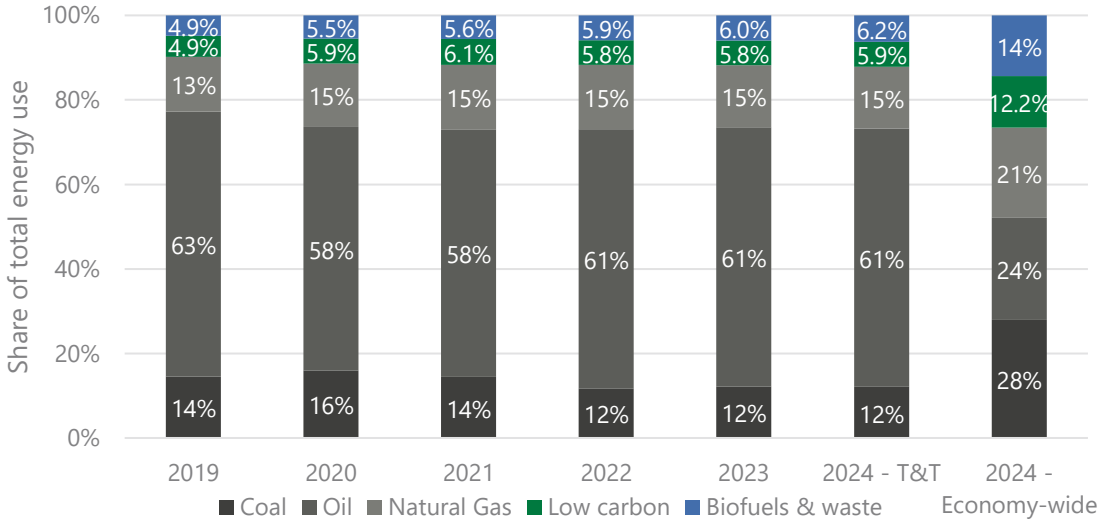
- Most T&T energy use came from fossil fuels (86%) in 2024, compared to 73% in the wider economy. The largest source of T&T energy is oil, which contributed 61% in 2024.

Why is T&T more heavily reliant on oil than the global average?
Travel & Tourism's energy use is dominated by the transport sector, which accounted for around half of the sector's energy use in 2024. The transport sector (including international transport) remains disproportionally reliant on oil for energy, compared to other sectors.

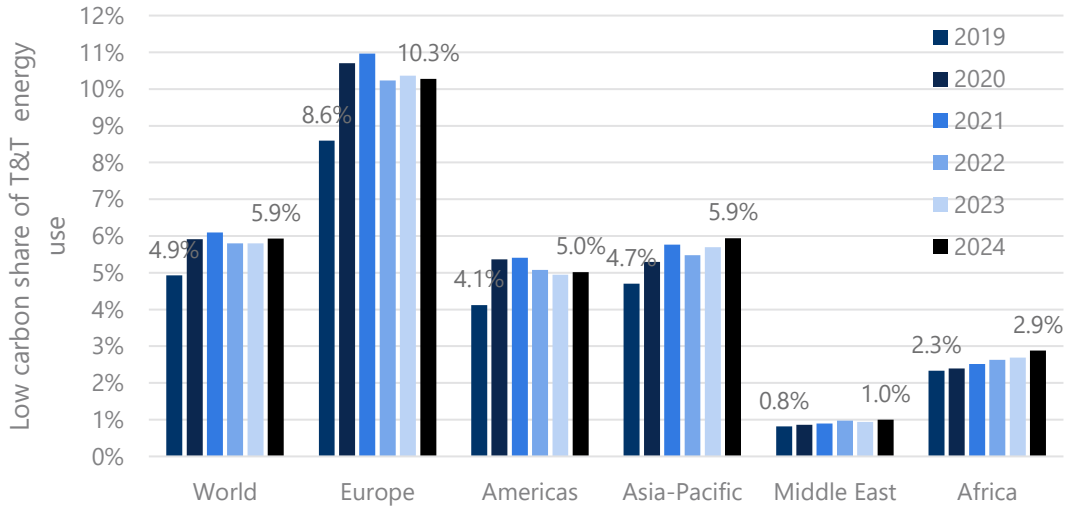
- The share of energy coming from low carbon sources (hydroelectric, nuclear, and renewables) has increased slightly to 5.9% from 4.9% in 2019.
- This pattern is seen in all regions, however deployment of low carbon energy has been most rapid in Europe, where it was already the highest before the pandemic.

What drives differences in the energy mix across regions?
Differences in the energy mix of Travel & Tourism reflects both differences in the types of activities tourists spend money on and differences in economy-wide energy mix across regions.

T&T energy mix, 2019-2024



Low carbon share of T&T energy use by region, 2019-2024



Travel & Tourism's Water Usage

T&T and its value chains contributed 6.1% of global water use in 2024

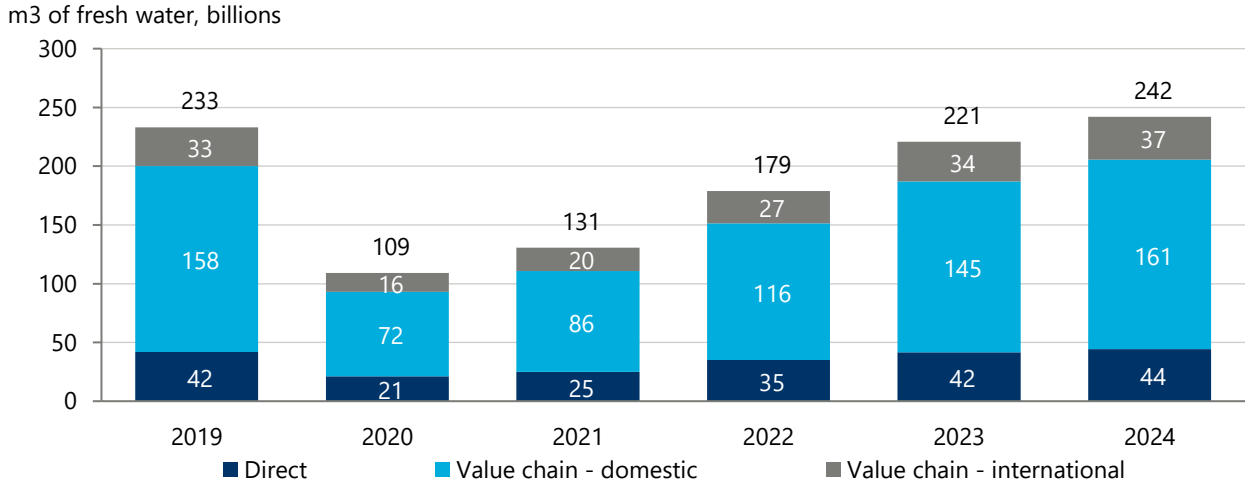
- The T&T sector used 242 billion m^3 of fresh water in 2024, an increase of 10% since 2023. T&T fresh water use also exceeded 2019 levels for the first time in five years in 2024.
- More than 80% of T&T's water use occurred in its value chain in 2024 (see box below).
- Across all channels, T&T contributed 6.1% of global water use. Direct T&T activities only accounted for 1.1%.
- T&T's share of global water use increased 0.5pp between 2023 and 2024, and exceeds 2019 levels.

A note on water use in different impact channels

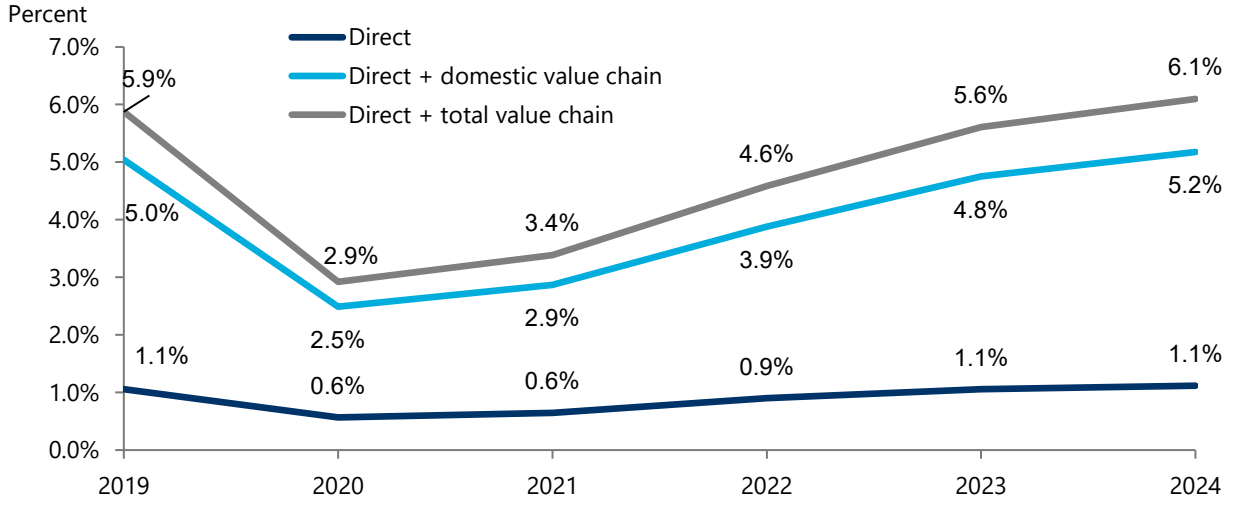
Direct: T&T's direct economic activities use water when its they draw from water sources to produce outputs. For example, a swimming pool will draw water from the local public network.

Value chain: Many products used in T&T use water in their production. For example, food products or beverages require water for agriculture and manufacturing.

T&T's global water use by scope, 2019-2024



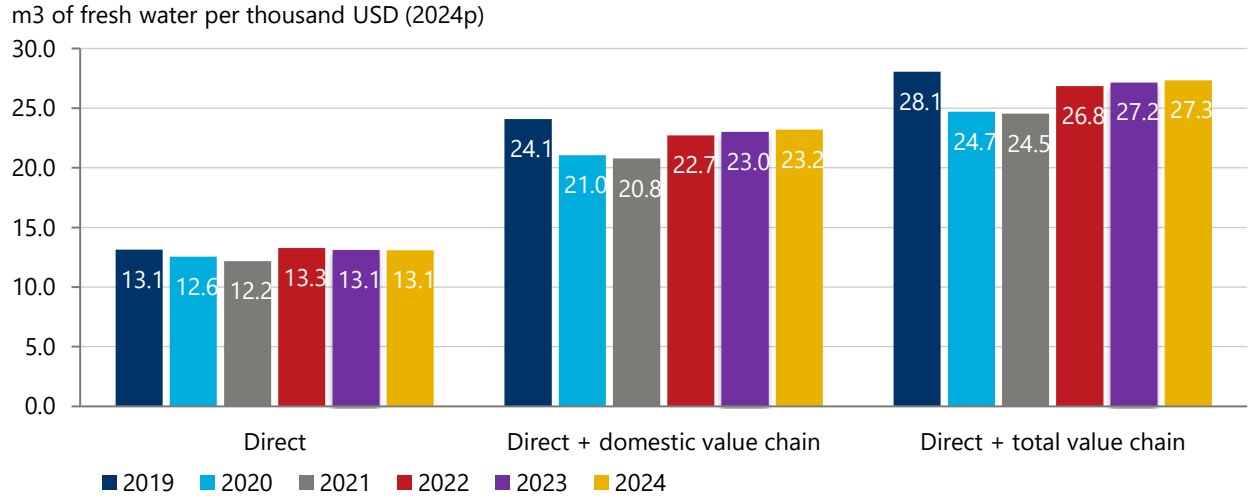
T&T contribution to global water use, 2019-2024



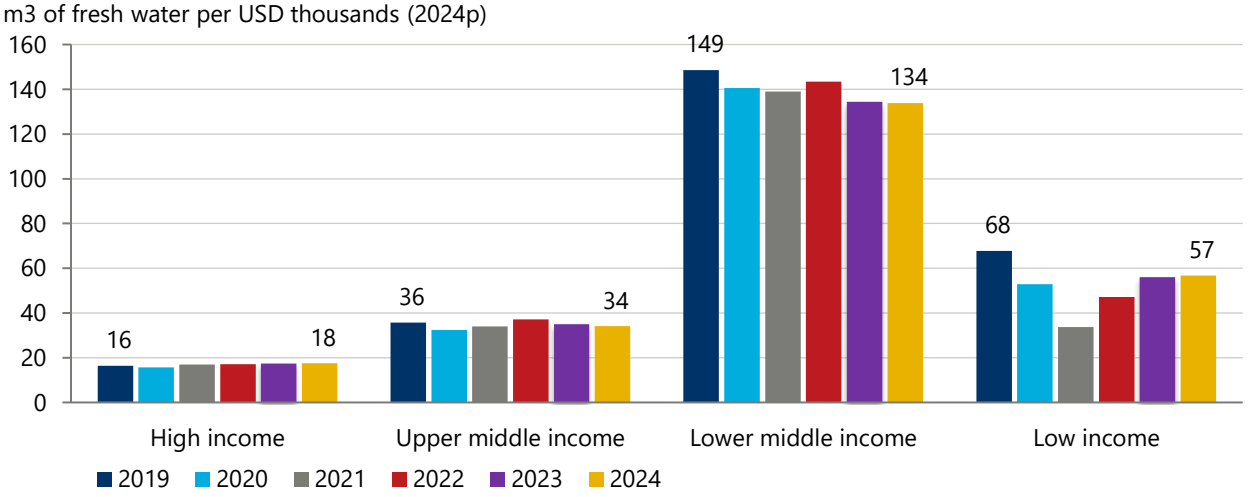
T&T water use intensity varies significantly by income group

- T&T total water use intensity was 27.3 m^3 of fresh water per US$1000 of T&T GDP in 2024.
- Intensity increased slightly since 2023 but was below 2019 levels across all channels in 2024.
- Water use intensity varies significantly by income group. Lower middle income countries tend to have far higher water use intensity than other groups.
- Therefore, T&T's water footprint in each country is driven principally by (1) how much its T&T value chain depends on agriculture, and (2) the water intensity of agricultural practices in the country.
- Lower middle income countries tend to have more water-intensive agricultural sectors.

T&T's global water use intensities by scope, 2019-2024



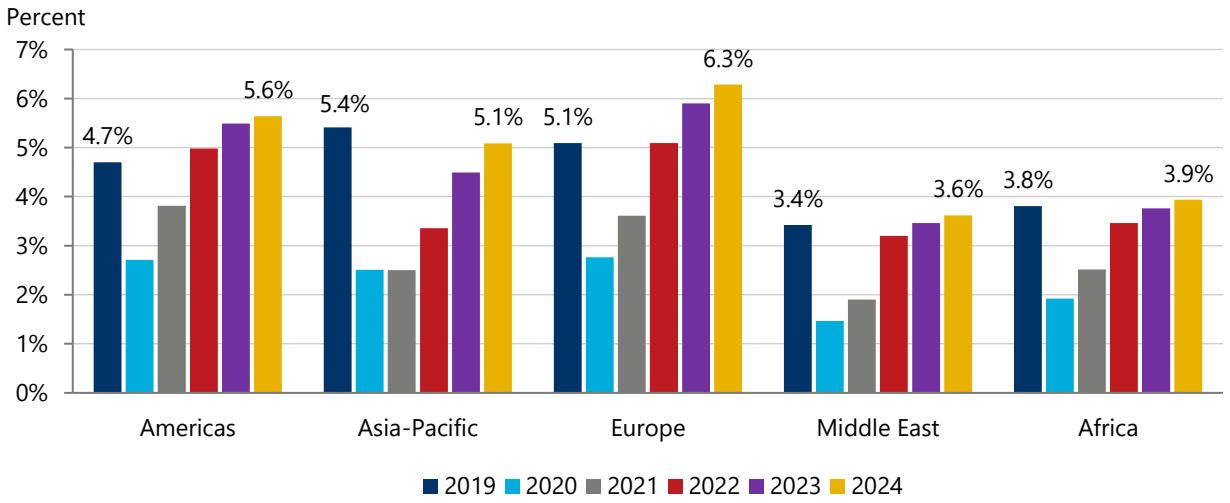
T&T's water use intensity by income group, 2019-2024



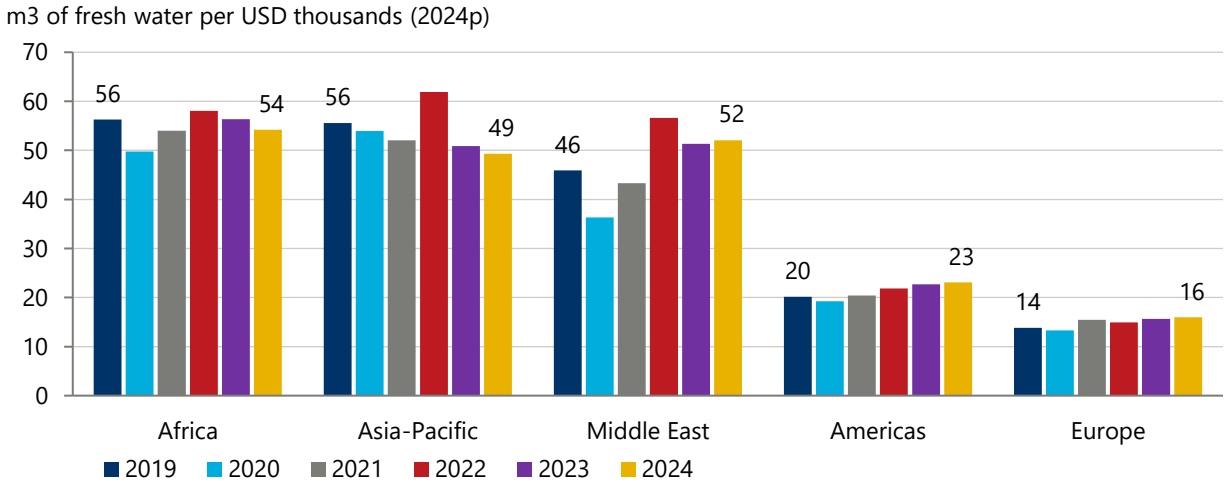
T&T's contribution to regional water use exceeded 2019 levels in all regional but Asia-Pacific

- T&T's contribution to regional water use ranged between 3.6% in the Middle East to 6.3% in Europe in 2024.
- This is due to a combination of reasons, including the intensity of water use and the size of the T&T sector.
- In Europe and the Americas, despite the sector's share of water use being high, the intensity of water use is low relative to GDP.
- In contract, Africa, Asia-Pacific and the Middle East have higher water intensity, around more than double the levels in the Americas and Europe.

T&T's contribution to regional water use, 2019-2024



T&T water use intensity by region, 2019-2024



WORLD TRAVEL & TOURISM COUNCIL

Travel & Tourism's Air Pollution

Air pollutants included in this study

Pollutant	Details	Sources
Particulate matter (PM)	Diverse class of tiny inhalable particles that include dust, black carbon, mould spores, minerals and other chemicals, that cause negative impacts on human health outcomes. PM pollutants are classified by size. We focus on the most common measures of PM2.5 and PM10.	Motor vehicles and industrial processes. 
Carbon monoxide (CO)	A toxic gas that can cause illness and death at high levels of exposure.	Motor vehicles and industrial processes. 
Non-methane volatile organic compounds (NMVOCs)	A group of chemicals with varying negative impacts on human health and the environment.	Fuel burning, solvents and cleaning products. 
Ammonia (NH3)	Pollutant that can damage plants and soil health.	Commonly produced in agriculture. 
Nitrogen oxides (NOx)	Poisonous gases linked to smog and acid rain that cause respiratory problems and damage ecosystems	Burning of fossil fuels and transport. 

A note on comparing across pollutants

This report contextualises and measures the impact of several pollutants in Travel & Tourism's supply chain. However, these six pollutants cannot be directly compared due to their different harmfulness. In other words, the harm associated with an additional kilogram of PM2.5 is different from the harm of an additional kilogram of carbon monoxide. In some cases, the analysis in this section focuses on specific pollutants of most interest.

T&T's contribution to global air pollution remained below 2019 peak for most pollutants

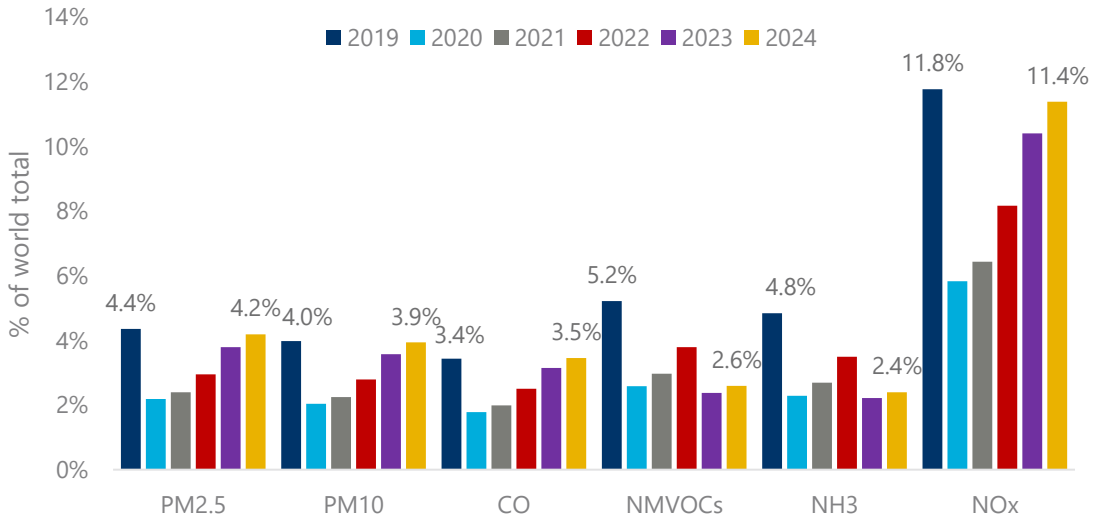
- T&T contribution to global air pollution increased between 2023 and 2024 across all pollutants.
- The largest increase was seen for NOx, which increased by 1.0 percentage points (pp) between 2023 and 2024 to 11.4% of global NOx emissions.
- However, T&T's share of global air pollution remained below its 2019 peak for all pollutants aside from carbon monoxide (CO), which just exceeds 2019 levels by 0.1pp.
- By mass, T&T generates the most emissions of Carbon Monoxide, primarily through its value chain. CO is commonly produced in industrial facilities and by transportation. However, the global levels of CO emissions are higher than for other pollutants, so T&T's contribution to the global total is relatively low (3.5%).

A reminder about comparing across pollutants

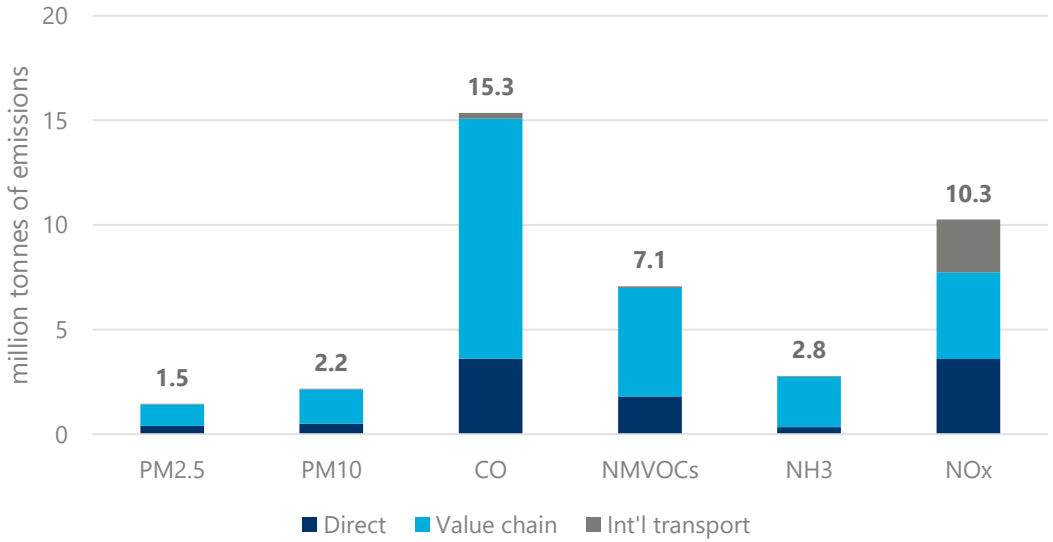
This analysis does not provide a like-for-like quantification of the relative harms of these air pollutants. Although the estimates are presented alongside one another, we cannot:

1. Draw conclusions about the relative harm of Travel & Tourism's footprint across the different pollutants, nor
2. Aggregate across the six types of pollutants.

T&T's contribution to global air pollution, by pollutant, 2019-2024



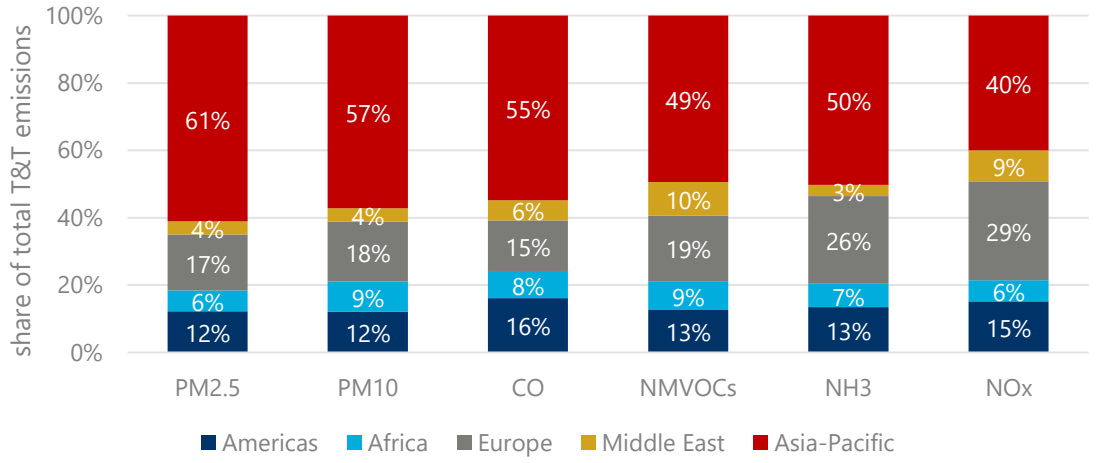
T&T's air pollution impact by pollutant and channel, 2024



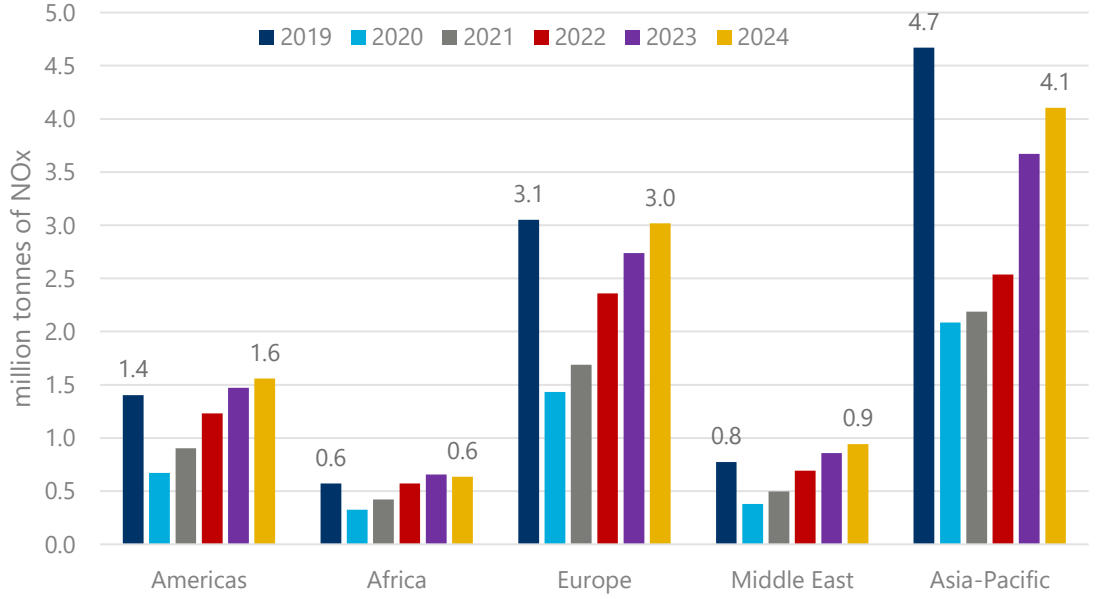
Asia-Pacific dominated T&T air pollution across all pollutants

- Regions' contribution to global T&T air pollution follows a similar pattern across all pollutants.
- Asia-Pacific contributed the majority of air pollution, and more than half the global total for PM2.5 (61%), PM10 (57%), and CO (55%). The Americas and Europe were also major contributors, while the Middle East and Africa contribute relatively small amounts across most pollutants, largely reflecting their smaller tourism markets.
- All regions saw a slow return to the 2019 air pollution emissions peak, largely in-line with the recovery of their tourism sectors.
- The second graph on the right shows NOx pollution, which was close to or above 2019 levels in all regions by 2024, with the exception of Asia-Pacific where the recovery of the sector has been slower. Other pollutants follow similar trends.

Share of T&T air pollution, by region and pollutant, 2024



T&T's NOx emissions by region, 2019-2024



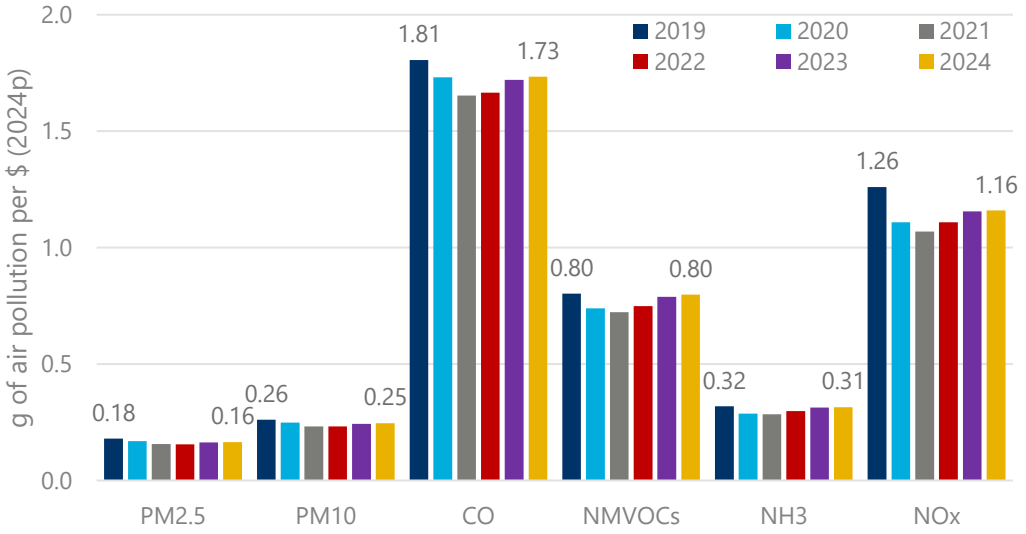
T&T pollution intensities remained relatively stable across most pollutants

- T&T air pollution intensity varies significantly between pollutants.
- While there has been some fluctuation in air pollution intensity over the pandemic, particularly in transport-related pollutants such as CO and NOx, intensities in 2024 were largely similar to 2019 levels.
- CO and NOx have the highest intensities, reflecting the important role of transport in T&T direct operations and supply chains.
- Air pollution intensities also vary by region. Here we show NOx pollution intensity; other pollutants follow similar trends.
- T&T in Africa is almost 6x as NOx-intensive as T&T in the Americas (see note).

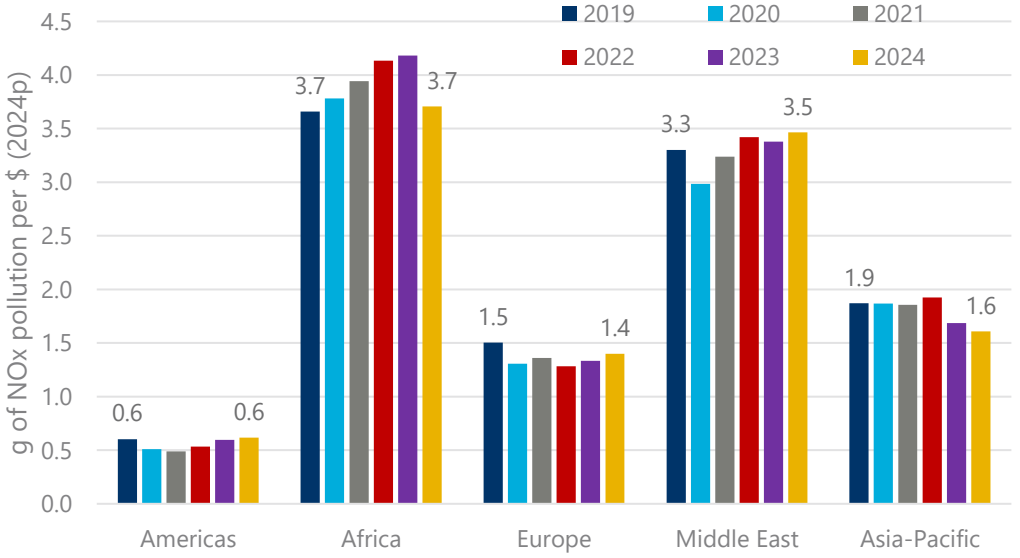
A note on air pollution in Africa

Africa has the highest pollution intensity of Travel & Tourism across all pollutants, despite having the smallest absolute pollution footprint. This is due to the region's reliance on biofuels, pollution-intense agricultural practices, and legacy industrial processes.

T&T's air pollution intensities, by pollutant, 2019-2024



T&T's NOx emissions intensity by region, 2019-2024



WORLD TRAVEL & TOURISM COUNCIL

Travel & Tourism's Materials Extraction

Material use across Travel & Tourism supply chain sectors

All materials use associated with T&T spending occurs through the supply chain. This study measures materials extraction and raw material use. The T&T sector's direct extraction and use of raw materials is negligible.

T&T supply chain spending occurs across several industries, but only a few industries engage in the direct extraction of materials. The industries contributing to T&T material use are directly determined by which industries extract materials.

We estimate Travel & Tourism's material footprint across four categories, quantified in terms of total weight (kg).

Type of material	Extracting industry
Biomass includes the total mass of harvested crops, vegetation consumed by livestock, wood felled for timber or fuel, and fish drawn from rivers and oceans. In the context of Travel & Tourism, this material forms the food consumed in restaurants and other establishments, in addition to feeding into the broader supply chain.	Agriculture, forestry, and fishing
Fossil fuels are the oil, natural gas, coal and other fuels extracted by the energy industry. In the context of Travel & Tourism, these fuels are used to produce electricity and power modes of transportation.	Energy
Metal ores are the materials extracted by the mining sector that are used in metals manufacturing and ultimately fabricated into metal structures, machinery, vehicles, etc.	Mining
Non-metallic minerals includes the stone, sand, clay, and other substances that are mined to form cement, concrete, and ceramics, as well as precursors to other industrial chemicals and fertilisers.	

Material use is a proxy for environmental damage and captures T&T's dependence on nature

- Data availability and techniques for modelling environmental impacts have greatly improved, but some impacts remain difficult to quantify. For example, the biodiversity impacts of land use change to support biomass production, habitat destruction and fragmentation caused by mining for metal ores, minerals, and coal, or the water pollution linked to oil spills or fracking for natural gas.
- Material use can be a useful proxy for measuring these environmental impacts, but it is not a one-to-one relationship. We therefore largely focus on trends and contributions rather than absolute values.
- Materials use is also an important measure of the sector's dependence on nature. The creation of biomass inputs depends on services that can only be rendered by healthy and diverse ecosystems. Fossil fuels are extracted from finite and non-renewable stocks, while minerals are extracted at a rate that is orders of magnitude greater than the geological processes that produced them.
- Material use therefore represents one of Travel & Tourism's most important dependencies on the natural world.

A note on weight-based measures of material use

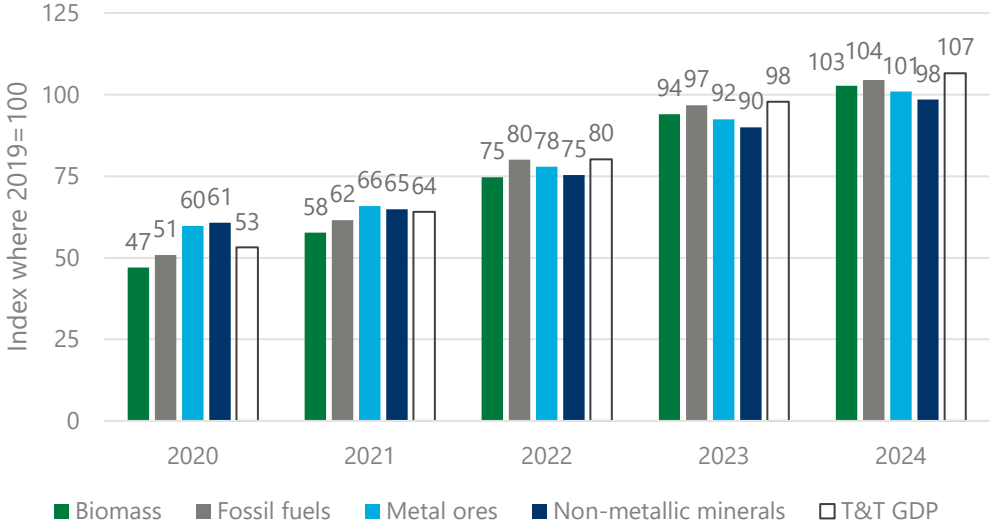
Materials use is quantified weight of materials used. However, the environmental impact associated with a kilogram of materials use is not comparable across types of materials. For example, the environmental impact associated with a kilogram of biomass production is not the same as the impact associated with a kilogram of fossil fuel extraction.

The same is true within categories of materials as well. For example, the amount of land used for production of biomass varies greatly across different crops. Weight-based measures of material use are therefore an imperfect proxy for environmental impact. This should be kept in mind when interpreting results.

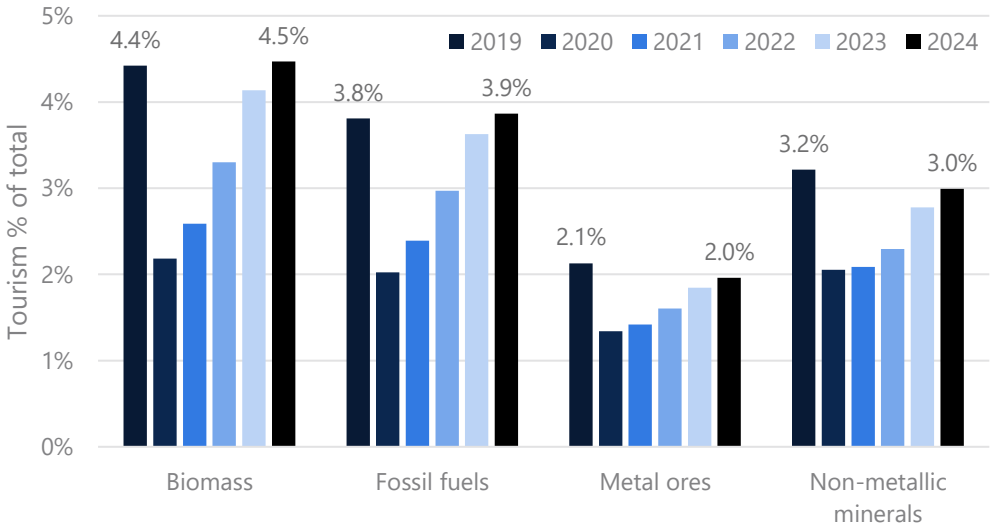
Materials use increased between 2023 and 2024 and now exceeds 2019 levels

- Travel & Tourism materials use has surpassed 2019 levels across all materials.
- Fossil fuels use returned most quickly to 2019 levels, exhibiting a compound annual growth rate (CAGR) of 0.9%.
- T&T share of global resource use increased significantly from 2023 for all resources. Although metal ores and non-metallic minerals remain below 2019 usage.
- T&T made its largest contribution to global resource use for biomass. The sector contributed 4.5% of global biomass use in 2024, up from 4.1% in 2023.

T&T's materials use, by material, indexed to 2019, 2020-2024



T&T share of global materials use, by material, 2019-2024

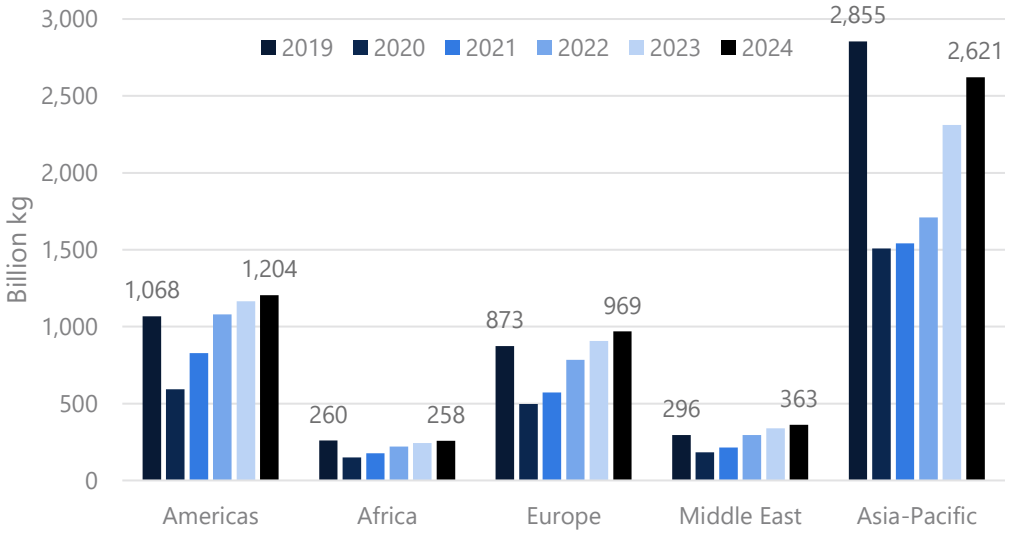


T&T materials use in Asia-Pacific was more than double the resource use in any other region

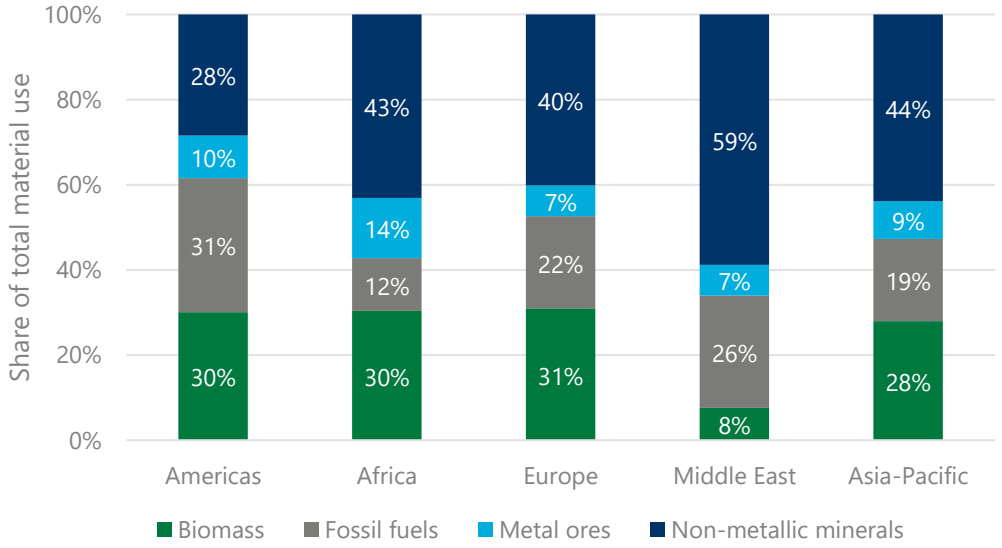
- T&T global materials use across all materials is dominated by Asia-Pacific, which used 48% of the global total in 2024.
- The Americas and Europe used 22% and 18% of the global total, respectively. Africa (5%) and the Middle East (7%) remained significantly below their peers.
- The composition of materials use varied significantly across regions.
- Resource use in Africa and the Middle East is dominated by non-metallic minerals, while T&T in the Americas, Europe, and Asia-Pacific use more biomass and fossil fuels.

Why do the Middle East and Africa use lots of non-metallic minerals?
Non-metallic minerals include construction minerals like sand, stone, and clay, and industrial and agriculture minerals such as chemicals and fertilisers. Most non-metallic minerals use in both the Middle East and Africa comes from construction. This reflects the regions' high-growth T&T sectors (and economies), requiring more construction. The high intensities of T&T in these regions (see next slide) partly reflect this higher spending on construction-related activities in T&T's supply chains. It also reflects the higher underlying intensity of construction activities in countries in these regions.

T&T's materials use, by region, 2019-2024



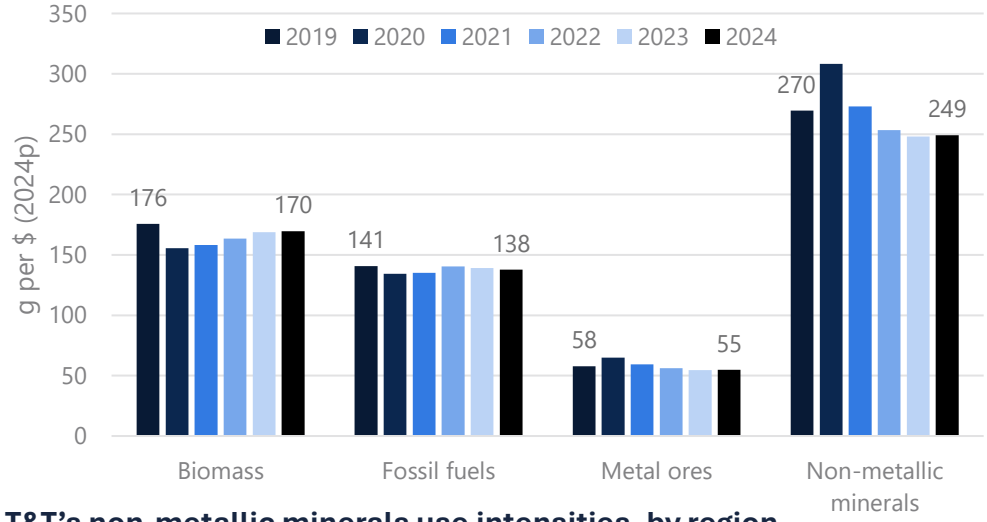
Type of T&T materials use by material and region, 2024



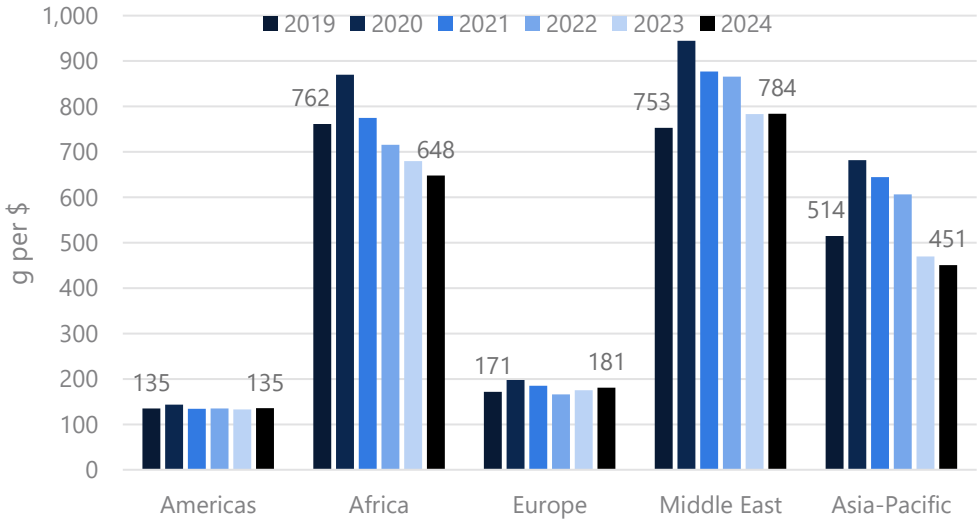
Materials use intensity in 2024 increased for all materials except fossil fuels compared to 2023

- The global biomass use intensity of T&T increased by 0.3% since 2023 to 170g per USD$ of T&T GDP. However, it remained 3.6% below 2019.
- For all other materials, T&T intensity only fell for fossil fuels since 2023. Fossil fuels intensity was 0.9% lower in 2024 compared to 2023, and 1.9% less than 2019.
- T&T is most intensive in its use of non-metallic minerals, which include those used in construction, industry, and agriculture. This reflects the importance of these industries in T&T's supply chain and the scale of construction activity that the sector drives.
- There are significant differences in the materials intensity of T&T by region. The second graph on the right shows the non-metallic minerals use intensity, but similar patterns are seen across all regions.
- Low- to middle-income countries tend to have the highest materials use intensity of T&T.

T&T's materials use intensities, by material, 2019-2024



T&T's non-metallic minerals use intensities, by region, 2019-2024



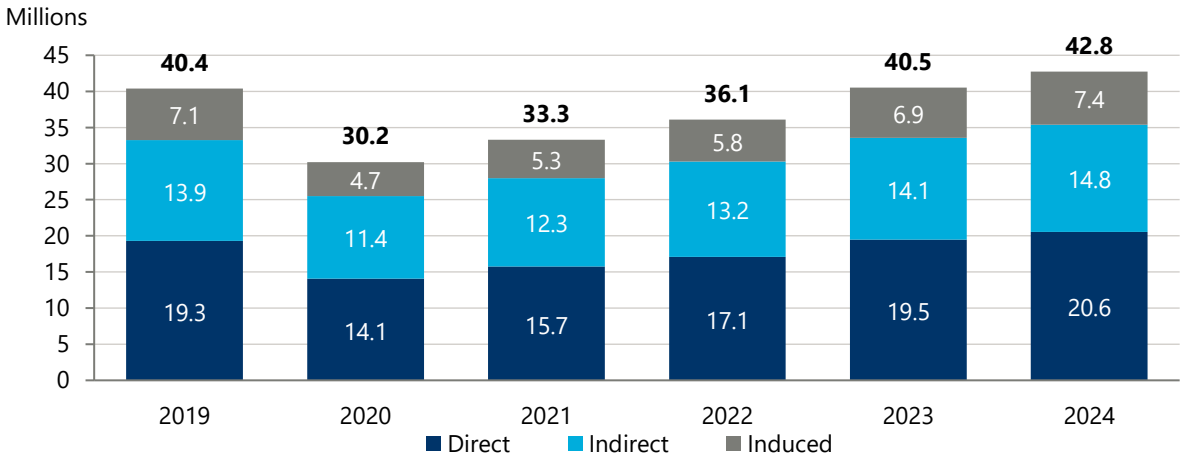
Travel & Tourism's Youth Employment

The youth employment supported by T&T has exceeded its 2019 peak

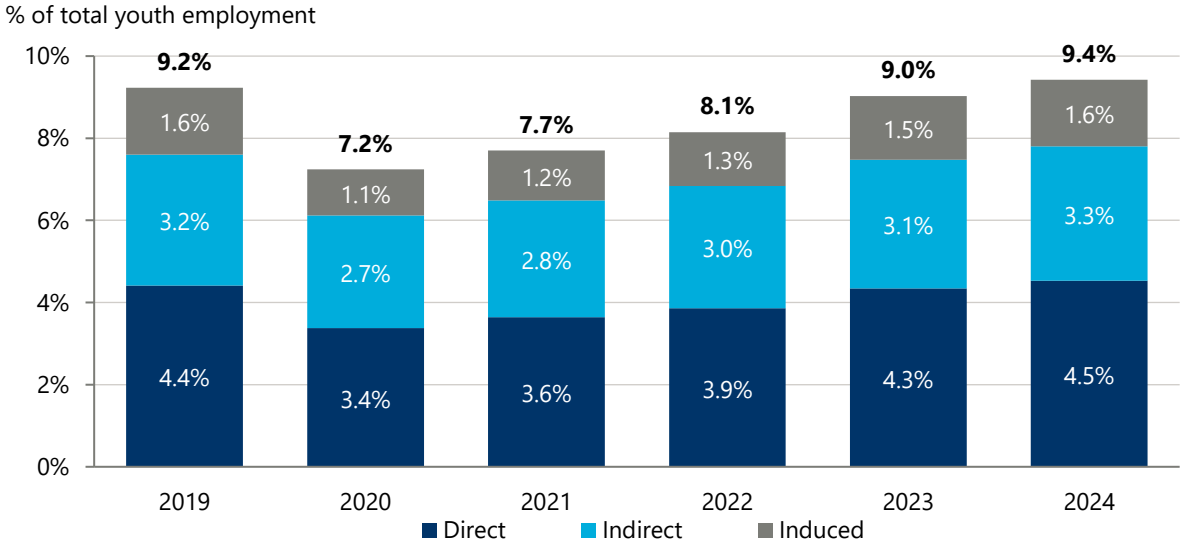
- T&T directly employed 20.6 million youth workers in 2024, which was 6% higher than in 2019.
- T&T directly contributed 4.5% of global youth employment in 2024. Considering its value chain (indirect) and induced impacts, T&T supported around 1 in every 11 youth jobs in 2024.
- T&T's share of global youth employment was 0.2pp above the 2019 level in 2024, with a compound annual growth rate (CAGR) of 7% since 2020.

A note on 'youth' employment:
For the purposes of this study, 'youth' refers to those aged between 15 to 24.

Youth employment supported by T&T, per channel, 2019-2024



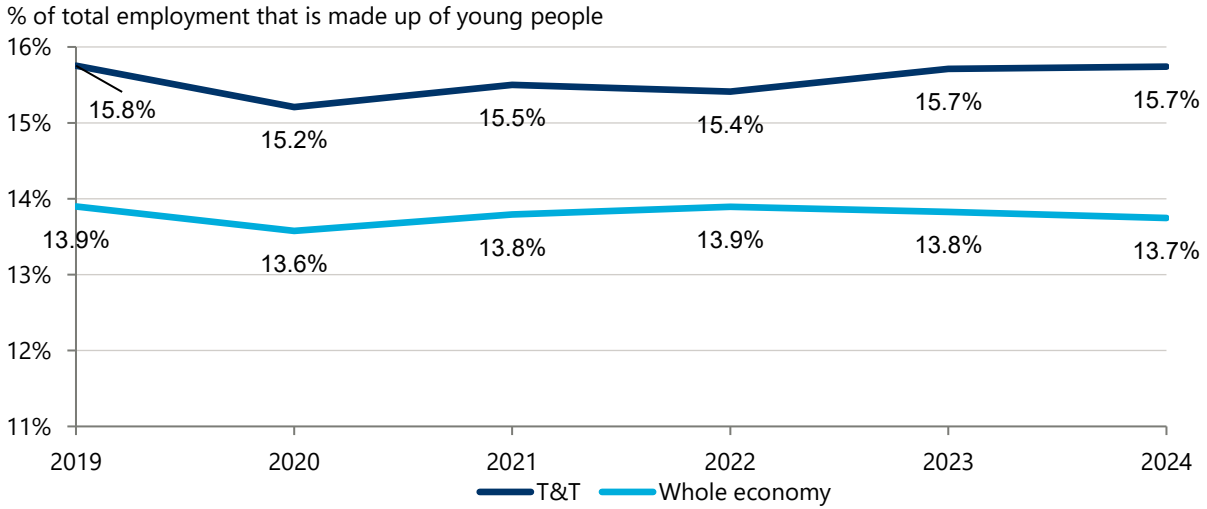
T&T's share of total global employment of young people, 2019-2024



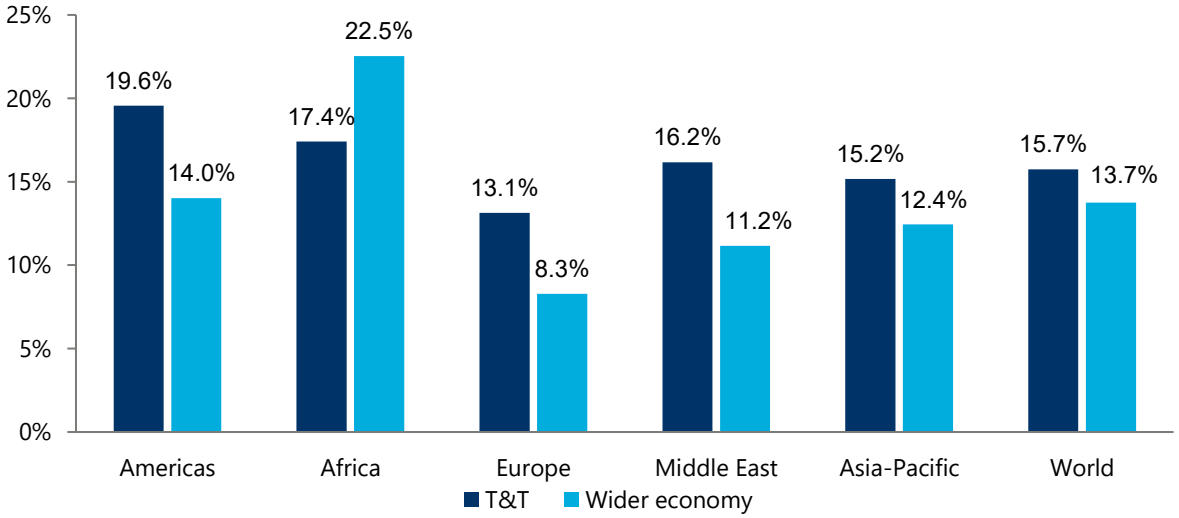
15.7% of T&T global workforce is aged between 15-24, 2ppts higher than across the wider economy

- 15.7% of T&T employees were between 15-24 in 2024, the same level as in 2023 but 0.3% higher than in 2022.
- T&T's youth employment share is significantly higher than the share across the whole economy, of 13.7%.
- The share of young people employed in T&T is larger than the share compared to the wider economy in all regions, except Africa.

Share of employment that is made up of young people, T&T vs wider Economy, 2019-2024



Share of T&T and wider economy employment that is youth, 2024



Why is T&T youth employment lower than in the wider economy in Africa?

In Africa, agriculture remains the dominant employer of young people. In contrast industries such as hospitality offering the most opportunities for youth in other regions.

Note: Both charts include direct employment only.

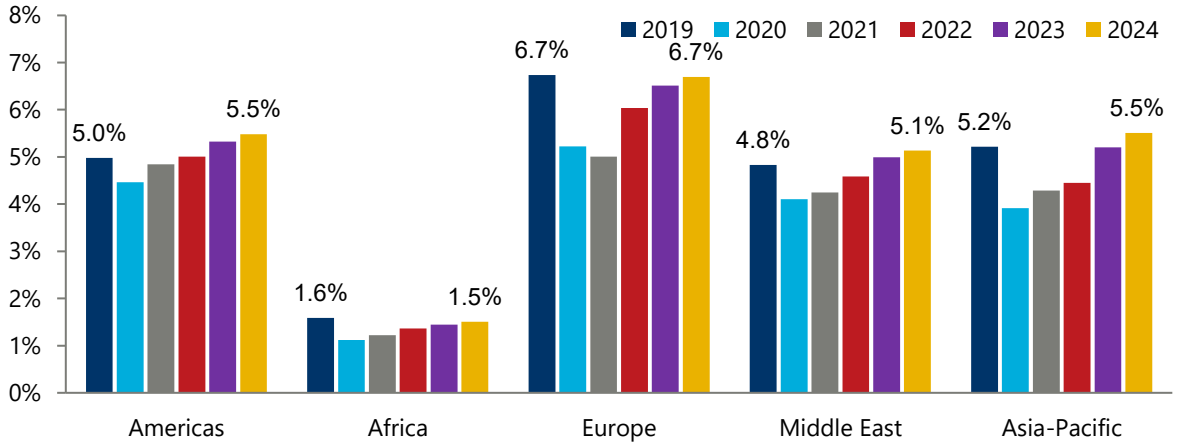
T&T's contribution to direct youth employment exceeded 2019 levels in high and upper middle-income countries

- The share of youth employment supported by T&T has fully or nearly fully recovered in all regions.
- The Middle East has seen significant growth in T&T's contribution to direct youth employment since 2019.
- Youth employment by T&T in high income countries now exceeds its share in 2019. Additionally, despite slower growth, the level of youth employment supported by T&T in lower middle-income countries now almost matches 2019 levels.

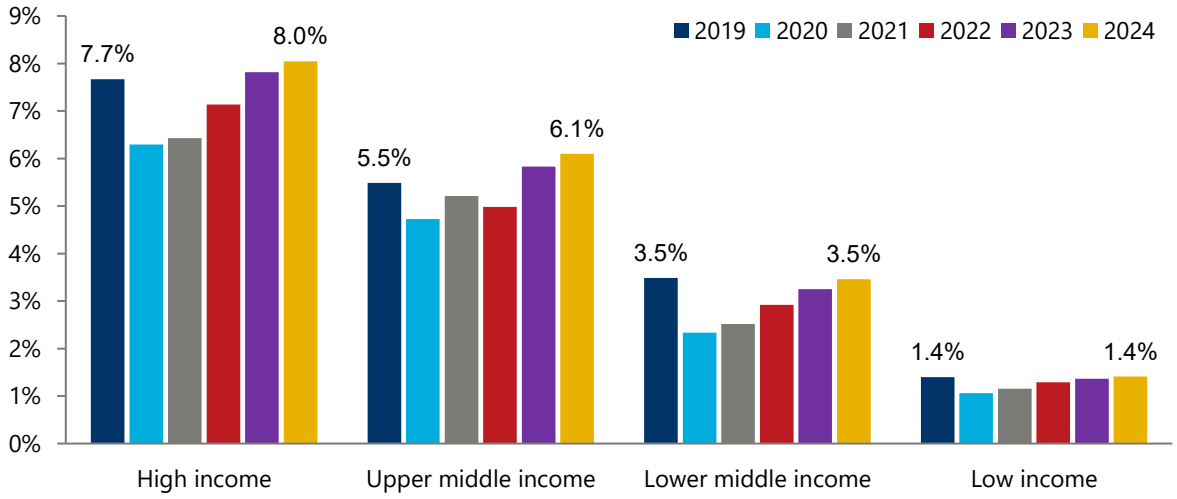
Why is the share of youth employment supported by T&T larger in higher income countries?

The nature of the industries that T&T jobs generally fall into (e.g. in hospitality and retail) can differ based on level of economic development. T&T jobs in developing countries may be regarded as part of 'formal' sector employment which is more valuable and scarcer and, therefore, may be more sought-after and more often held by older workers. In richer countries, T&T jobs may be regarded as more 'entry-level' jobs more attractive to young people, students or those seeking part-time work, etc.

T&T's share of regional total youth employment, 2019-2024



T&T's share of total youth employment by income group, 2019-2024



Travel & Tourism's Female Employment

T&T's female employment continued to grow in 2024, contributing 9.3% of global female employment

- The T&T sector directly employed 51.7 million women globally in 2024, equivalent to 39.6% of its total direct workforce.
- T&T direct employment contributed 3.8% to global female employment. Direct and indirect female employment in 2024 exceeded levels in 2019, while induced female employment was close to its 2019 peak.

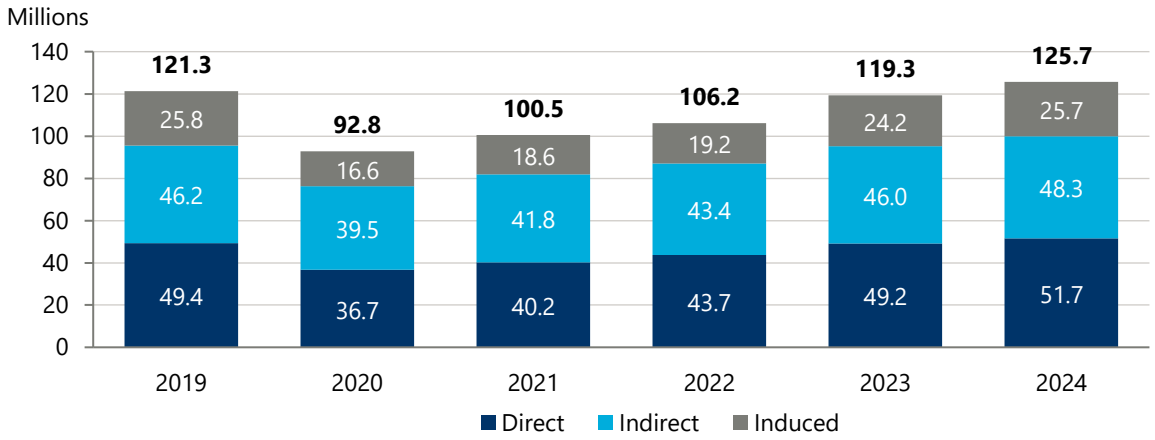
Female Employment in Hospitality

The share of female employment in Hospitality was higher at 49% in 2024

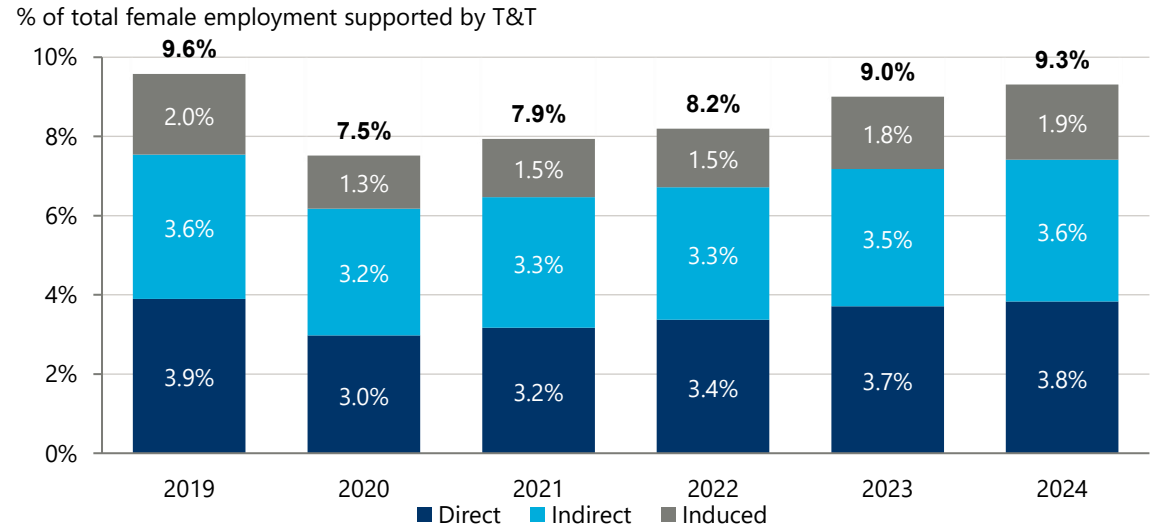
How did the pandemic affect female employment?

The slower recovery of T&T's share of female employment compared to youth employment and high-wage jobs may reflect the ongoing disruptions and/or structural changes in the labour markets from the pandemic. The pandemic placed a disproportionate burden on women due to unpaid care work and their employment in industries more heavily hit by pandemic restrictions.

Female employment supported by T&T, by channel, 2019-2024



T&T's share of total global employment of women, 2019-2024



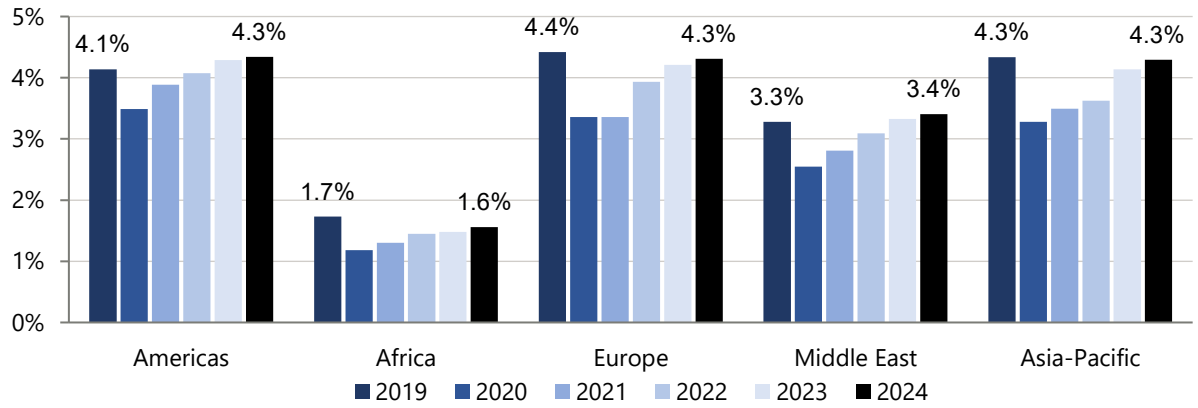
T&T's share of female employment was above 2019 levels in only the Americas and the Middle East

- While T&T's share of regional female employment had returned to 2019 levels in the Middle East and the Americas by 2023, it was still lower in other countries.
- Nonetheless, all regions experienced marginal growth in T&T share of female employment between 2023 and 2024, as the sector continued to recover.
- The share of T&T jobs going to women was 39.6% in 2024, compared to 40.9% across the wider economy.
- The share of employment that is female is higher for T&T than the wider economy in the Americas and Europe.

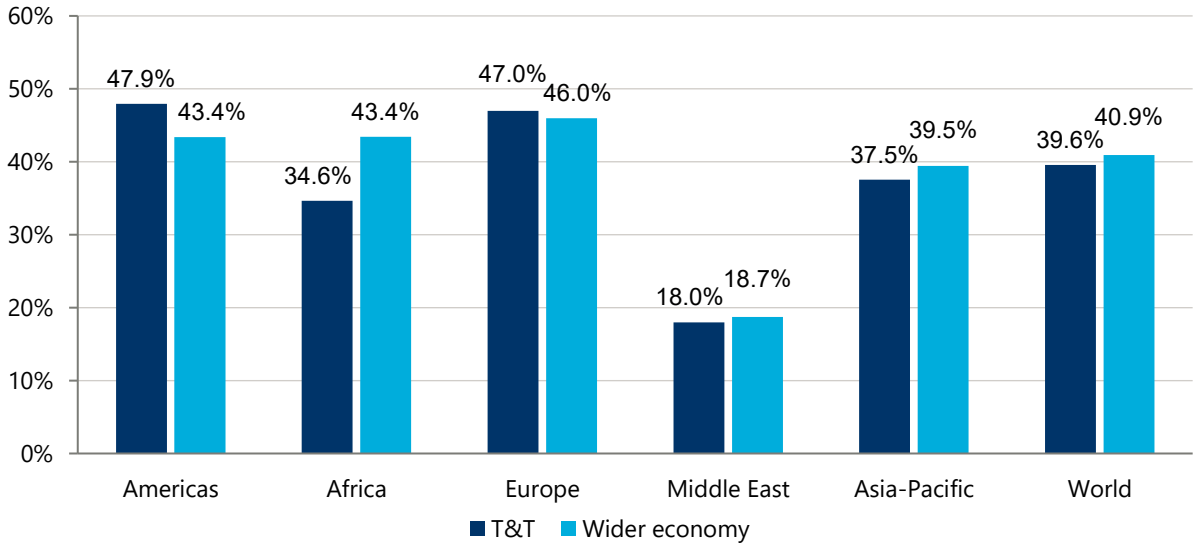
Is maximising the share of female employment desirable?
Maximising the female share of employment could inadvertently perpetuate gender imbalances in other areas or mask underlying structural issues within male employment. 'Best performance' countries may instead be judged using other metrics, such as achieving gender parity or equal rates of employment across those in the labour force.

Note: Both charts include direct employment only.

T&T's share of regional total female employment, 2019-2024



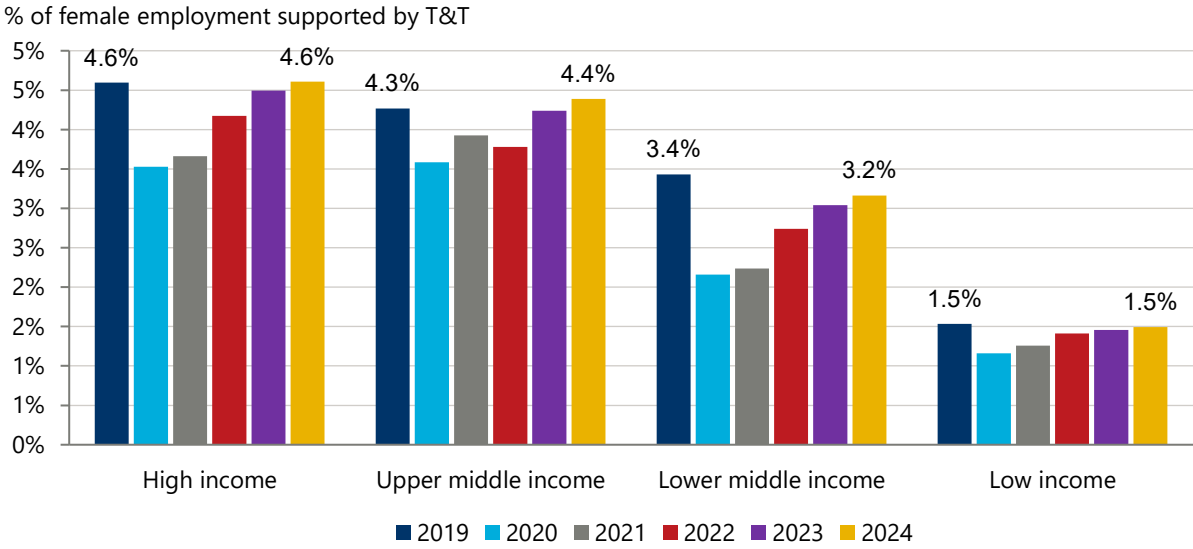
Share of T&T and wider economy employment that is female, 2024



T&T direct female employment supported 4.6% of global totals in high income countries

- T&T's contribution to female employment varies by income group.
- In high and upper middle-income countries, T&T direct employment contributes 4.6% and 4.4%, respectively, compared to 1.5% in low-income countries.
- The share of female employment supported by direct T&T employment grew in all regions between 2023 and 2024. Amongst upper middle-income countries, the female employment level in 2024 was higher than in 2019.

Share of female employment supported by T&T by income group, 2019-2024



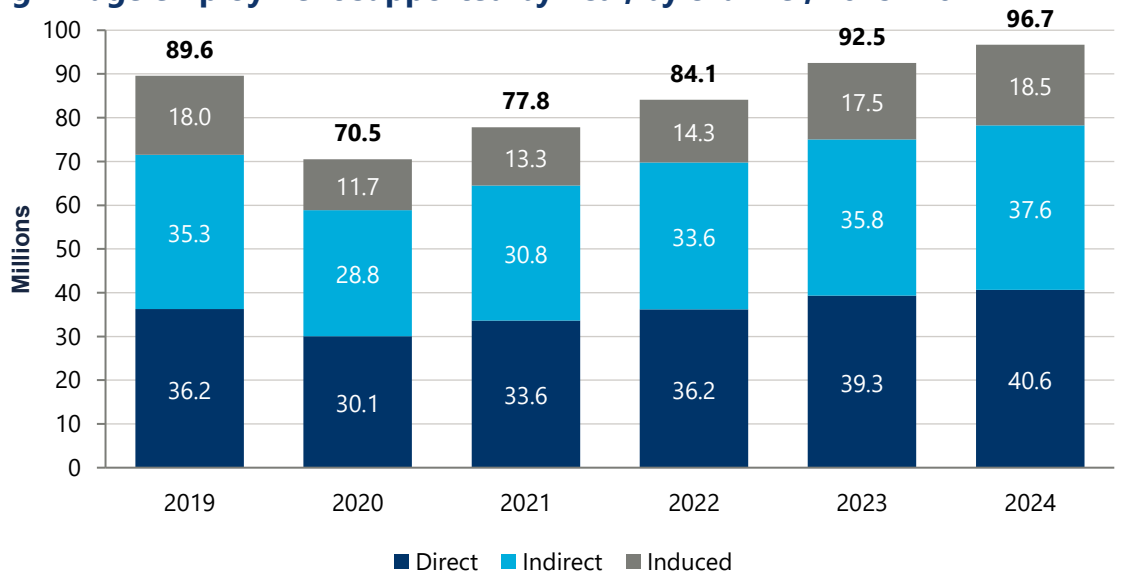
Travel & Tourism's High-Wage Jobs

T&T supported record numbers of high-wage jobs in 2024

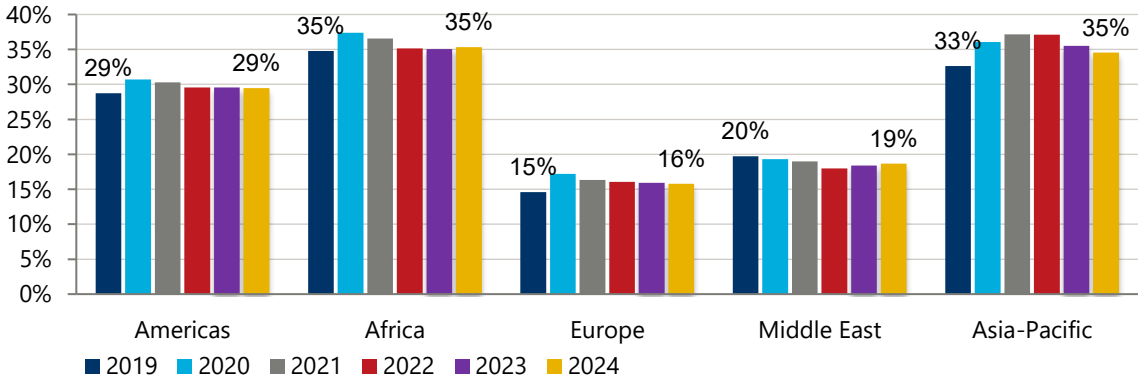
- T&T supported 96.7 million high-wage jobs in 2024, 7.1 million more than the previous peak in 2019. This is a consequence of employment growth across the direct, indirect and induced footprints.
- The share of direct T&T jobs that are in high-wage sectors has been relatively consistent over time, reflecting the relatively consistent balance of employment by sector.

A note on 'high wage' employment:
For the purposes of this study, 'high-wage' industries are defined as those in which average wages are roughly in the top third of earnings in a given country (i.e. above the 65th percentile). This measure allows for some degree of comparison between international earnings as it accounts for what is considered a high wage within each country context (i.e. a relative measure). These high-wage industries encompass a different set of industries in different countries and also describe a difference wage level (and standard of living) in each country.

High-wage employment supported by T&T, by channel, 2019 -2024



Share of direct jobs that are in high-wage sectors, by region



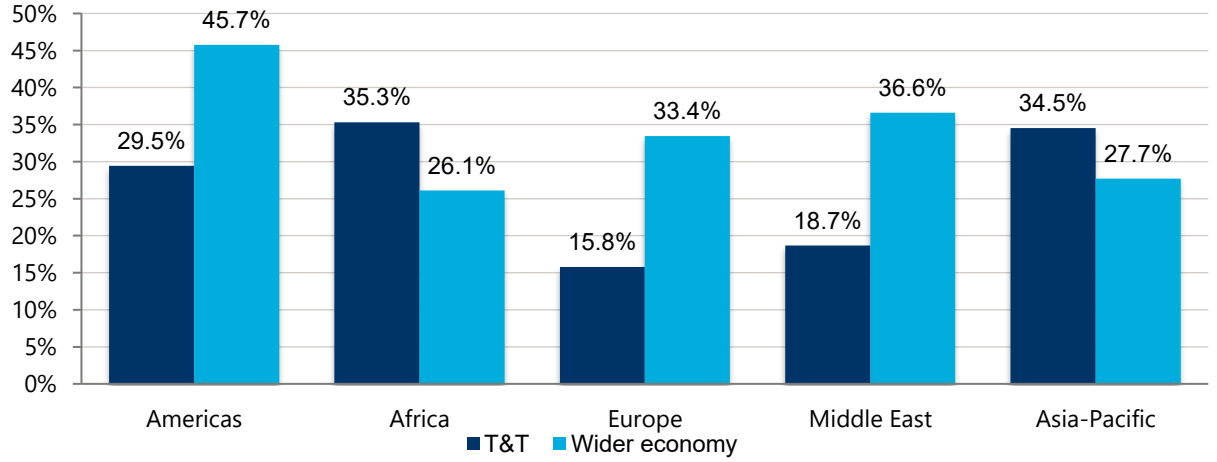
Africa and Asia-Pacific had the largest share of high-wage T&T supported employment

- The share of employment than is in high-wage sectors is larger for T&T compared to the wider economy in Africa and Asia-Pacific. In all other regions, a higher proportion of jobs are in high-wages sector in the wider economy.
- Lower income countries had a larger share of high-wage employment supported by T&T than higher income countries in 2024.
- Jobs in T&T industries may be regarded as 'formal' sector work in lower income countries and held by more experienced people compared to the 'entry-level' jobs often found in T&T industries (e.g., hospitality) in higher income countries.

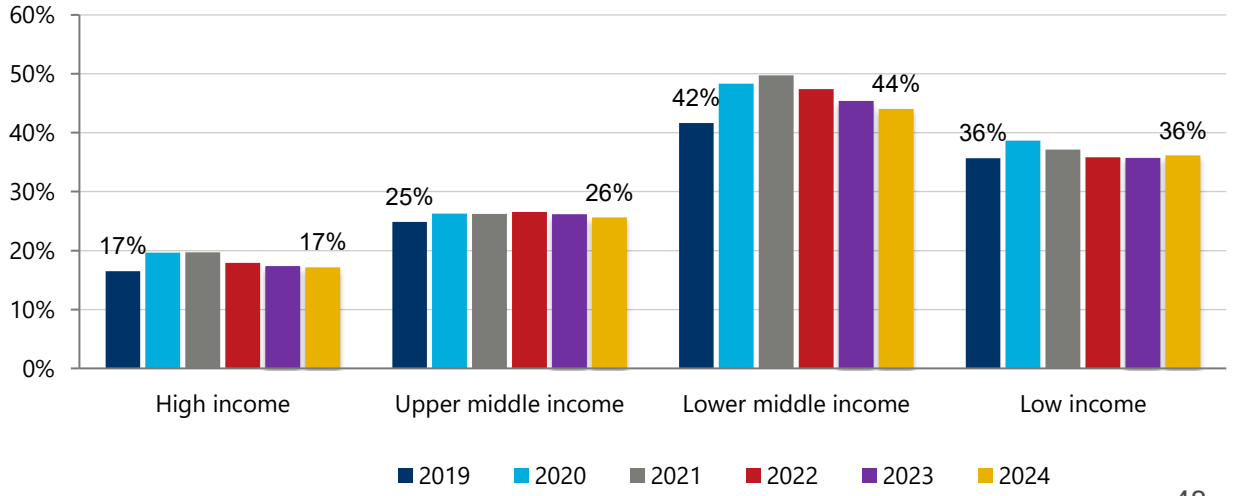
A note on comparisons across regions

It is important to note that the definition of high-wage industries adopted by this study is relative to in-country living standards. It is therefore not appropriate to directly compare the wages or standard of living of high-wage employees across regions.

Share of direct T&T employment that is in high wage sectors, compared to whole economy, 2024



Share of direct T&T employment that is in high wage sectors, by income group

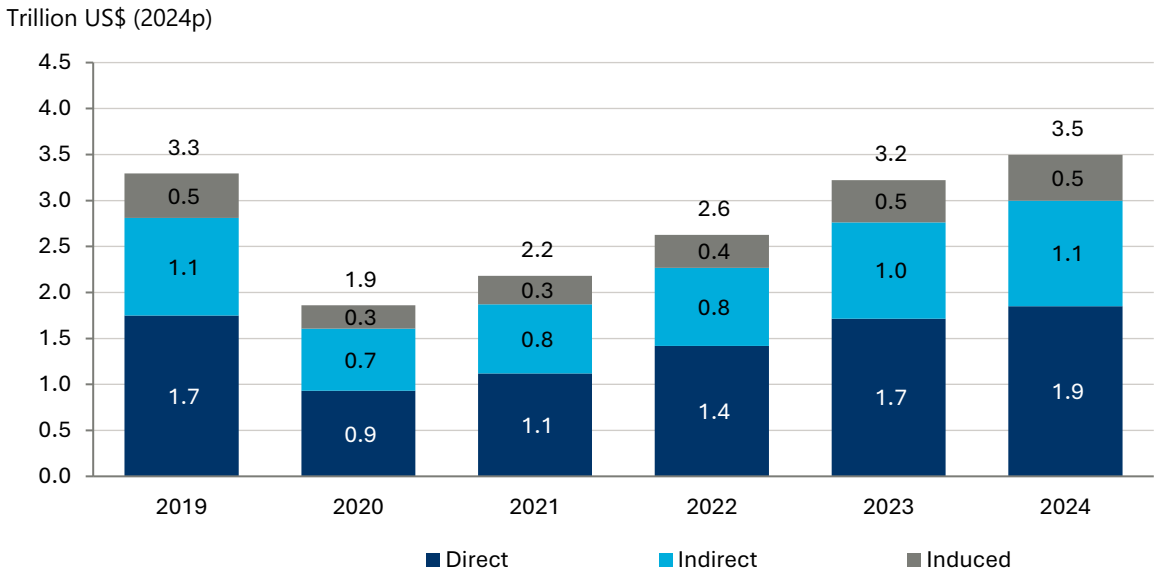


Travel & Tourism's Contribution to Tax Revenues

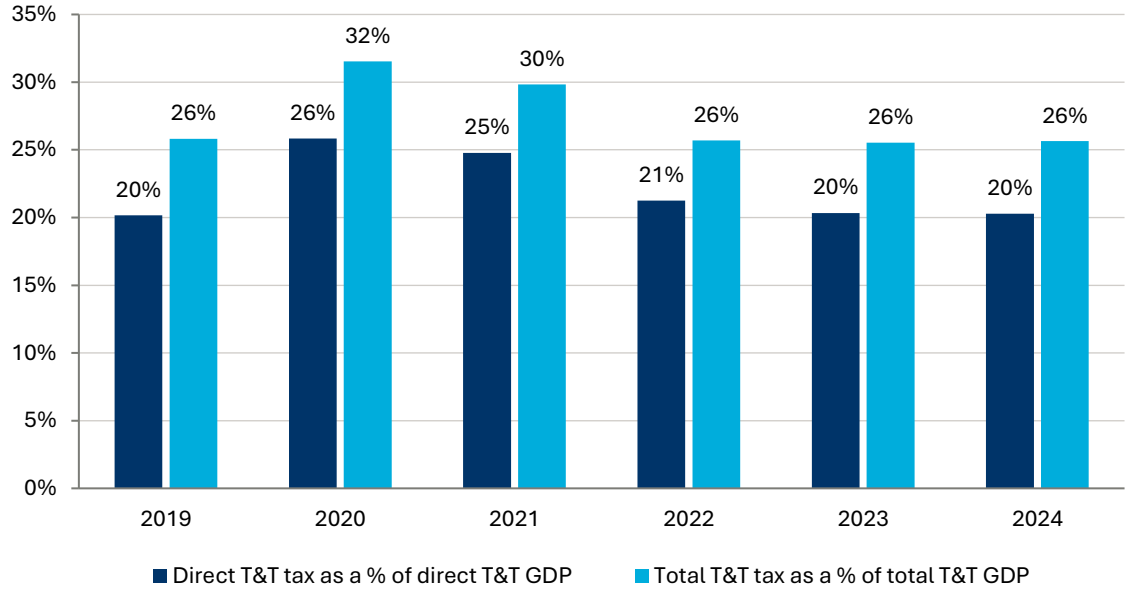
T&T-linked tax revenues were $3.5 trillion in 2024 across all channels, 26% of its GDP footprint

- Direct T&T-related tax revenues were $1.9 trillion in 2024, higher than its 2019 peak, in 2024 prices.
- The value chain (indirect) and spending induced by T&T wages supported an additional $1.6 trillion in tax revenues in 2024.
- Direct T&T-linked tax contributions were 20% of direct T&T GDP in 2024. Across all channels, this share rose to 26% of total T&T GDP in 2024.

Tax contributions related to T&T by channel, 2019-2024



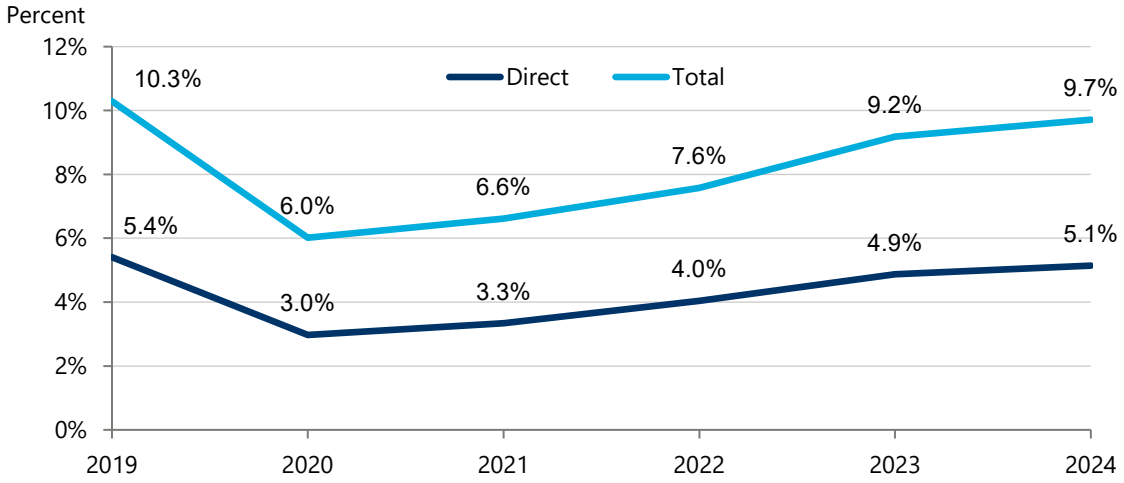
T&T tax contributions as a share of T&T GDP (excl. product taxes), 2019-2024



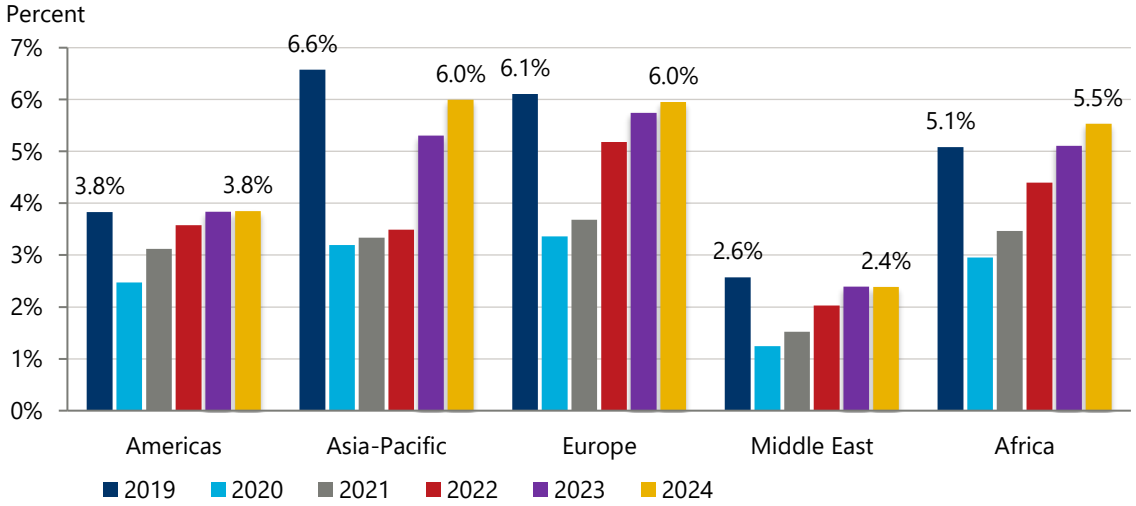
T&T-linked activities supported an estimated 9.7% of total government revenues in 2024

- Across all channels, T&T-linked taxes were 9.7% of global tax revenues in 2024, a decline from the 9.7% share in 2019.
- Given that the absolute value of T&T-linked taxes has grown to above 2019 levels, this reflects the growth in the non-T&T tax base globally.
- Tax revenues from direct T&T activity alone contributed 5.1% to global government revenues.
- The contribution of direct T&T-linked tax revenues was highest in Europe and Asia-Pacific in 2024, at 6.0%.

Estimated share of T&T-linked tax as a share of total government revenues, 2019-2024



Estimated share of direct T&T-linked tax as a share of total government revenues, by region, 2019-2024



The Voice of Travel & Tourism