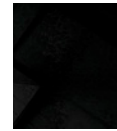




Energy & carbon management

Capability summary

pangolinassociates.com



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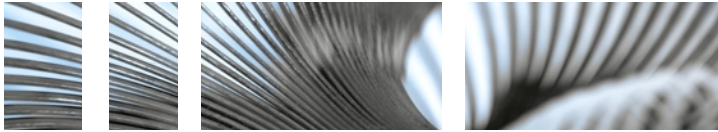
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About Us

Energy and carbon management consultancy

We help our clients achieve cost savings and competitiveness through energy efficiencies and greenhouse gas reductions. Our core services include:

- Energy audits
- Comprehensive greenhouse gas (GHG) assessments, verifications and assurance
- Carbon tax modelling
- Compliance with government schemes such as the National Greenhouse and Energy Reporting Act (NGER), and the National Carbon Offset Scheme (NCOS)
- Carbon offsetting advice, including the supply of carbon credits and Australian GreenPower.

Our scientific team has comprehensive experience and the highest level of environmental accreditations. Our auditors are registered under the Federal Government's Department of Climate Change and Energy Efficiency.

Pangolin is an Australian-owned company working with all levels of business and government in Australia, New Zealand and globally. We also team up with a select group of trusted partners to provide additional services and products outside of our core offerings.

Compliance - standards and protocols

Our services are compliant and transparent. We adhere to international and local standards and protocols.

- National Greenhouse and Energy Reporting (Measurement) Technical Guidelines 2008 v1.1
- World Business Council for Sustainable Development and World Resources Institute's GHG Protocol: A Corporate Accounting and Reporting Standard
- National Carbon Offset Standard (NCOS)
- ISO 14064-1 & 3 Greenhouse Gases
- Australia and New Zealand Energy Audits Standard AS/NZ 3598:2000
- AS/NZS ISO 14001:2004 Environmental Management Systems
- ISO 31000 Risk Management
- Global Reporting Initiative's (GRI) Sustainability Reporting Guidelines
- AA1000 Assurance Standard



Our services

Energy Audit

Our comprehensive, tailored energy audits help clients achieve a 20% to 30% cost savings (individual circumstances may vary).

In our final report we include a clear breakdown of energy use and type (electricity versus gas). We also analyse electricity consumption and category type, such as IT, lighting, and HVAC, and give detailed recommendations. We take into account:

- Building management
- Operational processes
- Technology required to reduce energy costs and mitigate future carbon emissions liability.

Scope for this service exceeds the standard Level 1 Energy Audit. For larger clients, our scope aligns with Level 2 Energy Audit requirements. All audits comply with Australian Energy Audits Standards AS / NZ 3598:2000.

Clean energy funding assistance

We help eligible clients access clean energy grants through state funding and the federal government's \$1 Billion Clean Energy Futures Funding.

Greenhouse Gas Assessment

This is also called Carbon Footprinting. Our audit team identifies and calculates the greenhouse gas (GHG) emissions associated with a business' activities.

Our assessment breaks down the carbon footprint against industry benchmarking. It also contains key performance indicators critical for further GHG reporting and tracking.

Our GHG reports rigourously comply with international standards and Australian regulations:

- GHG Protocol's Corporate Accounting and Reporting Standards
- ISO 14064-1
- NGER (National Greenhouse and Energy Reporting Act)
- NCOS (National Carbon Offset Standard).

Online System for Comprehensive Activity Reporting

We assist with OSCAR for government program reporting (Australian Government Department of Climate Change and Energy Efficiency).



Our services

Carbon Tax Modelling

Our Carbon Strategy and Risk Report measures the impact of Australia's Carbon Pricing Mechanism (CPM). The report identifies direct and indirect cost increases associated with the carbon tax. From financial accounts and invoicing data, we interpolate potential costs through the most carbon intensive areas of a supply chain.

The Carbon Strategy and Risk Report includes:

- Calculations on financial data based on products and services procured over the course of a typical trading year
- Detailed carbon tax risk exposure profile
- Likely impact of the CPM over 4 years, starting 1 July 2012
- Quantifiable risks and the estimated impact on operating costs and the bottom line
- Carbon tax risk management, and cost and emissions mitigation strategies.

Methodology

The Integrated Sustainability Analysis Research team at the University of Sydney developed the robust methodology behind our Carbon Strategy and Risk Report.

NCOS and Carbon Neutrality

We help organisations attain carbon neutral certification under the Australian government's National Carbon Offset Standard (NCOS).

We take clients through the essential steps for certification:

- Measuring the organisation's carbon footprint
- Putting an Emissions Management Plan (EMP) in place
- Purchasing and retiring certified carbon credits on behalf of the client to offset emissions that cannot be eliminated
- Verifying NCOS documentation when we are not assisting with the above processes.

Accreditations

Pangolin auditors are registered under the Clean Energy Regulator's National Greenhouse and Energy Reporting Act (NGER).

This meets strict NCOS verification requirements.





Our services

Staff Survey

Employees are crucial for reducing future carbon emissions and increasing energy efficiencies. We look at staff behaviours and opinions through our online Staff Transport and Climate Change Attitudes Survey.

We find out how employees travel to and from work and the emissions they generate. The survey's Climate Change Attitudes section helps shape a program relevant to the team and tailored to the organisation's sustainability goals.

Carbon Credit Advice and Offsetting

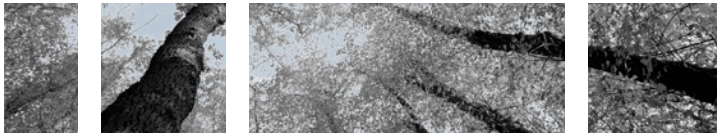
We help organisation's offset their carbon footprint. We recommend carbon credits that comply with strict global standards such as the Clean Development Mechanism (CDM), Voluntary Carbon Standard (VCS), and the Gold Standard (GSVER). The Australian Government's National Carbon Offset Standard (NCOS) accepts these standards as credible abatement. It is an effective way to reduce further an organisation's impact on the environment.

In addition, we believe we have one of the most transparent offerings available in relation to offsetting. We retire all credits on the registry with a public reference to our clients. We also provide a certificate to highlight the abatement.

Australian GreenPower accredited

Apart from the supply of carbon credits, we are also an accredited provider of [Australian GreenPower](#).





Our team

Iain Smale

Joint Managing Director - NSW, ACT & QLD

For the past several years Iain has tailored sustainability solutions around carbon and energy reduction for a diverse range of clients.

Iain has more than 20 years of business solutions experience, many of those in technology. He has worked closely with SME's, corporates and government.

Iain has earned a reputation in Australia for developing smart sustainability plans. Extensive experience in systems integration with its compliancy responsibilities has been invaluable. He is a trusted partner for businesses facing environmental regulations, commercial or supply chain pressures, as well as those wanting to be socially responsible.

Prior to joining Pangolin Associates as a Founding Director, Iain set up the Sydney operations of Carbon Planet. On a personal level, he is active in his own community, offshore Pittwater, NSW. He has introduced local sustainability initiatives that have been readily adopted.

Matthew Curnow

Joint Managing Director - SA, VIC & TAS

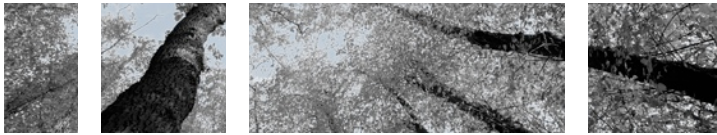
Matthew has worked in sustainability since 2006. He assists organisations to realise, and capitalise on, the benefits of business sustainability.

His wealth of knowledge and experience in sustainable business practices is key to Pangolin Associates' offerings. He has developed viable new products and services for his clients.

Previously, Matthew worked for Carbon Planet in a similar role. He was also a founding member of Trees Please! Inc. (a Landcare group).

Matthew's passion for the environment drove him to pursue his work in sustainability, and then become a co-founder of Pangolin Associates. Currently he is the Chairman of the Adelaide Hills Council Sustainability Advisory Group, and the Energy Chair for the Conservation Council of South Australia's Environmental Standing Committee.

Matthew also conducts guest lectures at the University of Adelaide and the University of South Australia on carbon markets and sustainability.



Our team

Chris Wilson

Director of Sustainability Advisory Services

Chris is a developer and provider of a suite of sustainability advisory services. He constructs and maintains frameworks and management systems that deliver effective environmental outcomes and efficiency gains.

Chris has several years experience in the sector. Prior to Pangolin Associates he was a Senior Emissions Auditor at Carbon Planet.

Chris is certified as an Associate Environmental Auditor through RABQSA, and a full member of the Environment Institute of Australia and New Zealand. He has a Master's Degree in Environmental Management from the University of New South Wales, and a Bachelor's Degree in The History & Philosophy of Science from Griffith University.

Chris is also a Registered Greenhouse and Energy Auditor (Category 1 Technical) under section 75A of the National Greenhouse and Energy Reporting Act 2007. He is a member of the general committee for the Australian Institute of Environmental Accounting.

Dr Davide Ross

Director of Audit & Research

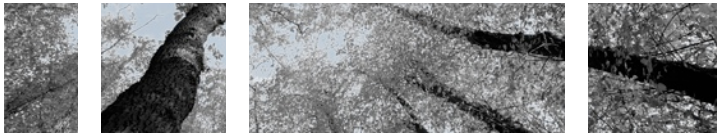
Davide has worked in the area of GHG emission abatement and energy efficiency from combustion and gasification of biosolids, municipal waste and low-rank coal for over 15 years. He specialises in the National Greenhouse and Energy Reporting (NGER) and Emissions Intensive Trade Exposed (EITE) verification audits.

Prior to Pangolin Associates, Davide was with Carbon Planet. He was instrumental in Carbon Planet's Carbon Neutral certification through the Greenhouse Friendly program.

Davide has completed courses conducted by SAI Global on Implementing and Maintaining an Environmental Management System and Advanced GHG Compliance, and by the Global Footprint Network (GFN) into Ecological Footprinting.

He holds a PhD and a Bachelor's Degree in Chemical Engineering from The University of Adelaide. Post PhD, the Japanese Society for Promotion of Science (JSPS) awarded Davide a prestigious Research Fellowship.

He is a published author of numerous scientific articles in peer reviewed scientific journals, and has presented his work at 15 international conferences. Davide is a Registered Greenhouse and Energy Auditor (Category 1 Technical) under section 75A of the National Greenhouse and Energy Reporting Act 2007 through the Australian Government Department of Climate Change and Energy Efficiency.



Our team

Scott McIntosh

WA State Manager

As State Manager for Western Australia Scott is responsible for managing a large client base of both SMEs and corporate businesses. He also works closely with strategic partners such as the Master Builders Association, Enterprise Connect and Beilby Recruitment.

Prior to joining Pangolin Associates, Scott was State Manager for Carbon Planet. Before that he was a Business Development Consultant specialising in helping SMEs and corporate clients grow their business nationally and internationally. Scott brings global experience to this role after operating in the UK and Europe.

An in depth knowledge of carbon issues surrounding businesses, and with greenhouse gas auditing skills, Scott in conjunction with the West Coast Institute of Training created a Diploma of Carbon Management course. He now lectures in this program.

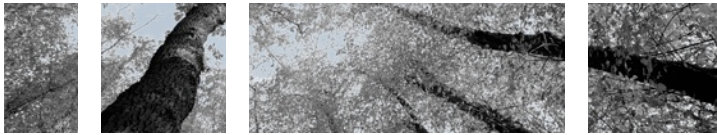
Dr Adina Cirtog

Emissions and Energy Auditor

Adina conducts greenhouse gas and energy efficiency assessments. She brings her knowledge in consulting and planning service provisioning for technical equipment in building and processes. She provides Pangolin Associates' clients with practical energy efficiency solutions.

Previously Adina was a design engineer in the Romanian branch for Fact GmbH (Germany). She developed digital plant construction designs for German companies covering electrical, ventilation, water and gas piping specifications. She was also actively involved in developing a network of NGO's from South-East Europe for youth policy development (RYCID).

Adina holds a PhD in Mechanical Engineering from Tokyo University of Agriculture and Technology. She holds Master's and Bachelor's Degrees of Power Systems Engineering (Electrical) from Politehnica University of Timisoara. This includes a year of study in the University of Stuttgart. Adina is a published author of 5 scientific articles in peer reviewed scientific journals.



Our team

Mike O'Neill

Senior Consultant

As a Senior Consultant Mike advises public and private sector organisations on greenhouse gas assessments, effective energy efficiency and carbon mitigation strategies. He also helps organisations identify strategic business opportunities with the introduction of a carbon price.

Mike joined Pangolin Associates from the Carbon Trust in London. He specialised in advising large public and private sector organisations on emissions reporting for the Carbon Trust Standard and the UK's Carbon Reduction Commitment. He also worked with companies on product carbon footprinting for the Carbon Reduction Label.

Prior to the Carbon Trust Mike completed a Masters in Energy, Environmental Technology and Economics at City University, London. His Masters thesis analysed financial incentives for investment in large-scale, low carbon and renewable power generation in the UK.

Before this Mike worked for executive search and publishing companies in the UK and USA. He has a Bachelor's degree in Economics and Politics from the University of Edinburgh.

Dr Michael du Plessis

Senior Associate

Michael has more than 20 years of experience in Research and Development, Innovation and Sustainability. His previous roles in the industry include a long career with ICI and later Orica Mining Services. More recently Michael was Innovation and R&D Manager for Sydney Water Corporation.

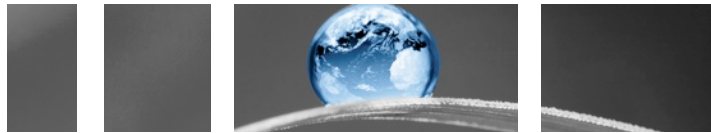
Michael has a PhD in chemistry. He is passionate about helping organisations improve the return on their investment in R&D and sustainability. He is a specialist in the use of economic input-output analysis tools for sustainability accounting including measurement of carbon, water, energy and ecological footprints.

Michael has worked in a variety of countries including South Africa, United Kingdom and Australia.

His experience covers a wide range of industry sectors, including: mining, water utilities, chemicals, explosives, manufacturing, public sector research agencies and universities.

Michael is a part time lecturer in Innovation and Technology Management within the Faculty of Engineering and IT at the University of Technology Sydney (UTS).

Additionally, he is an Accredited Executive Associate of the Institute for Independent Business, a member of the Australian Water Association (AWA) and an Accredited New Product Development Professional (NPDP) of the Product Development Management Association (PDMA).



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