Deane®
Apparel

Emissions Reduction Plan

Targets & Reductions

FEBRUARY 2025

Our Goal

To be a carbon positive business by 2028.

Our Top Emissions

FREIGHT

Freight is the top emission source at 93.6% of the measured inventory.

Air Freight makes up 80% of this.

BUSINESS TRAVEL

Business travel makes up 2.6% of the measured inventory.

Most of this is the air travel.

FUEL

Fuel from the fleet vehicles makes up 2% of the measured inventory.

The base year for Deane Apparel is January 1st 2022 to December 31st, 2022 (FY22). The base year was measured internally by James Stonyer, with oversight from Alix McKenzie (Go Well) and included as many relevant sources as possible.

The plan is to expand the GHG measurement to include more of the value chain over the next few years. This base year is used to set targets and reductions. Deane Apparel has set a reduction target in alignment with keeping the global temperature under 1.5°C above preindustrial levels.

Current Emissions Assessment

Our Targets

-42%
SCOPE 1 & 2 ABSOLUTE

-42%
SCOPE 3 ABSOLUTE

-51.6%
SCOPE 3 INTENSITY**

The following pages outline the plan and how these targets will be achieved. The plan is adaptable and will be reviewed annually to manage what has been achieved and is still ongoing.

Making the plan happen will take ongoing focus and support from key personnel at Deane Apparel.

* 'Others' refers emission sources to T&D Losses, Working from Home and Water and Wastewater.
** Per unit - the unit is by SKU. This refers to either a garment, mat, or linen item.

Tackling Climate Change & Playing Our Part

As climate change's global and local impacts become harsher and more evident, we must take steps to reduce our emissions. Further to taking ownership of our emissions and reducing them, we also need to analyse the impacts climate change may have on our business as the planet continues to warm. The table below highlights some of the key risks we face and how we might mitigate them.

Increased storms and extreme weather events

The increased frequency and intensity of storm events will significantly impact our supply chains and operations. This will lead to significant delays or unavailability which will affect short runs.

This could be mitigated by ensuring our supply chains are resilient by collaborating with partners who share our commitment to reducing emissions and who are prepared for these weather events.

Availability of Resources and Regulatory Changes

The physical effects of climate change (flooding, drought, etc) will decrease the availability and increase the cost of products and materials. Resulting regulation changes across global markets may also increase business costs.

This can be mitigated by "getting ahead of the curve". Identifying the materials and products most at risk and developing a mitigation plan, and ensuring Deane are in line with regulations in the markets they serve.

Brand Reputation

Emissions measurement and reduction has become the new normal and is expected by a large quantity of stakeholders while also becoming increasingly mandated globally. Not acting on pressing issues can lead to distrust and frustration between a brand and their stakeholders

To mitigate this, Deane needs to be transparent and authentic through their reporting and communications **do what you say you will do.**

Aligning with 1.5°

Aligning with the 1.5°C target established by the Paris Agreement is crucial in addressing the global climate crisis and avoiding tipping points that will result in irreversible climate change. This global goal seeks to cap global warming at 1.5°C above pre-industrial levels, a threshold identified by scientists as essential to avoid the most catastrophic impacts of climate change. There are two different approaches to set goals for reducing greenhouse gas (GHG) emissions. These are:

Absolute Targets:

- These refer to a total reduction in emissions or environmental impacts, regardless of production levels, revenue, or other factors.
- The target is expressed as a fixed reduction in total emissions, e.g., “reduce CO_2 emissions by 40% by 2030 from 2020 levels.”

Intensity Targets:

- These refer to a reduction in emissions relative to a specific unit of output (KPI), such as per product or per unit of revenue.
- The target is expressed as a ratio, e.g., “reduce CO_2 emissions per NZD$1 million revenue by 30% by 2030.”

Target Overview | Table 1. Emission Reduction Targets

SCOPE	BASE YEAR FY22 (tC02e)	TARGET DATE	% REDUCTION	TARGET EMISSIONS (tC02e)	KPI
Scope 1	43	2030	-42%	25	Mid-term Absolute
Scope 2	22	2030		13	
Scope 1 & 2	65	2030		38	
Scope 1 & 2	65	2024	-5.3%	3.5 (per year)	Year on year reduction target from FY22. If starting reductions from FY24 Deane will need to aim for 4.5 tC02e per year.
Scope 3+	2,063	2030	-42%	1,197	Mid-term Absolute
Scope 3+	0.0010	2030	-51.6%	0.0005	Mid-term Intensity per unit (see definition page 4).
Scope 3+	2,063	2024	-5.3%	109 (per year)	Year on year reduction target from FY22. If starting reductions from FY24 Deane will need to achieve a reduction of 144 tC02e per year.

Scope 1 & 2 Breakdown | Table 2. Scope 1 & 2 2030

SCOPE	BASE YEAR FY22 (tC02e)	TARGET DATE	% REDUCTION	TARGET EMISSIONS (tC02e)	KPI
Scope 1 & 2	65	2030	-42%	38	Reduction targets set for 2030 are referred to as mid-term targets. Once the 2030 target is achieved our emission reduction plan does not stop. Long-term targets are set for 2050+.

Table 3. Scope 1 & 2 Annual

SCOPE	BASE YEAR FY22 (tC02e)	TARGET DATE	% REDUCTION	TARGET EMISSIONS (tC02e)	KPI
Scope 1 & 2	65	2024	-5.3%	3.5 per year	This is the estimated year on year reduction Deane will need to make to achieve the 42% reduction by 2030. However, emissions change yearly, so although Deane may aim for a 3.5% reduction it may achieve varied results e.g. 2% one year and then 5% the next.

Scope 1 & 2 Reduction Strategies | Table 4. Reduction Strategies to Achieve Targets

SCOPE 1 & 2 EMISSIONS	INITIATIVE DETAILS	CAPEX NEEDED TO IMPLEMENT	ONGOING OPEX	ESTIMATED tCO2e REDUCTION PA
 **Petrol and Diesel 30.1 tCO2e**	Investigation in the fleet if any vehicles can be transitioned to an EV. What EV would be best suited - this will affect the CAPEX and OPEX.	The cheapest EV in NZ is the GWM Ora at $42,990. *Price comparison, not recommendation due to ethics.* There are opportunities to lease EVs.	**Hyundai IONIQ 5** • $0.27/kWh (if charged via solar this will be $0) **Hyundai Tucson** • $7.4 -$9.6/100km **Hyundai Wagon** • $5.5/100km EV maintenance is significantly lower.	Reduction dependent on vehicles replaced. • EV - 0 grams CO2/km • Hyundai Tucson 195 -217 grams CO2/km • Hyundai Wagon- 141 grams CO2/km **Estimates** based on information on *Rightcar NZ - Vehicle ratings.*
	• **Optimise Vehicle Fleet Efficiency** • **Regular Vehicle Maintenance:** This can also be tracked in a system such as Argus • **Route Optimisation:** Install GPS devices to track driving behavior, including idling, speeding, and route inefficiencies. • **Eco driver training**	**Maintenance:** • $0 **GPS:** • Price dependent on software chosen.	$305-350 estimated per vehicle, but this should be built into the operating costs.	tCO2e savings are hard to quantify. EECA estimates a well-maintained car can use 10-20% less fuel.
	Encouragement • Incentivise Fuel Savings/Emissions Reductions • Fuel Efficiency Awareness Programme	$0	$0	tCO2e savings are too hard to quantify.

Table 4. Reduction Strategies to Achieve Targets continued...

SCOPE 1 & 2 EMISSIONS	INITIATIVE DETAILS	CAPEX NEEDED TO IMPLEMENT	ONGOING OPEX	ESTIMATED tCO2e REDUCTION PA
LPG Forklifts 13.7 tCO2e 	**Upgrade:** Transition all three LPG Crown CG18 forklifts to electric	CB40 - CB50 Models- unable to get quotes.		A 100% reduction in LPG if all forklifts upgraded- 13.7 tCO2e.
Electricity 21.84 tCO2e	**Optimise Sites** • Switch to Energy-Efficient Equipment • Energy Audits: Conduct an energy audit to identify areas where fuel and energy are high • Energy audit can inform decision making around any upgrade e.g. cafeteria.	**Equipment upgrades will be needed, the cost will vary.** **Energy Audit:** • $4-5k	These Reduction Strategies would reduce electricity consumption.	tCO2e savings are hard to quantify.
	Install Solar • PPA • Owned solar	**PPA:** • $0 **Owned Solar:** • Costs - based on average install costs, need more info for fixed price	**PPA:** • Power bills charged by company. **Owned Solar:** • Cleaning cost $1,500 +GST p/a • Systems checks- $,1000-1,500+GST p.a. **Cost saving on bills:** • Savings estimated based on average cost per KWH	Estimate quotes provided by Mike Anderson - *mike@zenenergy.co.nz* • 120KW solar system • 240KW solar system To achieve a more direct quote it is recommended to speak with solar companies and have an onsite visit. Harris to lead.

Scope 3 Breakdown | Table 5. Scope 3 2030

93.6% of Deane's' emissions are freight. Breaking that down further, 80% of freight is via air, which has the highest emissions of all transport methods. Therefore, the Reduction Strategies to achieve the most reduction will be around air freight.

SCOPE	BASE YEAR FY22 (tC02e)	TARGET DATE	% REDUCTION	TARGET EMISSIONS (tC02e)	KPI
Scope 3+	2,063	2030	-42%	1,197	Mid-term Absolute
Scope 3+	0.0010	2030	-51.6%	0.0005	Mid-term Intensity per unit *(see definition pg.3)*

Table 6. Scope 3 Annual

SCOPE	BASE YEAR FY22 (tC02e)	TARGET DATE	% REDUCTION	TARGET EMISSIONS (tC02e)	KPI
Scope 3+	2,063	2024	-5.3%	109 p.a.	Year on year reduction target.

Scope 3 Reduction Strategies | Table 7. Reduction Strategies to Achieve Targets

SCOPE 3 EMISSIONS	INITIATIVE DETAILS	CAPEX NEEDED TO IMPLEMENT	ONGOING OPEX	ESTIMATED tCO2e REDUCTION PA
 **Freight Air 1,661.78 tCO2e**	Most air freight is made up of trips from New Zealand-Australia. Set up a warehouse to store stock in Australia to reduce frequent shipping. Send stock from suppliers direct to Australia.	Existing building in Glendenning NSW. Additional infrastructure and personnel to manage stock.	Operation and maintenance cost. Mitigate tCO2e by setting up a low carbon, efficient site e.g. solar on roof.	A 50% reduction in NZ to Aus air freight will save an estimated 543 tCO2e p.a. Organising freight more efficiently will result in more savings e.g. a 25% reduction from China to NZ will save 38 tCO2e p.a.
	Use sea freight in place of air travel where possible (direct China to Aus). Sea freight emissions are 99% lower than short haul air freight and 98% lower than long haul air freight (MfE Emission Factors)	No OPEX needed to implement switch, just cost variance of the different shipping methods.	Sea freight is significantly cheaper.	Moving 20% of long haul and short haul to sea freight will save 286 tCO2e p.a.
	Improved Demand Forecasting and Inventory Management. Reduce reliance on fast/last minute shipping. Monitor sales trends in real-time.	Cost variable if Deane chooses to go with a system or do in-house.	Cost variable if Deane chooses to go with a system or do in-house.	tCO2e savings are too hard to quantify.

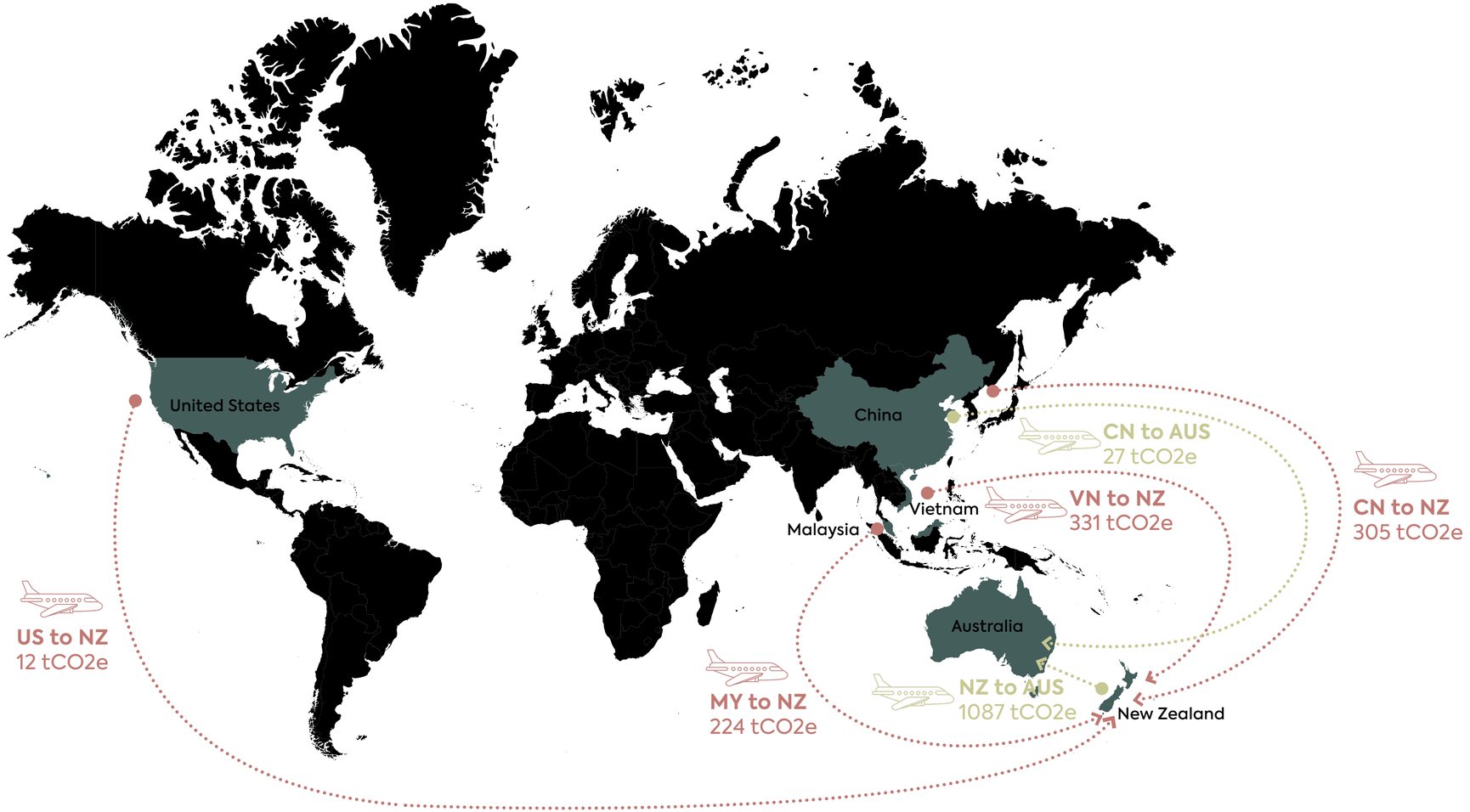
Table 7. Reduction Strategies to Achieve Targets continued...

SCOPE 3 EMISSIONS	INITIATIVE DETAILS	CAPEX NEEDED TO IMPLEMENT	ONGOING OPEX	ESTIMATED tCO2e REDUCTION PA
 **Freight Management**	Look at working with a freight forwarding and Logistics Decarbonisation Consultancy. A good company to talk to is *Zilch Forwarding - The Future Of Freight*	Can provide a comparative quote. No upfront cost, done by transactional billing.	Transactional billing.	tCO2e savings are hard to quantify.
 **Freight Road 186.15 tCO2e**	Work closely with providers to ensure low carbon options are used and can be reported on. Collaborating with logistics providers focused on emissions reductions and minimisation is essential. Utilising fuel-efficient vessels and optimizing shipping routes play a key role in this.	Cost increases/decreases are hard to quantify.	Cost increases/decreases are hard to quantify.	If 20% of road travel is switched to electric Deane will save 37 tCO2e p.a.
 **Air Travel 27.54 tCO2e**	Carbon travel budget to reduce air travel.	$0	Reduced flights will save money.	A 10% reduction in the FY22 air travel would achieve a 2.8 tCO2e saving.
 **Waste to Landfill 11.89 tCO2e**	Complete waste audit to assess in any additional material can be diverted from landfill. Set up adequate bins that are easily accessible for all waste streams.	**Waste audit**[1]**:** • Full $3,200 • Light $1,300 **Commercial Compost:** • 120L- $48.50	**Commercial Compost:** Depending on pickup charges, average $21 weekly, includes bin liner change.	tCO2e savings are hard to quantify, depending on diversion rate.

1 Go Well prices

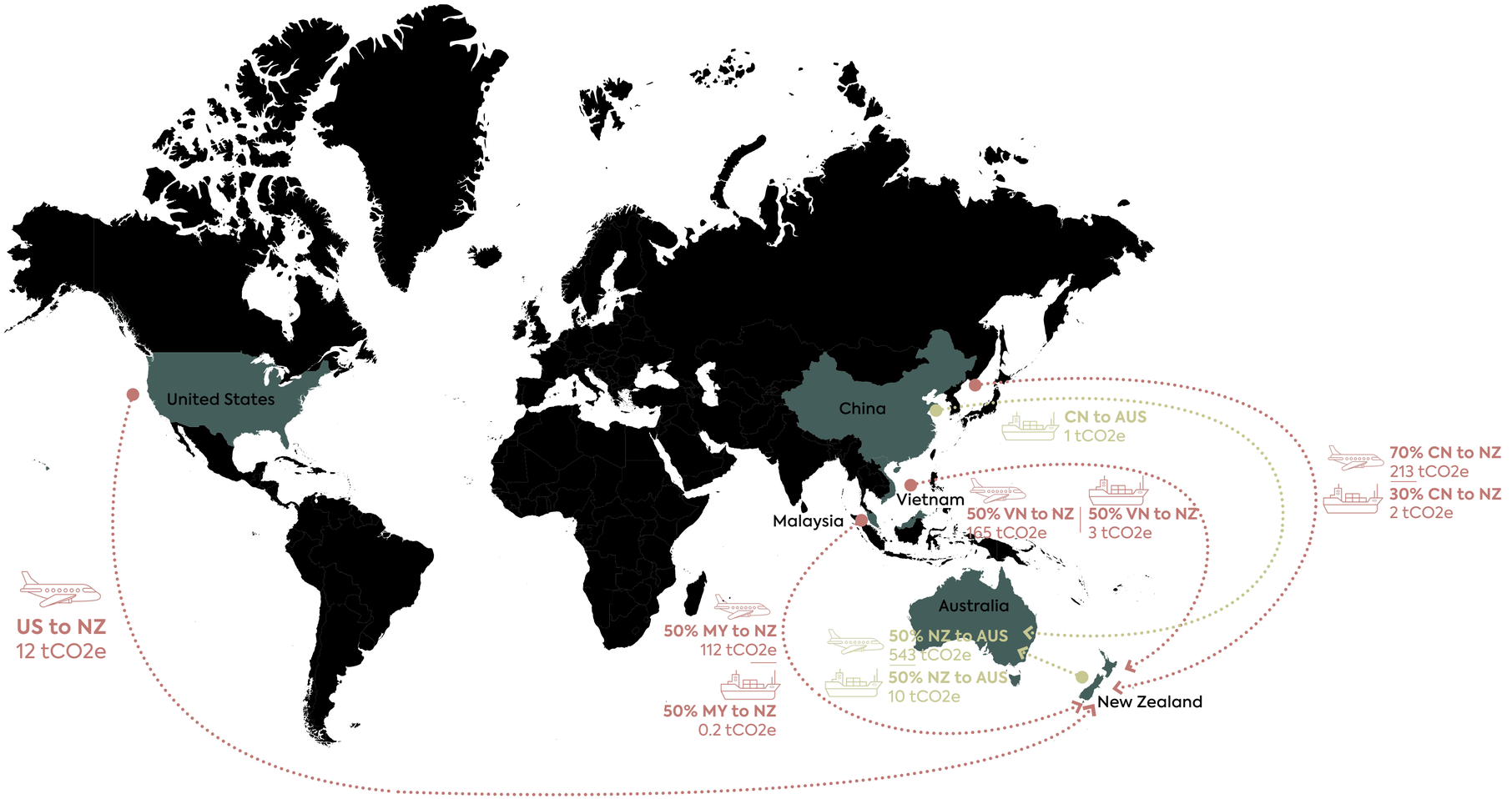
NSW Site Case Study

Based on the September 2024 DHL report this is the current flow of your freight shipments - (1,686 tCO2e). **The maps and flight path below are not geographically accurate, they are for showing freight routes between departure and destination countries in Deanes supply chain.**



With a site functioning in NSW enabling container ships, you could reduce your emissions by up to 775 tCO2e p.a.

The diagram below illustrates some emissions estimates to show the difference between air freight and sea freight, and the potential reductions by making the switch.



NOTE: tCO2e is rounded up for clarity of image. Only DHL January 2023 - December 2023 data has been used, including DHL emission factors. Container ship average has been used as vessel type used for each trip is unknown.

Insetting

Insetting is when a company invests in reduction projects within its own supply chain or area of influence to reduce its carbon footprint, instead of buying external offsets.

The budget for this can be set at the equivalent cost to offset. The table below is based on Toitū's current credit costs and projects. Note these are subject to change. Prices are per credit which is equal to one tonne of CO_2e sequestered or avoided.

NAME	PRICE RANGE PER TONNE (excl. GST)	COST TO OFFSET BASED ON FY22 EMISSIONS
#0359, AMAYO Phase II Wind Power Project, Nicaragua **#0500**, Changdao Geothermal Central Heating System, China **#0537b**, Improved Water Infrastructure, Sub-Saharan Africa	All $20–$29.99	$42,552.29–$63,807.15
#0445, National biodigester programme, Cambodia	$30–$30.99	$63,828.43–$85,083.30

Making the Plan Happen

This is an all-of-organisation plan involving many departments and individuals working together. Making it work requires new ways of coordinating work across all teams within Deane Apparel, as well as with external stakeholders.

Success will depend on the bold leadership and commitment of the key players at Deane Apparel.

Limitations:

Reduction project estimates are not perfect. While they are a useful decision-making tool, they have certain limitations and variations that should be considered. These include:

- The total tCO2e saving. - there are many unknown variabilities that can change this such as human behaviors.
- Cost or cost saving of the project- this was done with the best available information at the time. The company may change costs at any point which cannot be factored in.
- Estimates are only as good as the data they are based on, - if data around costs and emission reductions is poor or has high levels of uncertainty with data quality improvements (highly recommended) there may be changes in the tCO2e for a source.

Projects that effectively cut down emissions are often a result of policy changes, staff education and engagement, incentives and changes to systems and processes.

The plan was created by Go Well Consulting in conjunction with James Stonyer.

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