

# Our sustainability ripples worldwide

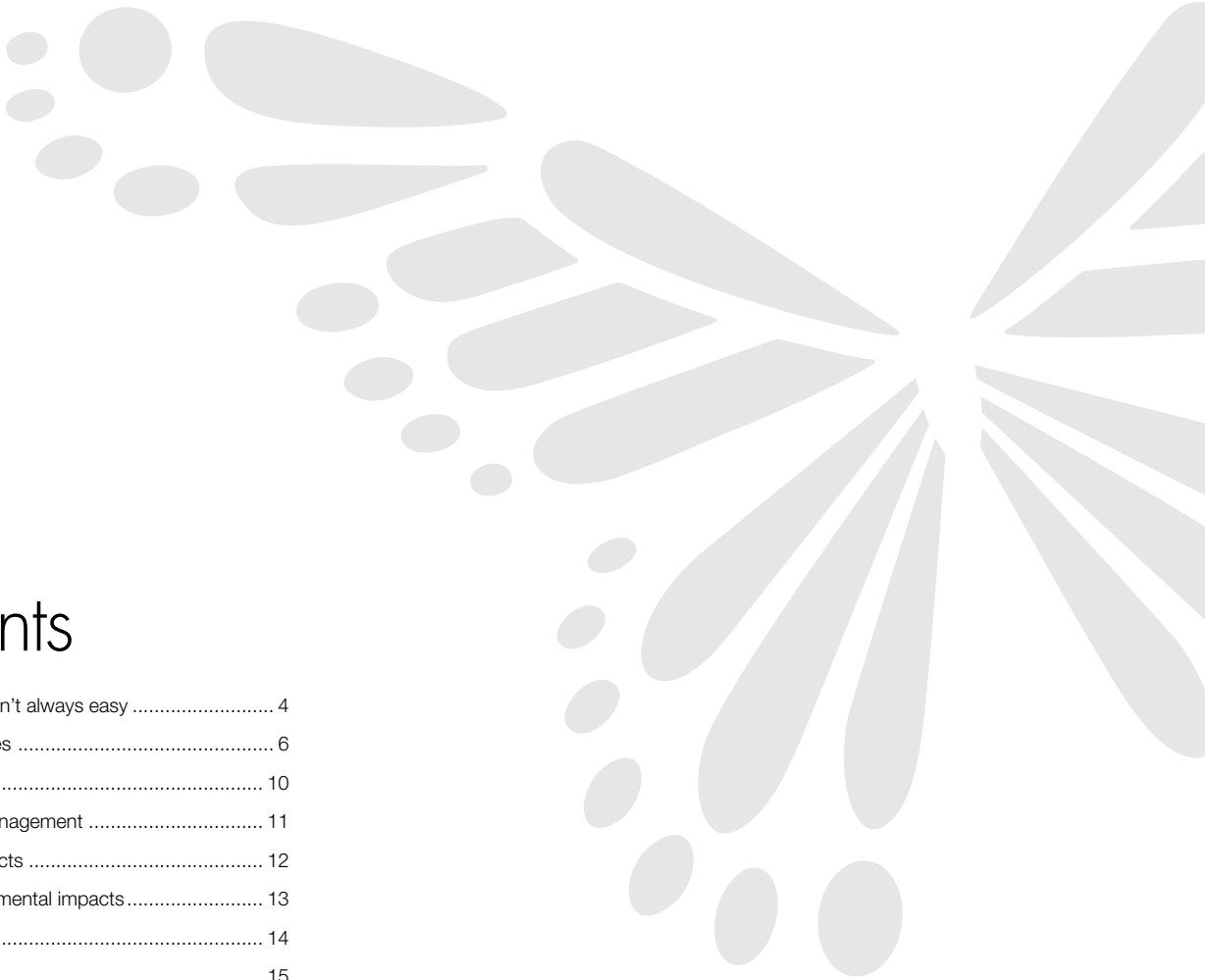
Doing the right thing isn't always easy.  
But that's never stopped us before.



**Worldwide**  
printing solutions



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# Doing the right thing isn't always easy. But that's never stopped us before.

In October 2012, we became the very first printing franchise in Australia to be certified NoCO2, meaning we're 100% carbon neutral in a majority of our national network of centres. We've achieved this through making big positive changes internally, while also investing heavily in three major sustainability projects in India, Cambodia and China.

We're also the first printing company in WA to be certified by the Forest Stewardship Council and have ventured into the world of solar power. Our Centralised Production Hub has installed a large solar power farm that allows it to utilise the clean electricity generated rather than rely totally on the electricity grid. The Hub also became fully carbon neutral in 2012.

## Responsible

At Worldwide Printing Solutions, we continuously challenge ourselves to ensure we select products with acceptable and beneficial environmental and social impacts. We primarily deal with paper suppliers who submit documentation to verify conformance to all environmental, health and regulatory requirements including forestry codes of practice and regulations governing the legal harvesting of wood.

This process acknowledges the chain-of-custody certifications from the following systems: Forest Stewardship Council (FSC), the Programme for the Endorsement of Certification Systems (PEFC) and Sustainable Forestry Initiative.

## Auditable

In November 2008, our Production Hub underwent an audit by the Printing Industries Association of Australia. As a result of that audit we achieved Green Stamp Certification in all WA centres and Green Stamp Level 1 and 2 Certification at our Production Hub.

## Unrivalled

In March 2012, the Carbon Reduction Institute conducted a NoCO2 audit of our Production Hub and centres. The NoCO2 audit aims to capture 100% of emissions which an entity is responsible for.





# Procurement & supplies

Worldwide Printing Solutions chooses to deal with paper suppliers who can verify conformance to all of the recognised sustainability accreditations like FSC and PEFC. This ensures that these suppliers track the process from plantation to end user. In addition, we mostly choose suppliers who have obtained a carbon neutral status for their product.

Being a sustainable printer means doing everything possible and practicable to ensure we minimise our carbon footprint and then offsetting our residual footprint via the purchase of carbon credits in meaningful projects.

As paper forms a significant component of our business, a substantial amount of effort goes into ensuring we purchase stocks that have been produced in a sustainable manner.

Worldwide Printing Solutions are looking beyond price, quality, availability and functionality to consider other factors in their procurement decisions including environmental (the effects that the products and/or services have on the environment) and social aspects.

## Sustainably produced wood and paper-based goods:

- come from a renewable resource – trees, the product of sunlight, soil nutrients and water.
- capture carbon – through photosynthesis, most trees take carbon dioxide out of the atmosphere and replace it with oxygen, mitigating greenhouse gas emissions. In sustainably managed forests, the carbon released through harvesting is offset by that which is taken up through regeneration and re-growth, making these forests carbon neutral.
- store carbon over the long term – solid wood and paper-based products can effectively store carbon for decades or even centuries.
- are recyclable – they can be reused, or converted into other products, extending their useful life and adding to the available resource pool of wood fibre.

As a business, we continually challenge ourselves to ensure we select products with acceptable and even beneficial environmental and social impacts.

## 10 Things we know

1. Where do the products come from?
2. Is information about the products credible?
3. Have the products been legally produced?
4. Have forests been sustainably managed?
5. Have special places, including sensitive ecosystems, been protected?
6. Have climate issues been addressed?
7. Have appropriate environmental controls been applied?
8. Has recycled fibre been used appropriately?
9. Have other resources been used appropriately?
10. Local communities' and indigenous people's needs have been addressed



# Procurement & supplies

## Chain of custody

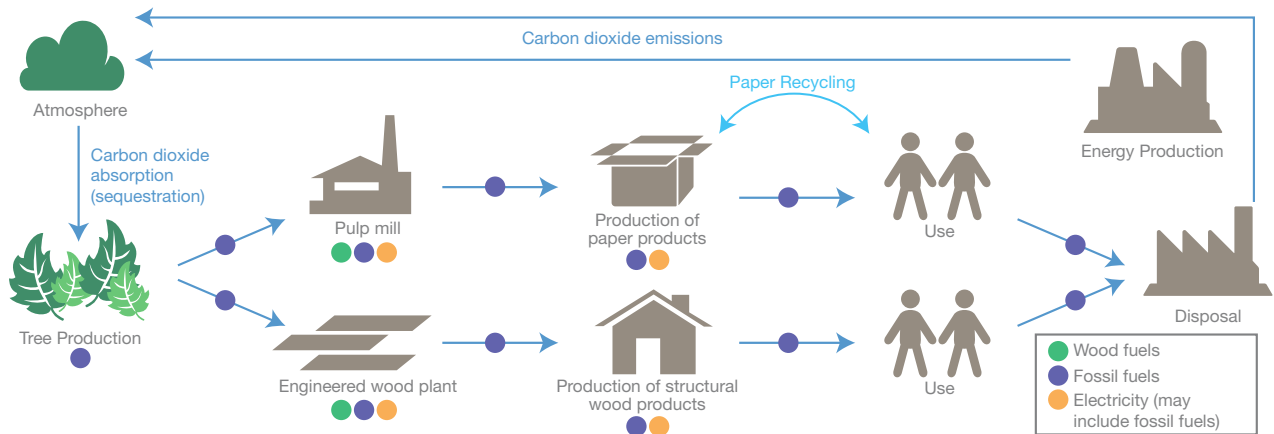
Paper products are manufactured in pulp mills that typically draw wood from many sources. In the most complex cases, a network of dealers buying wood from many different loggers, land owners and sawmills may supply a pulp mill.

Traceability is the ability to track sources of wood from final products through the supply chain to – as close as is practical – their origins.

Chain-of-custody systems have been established to document the wood flow between various steps of the supply chain. Most forest certification schemes include a chain-of-custody standard that reaches from the forests up to certain processes in manufacturing.

As an organisation we are very selective in choosing paper stocks that meet certain standards regarding the origin of the chosen stocks.

## Generic supply chain

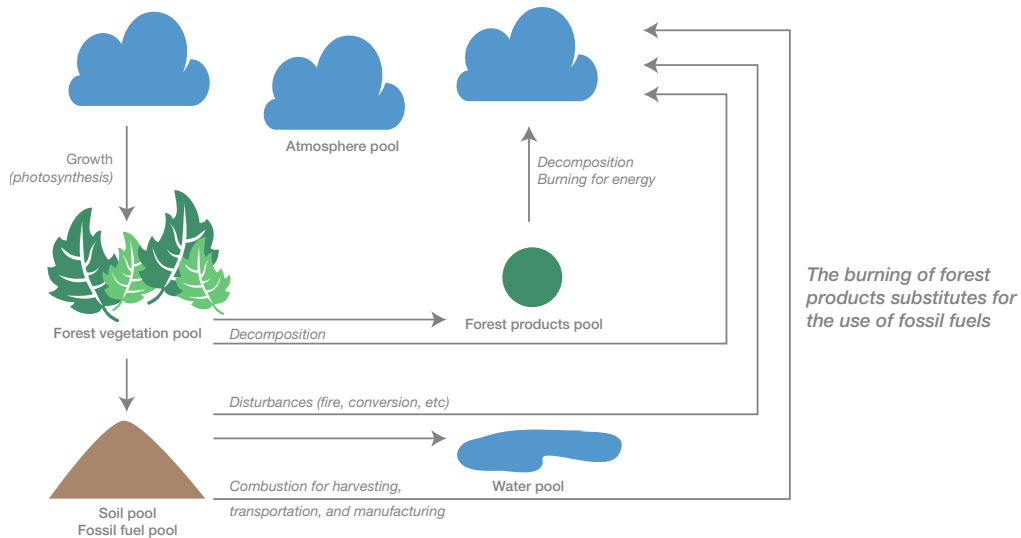


## Environmental controls

Different types of pollution can occur in many different places along our supply chain for paper-based products. The amount and intensity of emissions depend on the type, condition and capacity of the equipment causing pollution, and the location of the discharge points.

The degree of deviation (i.e. lack of compliance) from legally established emission thresholds is also an important factor.

## Carbon pools and exchange between pools



# Certifications



Knowing the context and conditions surrounding the harvesting of the raw materials and the manufacturing processes of the products is important to Worldwide Printing Solutions.

Monitoring and verification can take three forms:

1. Self verification – a producer monitors and reports about its own harvesting and manufacturing processes.

Typical outputs include sustainability reports; emissions reports, reports on social indicators, resource usage reports, recycling reports, etc.

2. Second party verification – a buyer verifies that a supplier and/or the products of that supplier conform to a certain standard.

3. Third party verification – an independent party verifies that a supplier and/or its products conform to a certain standard. Independent, third-party verification is generally considered to provide more assurance.

Forest certification

There are two major international systems for forest certification: the Forest Stewardship Council (FSC) and the Programme for the Endorsement of Certification Systems (PEFC).

When selecting our stock, the forest certification plays a vital role in the decision we make regarding the continued use of a particular stock type.



# Sustainable Forest Management

Sustainable Forest Management (SFM) is a management regime that integrates and balances social, economic, ecological, cultural and spiritual needs of present and future generations (United Nations, 1992).

Essential aspects of SFM include the following:

- Economic – the capacity of the forests to attract investment and support economically viable forest uses in the present and the future is undiminished. The forest is not used beyond its long-term capacity for the production of wood and non-wood forest products.
- Social – including a variety of aspects such as: the rights of indigenous peoples and local communities are respected and protected; forest workers are healthy, safe, and their rights are protected (e.g. freedom of association, right to bargain, child labor, forced labor, equal remuneration and non-discrimination); local communities, including indigenous peoples, benefit economically from forest management; sites of religious, spiritual, archaeological, historic, as well as of aesthetic and recreational value are preserved.
- Environmental – forest use protects biodiversity (ecosystems, species, genes and ecological processes) and the capacity to maintain ecosystem processes and services such as watershed protection, pollination, protection against mudslides, aesthetic beauty, carbon storage, etc.



# Recycling & environmental impacts

	VIRGIN FIBRE PRODUCTS	RECYCLED FIBRE PRODUCTS
RAW MATERIAL ACQUISITION	Trees grown, harvested, transported and chipped.	Used products collected, transported, and sorted. There might be cases, where paper with high content of recycled fibre generates more fossil fuel-based CO2 emissions because of transportation.
RAW MATERIAL PROCESSING	Water, energy, and chemicals used to extract fibres from wood chips.	Water, energy, and chemicals used to clean and re-pulp used products, remove fillers, and de-ink fibres.
PROCESSING BY-PRODUCTS	Air emissions, water effluent, nonhazardous waste (wastewater treatment residuals). Some solid waste used as soil nutrients.	Fewer air emissions, similar water effluent, significantly more wastewater treatment residuals.
PRODUCT MANUFACTURING	Water and energy used to make paper from pulp.	Water and energy used to make paper from pulp. Recycled fibres can increase the amount of energy (including fossil fuel energy) needed in paper making, because they dry less efficiently. Fibres that shorten/break during recycling process can end up as solid waste.
PRODUCT USE	The amount of fibre or product needed to perform a given task (i.e. make 100 copies, absorb 2 grams of fluid).	Recycling process breaks and stiffens fibres, resulting in reduced performance in some types of products. More fibres per sheet may be needed, or more product used, to adjust for poorer performance.
PRODUCT DISPOSAL	Paper products typically recycled or disposed as solid waste or in wastewater. When products are no longer recyclable, they can be burned to generate energy.	Similar disposal routes for products made from recycled fibres. When products are no longer recyclable, they can be burned to generate energy.

Worldwide Printing Solutions' focus is to ensure we continue to provide you with a range of stock that support sustainable forest management principles.

# Audit methodology

All Worldwide Printing Solutions centres were audited in 2012 by the Carbon Reduction Institute. As at September 2013, the majority of centres have become carbon neutral. The effect of this is that each centre will strive to lower its carbon footprint to reduce the amount it has to offset.

This means each centre reduces tangible things like lighting by replacing current lighting with more efficient LED lighting. They can also look at ways to reduce their environmental impact during their in-centre printing processes.

The offset dollars that Worldwide accumulates are used to fund projects in countries across the world including biofuelling in India, low impact house stoves in Cambodia and wind power in China.

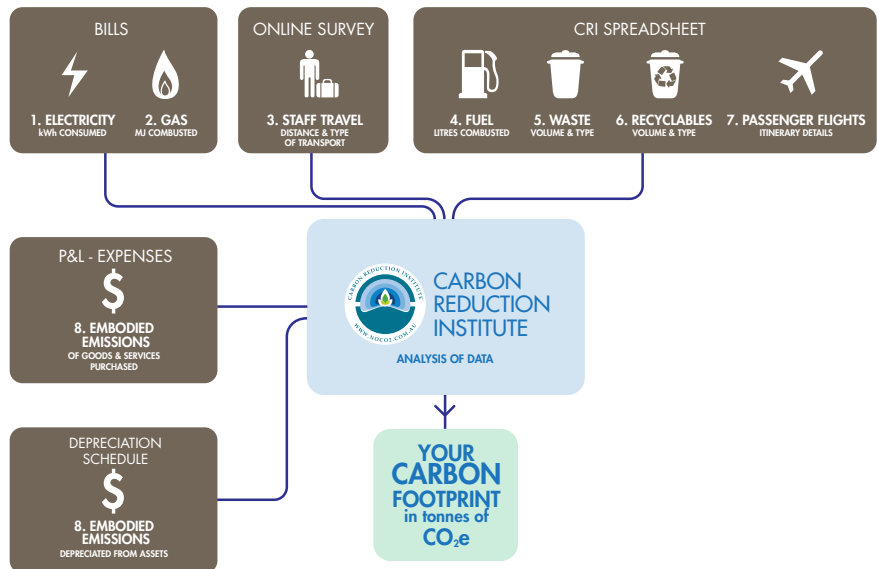
Worldwide Printing Solutions' audit was conducted by the Carbon Reduction Institute (CRI).

The methodology underpinning CRI audits has been adapted from the World Business Council for Sustainable Development (WBCSD) Greenhouse Gas (GHG) Accounting Protocol.

The protocol contains universally recognised accounting methods and boundaries that can be applied to different levels, sizes and types of organisations when creating their GHG inventory.

The protocol defines boundaries and emissions scopes to ensure that emissions do not become double counted when companies start accounting for their emissions on a national, state or industry level.

## NoCO2 Audit Process - Data Collections Methods



# Carbon footprint

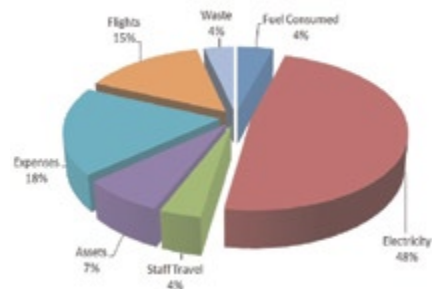
## The Audit Report

As a result of the carbon footprint analysis undertaken, a detailed audit report is generated for each centre.

The content of the audit report will cover all of the greenhouse gas emissions produced from the operations of the business.

The audit report is designed to provide our centre with an understanding of greenhouse inventory, and how this can be used to plan future reductions of their carbon footprint.

The report isolates each emission source, allowing the organisation to determine and model emission reduction strategies, their payback and viability.



Sample carbon footprint of a business

# Our NoCO2 accreditation benefits to you

The audit report provides an executive summary, which includes a simple representation of the sources of emissions that contribute to the largest NoCO2 footprint. The largest contributor of emissions in this example was due to electricity use, followed by expenses and flights.

Since Worldwide Printing Solutions is accredited NoCO2, when you purchase your printing from us, you will immediately reduce your own supply chain emissions.

In this example below, the procurement of print has resulted in carbon emissions totalling 40 tonnes resulting in a total output of 50.9 T.CO2-e.

If you were to purchase 75% of your print from a NoCO2 Worldwide Printing Solutions centre, there would be an immediate reduction in your emissions, resulting in a total of 20.24 tonnes CO2e or a reduction of 60%.

Other benefits include:

- Demonstrates your commitment to sustainability
- Potential financial savings from potential offset saving opportunities
- Assists you to attract sustainability conscious customers
- Immediately reduces your carbon footprint
- Demonstrates your market leadership

Scope	Emission Source	Emissions (CO2e/year)
Direct - Scope 1	Fuel Consumed	100
Indirect - Scope 2	Electricity	1,240
Indirect - Scope 3	Supply of Electricity	80
	Staff Travel	100
	Supply of Fuel	20
	Assets	200
	Expenses	500
	Flights	400
	Waste	100
	<b>Total</b>	<b>2,740</b>

Total		T. CO2e
Accounting Fees	\$12,000	0.14
Printing	\$80,000	40.88
Courier / Freight	\$13,000	9.90
<b>Total</b>	<b>\$105,000</b>	<b>50.92</b>

50.92 tonnes CO2e before sustainable procurement policy

Total		T. CO2e
Accounting Fees	\$12,000	0.14
Printing	\$20,000	10.22
<b>NoCO2 Printing</b>	<b>\$60,000</b>	<b>0.00</b>
Courier / Freight	\$13,000	9.88
<b>Total</b>	<b>\$105,000</b>	<b>20.24</b>

20.24 tonnes CO2e after procurement policy

# Day-to-day operations of the Centralised Production Hub



The Centralised Production Hub was audited by the Printing Industries Association of Australia in 2008, received Green Stamp Level 3 Certification and became fully carbon neutral in 2012.

The Hub recycles all waste paper, plastics, metal and wood. Inks and chemicals are disposed of in an environmentally-friendly manner.

The Hub has invested in excess of \$400,000 in a number of initiatives aimed at reducing its impact on the environment.

In 2012 all fluorescent lighting was replaced with low energy TCS tubes. In April 2013, the Hub installed an energy optimisation unit and November 2013 will see the commission of its own 99kWp solar PV power station.

This solar PV power station is one of the top 100 largest systems in Australia. These three initiatives significantly reduce the Hub's reliance on electricity supplied by coal-fired power generators.

## Gang printing

Gang-run printing describes a printing method in which multiple printing projects are placed on a common paper sheet in an effort to reduce manpower, plates and paper waste.

## Environmental inks

In using environmental inks we have not compromised on quality as we continue to print in high definition colour.

## Computer to plate technology (CTP)

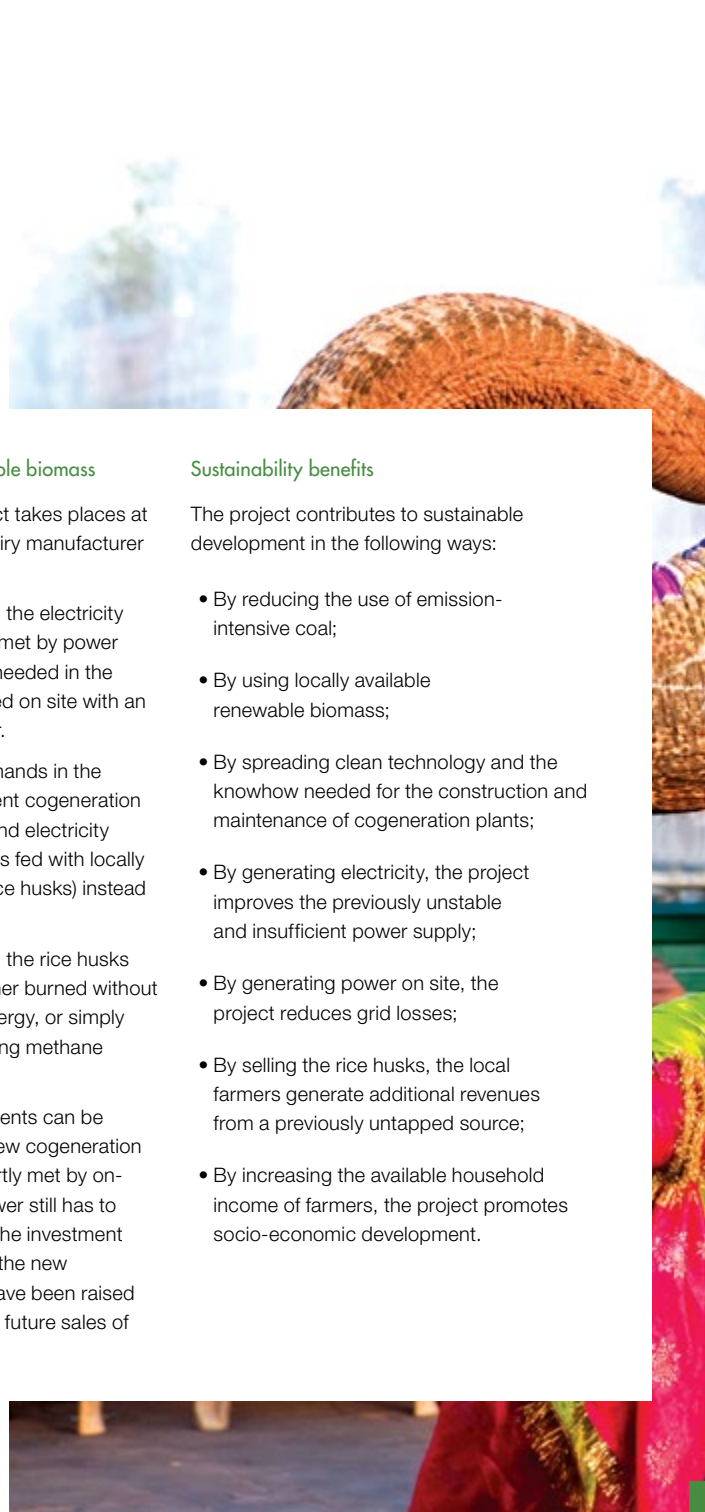
The use of CTP technology eliminates the need for film and related developer chemicals.

## Chemical Free

An investment in our Process Free CTP system eliminates the need for harmful chemicals needed for the development of the plate thus ensuring there are no environmental issues.



# Clean energy from biomass in India



The vast majority of India's energy needs are met by emission-intensive fossil fuels, mainly coal and oil. With energy demand expected to double by 2025, this constitutes an immense political, economic and environment challenge for the world's second most populous country.

## The solution

The biomass project is taking place in the states of Punjab and Uttar Pradesh.

With their particularly fertile soil, the economy of both states is largely dependent on agriculture. In Uttar Pradesh, economic growth rates are very low, so the majority of the working class still lives at subsistence level. The electricity supply in Uttar Pradesh is so unstable that it limits industrial output, thus slowing down economic development. The situation is similar in Punjab - the demand for electricity is high and ever increasing, but cannot be met by sufficient supply.

## Switching from coal to renewable biomass

The emission reduction project takes place at two production sites of the dairy manufacturer Milk Food Ltd.

Before the start of the project, the electricity needs of Milk Food Ltd. were met by power from the grid, and the steam needed in the dairy production was produced on site with an old, inefficient coal-fired boiler.

To meet the rising energy demands in the dairy production, a new efficient cogeneration plant producing both steam and electricity was installed. The new boiler is fed with locally available agricultural waste (rice husks) instead of emission-intensive coal.

Before the start of the project, the rice husks were not used. They were either burned without using the resulting thermal energy, or simply left to decay, thereby generating methane emissions.

The factories' steam requirements can be now covered entirely by the new cogeneration unit. The power needs are partly met by on-site production, but some power still has to be purchased from the grid. The investment required for the installation of the new cogeneration unit could not have been raised without the revenues from the future sales of carbon credits.

## Sustainability benefits


The project contributes to sustainable development in the following ways:

- By reducing the use of emission-intensive coal;
- By using locally available renewable biomass;
- By spreading clean technology and the knowhow needed for the construction and maintenance of cogeneration plants;
- By generating electricity, the project improves the previously unstable and insufficient power supply;
- By generating power on site, the project reduces grid losses;
- By selling the rice husks, the local farmers generate additional revenues from a previously untapped source;
- By increasing the available household income of farmers, the project promotes socio-economic development.





# Efficient cook stoves improve living standards in Cambodia



The majority of Cambodians rely on wood to provide domestic energy. This dependence places enormous strain on Cambodia's deciduous forests, and necessitates countless hours of work per week for the women and children whose task it traditionally is to collect the fuel. With deforestation increasing, the collection of fuel wood is not only time consuming but also potentially deadly as there are an estimated 4 to 6 million anti-personnel landmines scattered in rural areas; remnants of the country's war-torn past.

According to the Cambodian Red Cross, over 200 people are killed or maimed by landmine explosions every year. The burning of the fuel itself brings with it further health risks. The smoke generated by traditional wood fuel can have severe health impacts, prompting high incidences of eye infections and respiratory diseases.

### The solution

By replacing traditional stoves with more efficient versions, the use of fuel is considerably reduced. The improved efficiency of these stoves also reduces the burden placed upon women and children to collect wood.

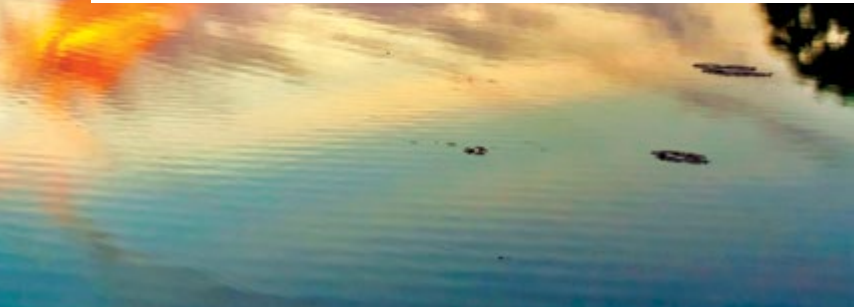
As a result, the risk of exposure to landmines is lowered and time is freed up for more productive activities, such as education. Furthermore, the reduction of hazardous wood smoke resulting from decreased fuel use greatly reduces indoor air pollution.

These stoves also contribute to the region economically, by creating jobs through the manufacturing, distribution and sale of the product and by facilitating the creation of commercial networks and enabling the transfer of a more energy efficient technology.

Without such projects, deforestation and the related environmental degradation would continue at an unsustainable rate.

### Sustainability benefits

This project demonstrates how carbon finance can be mobilised to bring substantial benefits to communities and the local environment. In addition to mitigating climate change, this project also contributes to promoting sustainable development in Cambodia by:

- Slowing deforestation, which also helps prevent soil erosion, the destruction of natural habitats, and loss of biodiversity;
  - Improves living conditions due to reduced emission of unhealthy airborne particles responsible for respiratory problems, particularly among women and children;
  - Reducing costs and competition for wood, thereby enabling greater access to fuel for the most impoverished areas of society;
  - Reducing the burden placed upon women and children by the need to collect wood, freeing them to pursue more worthwhile activities;
  - Creating employment and commercial networks through the construction, maintenance, and distribution of stoves;
  - Demonstrating and promulgating energy efficient technology.
- 

# Wind power generation in China



China is one of the world's fastest growing economies, prompting a succession of high growth rates. The growth stems from an astounding expansion of heavy industry and urbanisation that requires huge inputs of energy. At present, this energy is derived mostly from coal and other fossil fuels, of which China has significant national reserves.

Unfortunately, most of the coal-fired power stations in operation are relatively old and emit large amounts of smoke, carbon dioxide and sulphur into the atmosphere making China the world's largest emitter of greenhouse gases. This has led to a tremendous level of air pollution in many Chinese cities which outweigh any benefits achieved by the economic development. This results in long-term, harmful air quality conditions for the residents of many of China's large cities, as the World Health Organisation stated in 2010.

Over 650,000 people die prematurely from diseases related to air pollution in China every year, the most vulnerable being the elderly, pregnant women, and young children. Investments in cleaner energy are therefore crucial in order to avoid further catastrophic consequences from air pollution and climate change, while meeting the vast energy needs of its rapidly growing economy.

Investments in clean energy sources, such as wind, are therefore considered to be essential both in the interest of the environment and for public health reasons. Wind projects partially displace electricity currently generated from grid-connected conventional fossil fuel based thermal power plants, while reducing emissions.

Wind Projects reduce the emission of greenhouse gases and limits local air pollution, curtailing its negative health impacts. In addition to its environmental benefits, the implementation of the project creates job opportunities for local workers, contractors and suppliers, while the operation and maintenance of the wind park generates long-term employment positions.

Moreover, it drives China towards meeting its target of 15% clean renewable energy by 2020. However, financing such projects is often a challenging task, as they are linked with investment risks, making carbon credit sales an essential path to secure the required funding.

#### Technology brief – how it works

Driven by the kinetic energy of moving air, the mechanical energy created by a rotor is fed into an attached generator to produce electricity. Output can vary depending on wind speed which is ultimately determined by atmospheric conditions, although it is also influenced by ground characteristics. A rough surface exerts

significant friction, effectively consuming energy and thereby slowing down the moving air. Smooth surfaces cause very little friction, the most obvious example being higher wind speeds in coastal areas. It is therefore important to site wind farms carefully to maximise their potential. Over the last two decades wind power technology has rapidly improved. The size and power output have consistently increased while lowering the cost per electricity unit.

#### Sustainability benefits

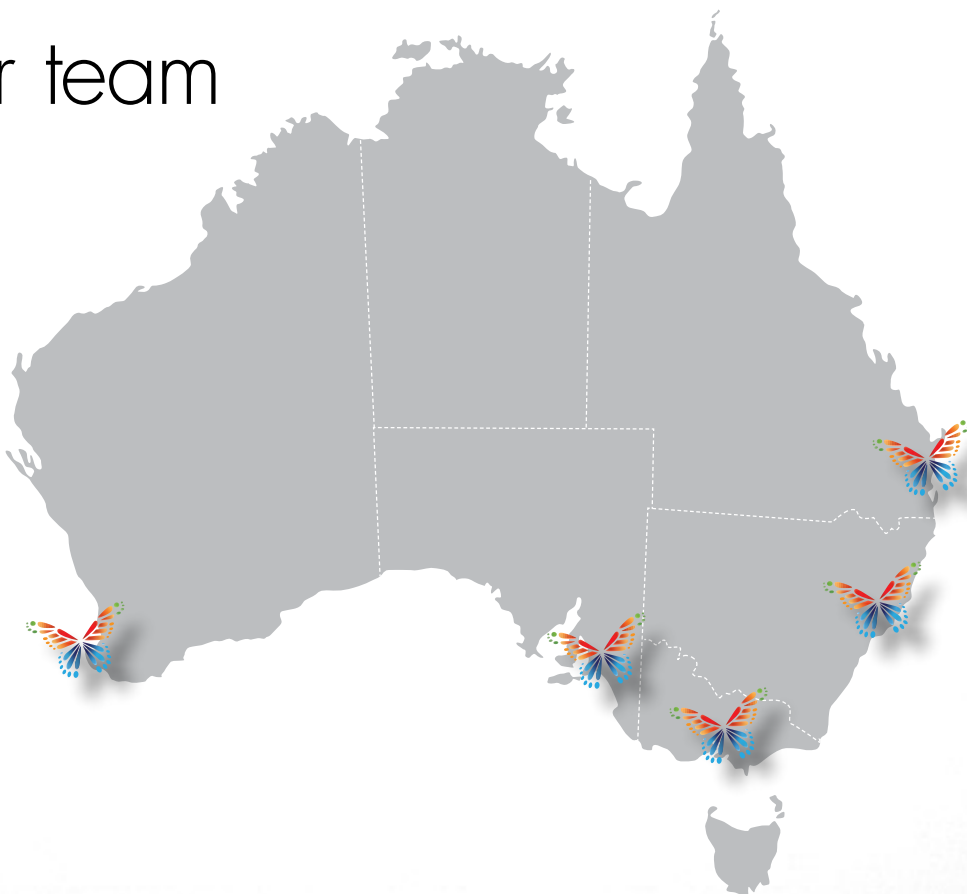
Beyond the reduction of greenhouse gas emissions, the project contributes to sustainable development in China by:

- Reducing the emission of harmful pollutants, thereby improving the health of the local population, and therefore reducing the number of air pollution related deaths;
- Improving local environmental conditions;
- Driving China towards a cleaner form of energy mix and meeting its renewable energy targets;
- Stimulating the local economy through large-scale investment;
- Generating income for local population by creating employment positions;
- Demonstrating and promoting renewable wind energy technology.



# Meet your team of experts

We're people people. We're always happy to see our customers so we can come and visit you or you can visit us at any one of our centres across Australia. We're located in Western Australia, Victoria, South Australia, Queensland and New South Wales. Come in and meet your team of experts, see and touch samples, check out new products, sit with your graphic designer or just have an old fashioned catch up.



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