

SPOTLIGHT ARTICLE

Inogen News and Information Volume 13 April 2011

Inogen[®] Associate Leading Efforts in Brownfield Sites Management in China

Beijing, P.R China March 2011

ESD China was commissioned by the Foreign Economic Cooperation Office (FECO) for the Ministry of Environmental Protection (MEP) to prepare a **Framework for Soil Pollution Management for China**. The contract will assist the Chinese government in developing a framework for the management of contaminated soils in China.

Specifically ESD will, through an extensive review of international framework in developed countries and an in-depth examination of experience gained in demonstration projects implemented in China in recent years, develop and recommend;

- 1) policy and regulations specific for contaminated site management;
- 2) site cleanup standards using a risk assessment approach;
- 3) a national prioritization system for ranking contaminated sites;
- 4) applicable and cost-effective remediation technologies suitable for China; and
- 5) a financial assurance system including funding mechanisms and insurance policy for sustainable contaminated site remediation and management in China.

The commission signals China's serious move toward a sound contaminated site management.

The contract was awarded to ESD China through an international bid, competing against some strong competition. ESD China won the bid because of its extensive experience in site remediation work in China. ESD is by far one of the most active players in soil pollution management in China. ESD not only has conducted over one hundred projects for industrial, agricultural and brownfield sites, but has also been actively involved in most major demonstration/high profile projects for soil pollution management in China.

Some examples of the soil pollution management projects conducted by ESD in China within the last three years include: guidelines of Environmental Management Plan (EMP) for Risk Assessment & Facility Decontamination at Chlordane and Mirex Production Sites for China MEP, sponsored by GEF/World Bank; Environmental Site Assessment and Risk Based Remediation for a Chemical Company in Chongqing and Beijing (both demonstration projects)

For further information contact Dr. Gong at gong@esdchina.com or Dr. Allan Zhang at azhang@esdchina.com



Environmental Site Assessment and Risk-Based Remediation for a Coke Plant in Beijing



Environmental Site Assessment and Risk-Based Remediation for a Chemical Company in Chongqing



Guidelines of Environmental Management Plan (EMP) for Risk Assessment & Facility Decontamination at Chlordane and Mirex Production Sites

Message from the President



At the time of writing this message the price for a barrel of crude (Brent) stands at 116 dollars. In several countries, notably China and India, riots have occurred over the rising costs of food. Weren't we here in 2008?

As a matter of fact, a quick Google search on "food riot" shows messages from 2008 and 2011 on the same page.

The point is of course that nothing has changed fundamentally since 2008 - we only had a short period of respite due to the global financial crisis. Now that the effects of the crisis are slowly dissipating we see a return to the higher commodity prices.

Higher demand means higher prices if the supply can't keep up... for our clients all this means increasing raw material prices and smaller margins, unless higher efficiencies are reached. Higher efficiencies will of course benefit the environment too as less materials (and energy) are wasted. At the next WorldView® Conference on the 18th of April in Bad Nauheim, Germany we will have a range of speakers addressing efficiency in water, energy and raw materials whilst also discussing the adaptation of brownfield sites to higher margin use. As always we have invited expert speakers from the industry. We hope this will create an opportunity for you to learn from peers, go back to your country and apply the latest thinking on resource conservation at your own facilities.

I look forward to welcoming you all at Bad Nauheim on the 18th April.

Peter

President and CEO

WorldView® Conference

Resources Make the World go Around? Is your business sustainable if your primary resources become limited or unattainable?

*Monday 18th April, 2011
Dolce Bad Nauheim, Bad
Nauheim, Germany*

Our 19th Inogen WorldView® Conference will address how business prepares for, prevents, reacts to or escapes the adverse effects of resource scarcity on productivity, profitability, feasibility of projects and, of course, corporate image. Specifically, this conference will focus on water, energy, mineral and land resources and Inogen® has invited key industry experts to deliver some thought provoking and challenging presentations on resource scarcity.

Inogen has invited speakers from a range of large multi-national and local German firms to provide a snapshot on each key resource and their efforts to

ensure future sustainable supply.

Inogen clients are being invited to attend this conference along with Inogen Associates from around the world. In addition to the speakers' presentations, this conference will provide an excellent opportunity for business leaders to speak with their peers and with Inogen's Associates, and gain a better understanding of what is going on elsewhere.

Inogen is proud to host another Carbon Neutral event and has appointed Shining Earth™ to capture and measure the carbon emissions associated with travel to the conference.

For more information or to register your place, go to www.inogenet.com



Dolce Bad Nauheim, Bad Nauheim, Germany

Oranjewoud N.V. concludes acquisition of
GeoIngeniería to strengthen its
international position,
Columbia, January 2011



On 14 January 2011, Oranjewoud N.V. acquired 100% of the shares in the Colombian Inogen Associate GeoIngeniería S.A.

The Colombian consulting and engineering firm with over 400 employees, is a market leader in Colombia for civil, environmental and geotechnical engineering services in the oil & gas and mining sectors.

Headquartered in Bogota, Colombia, GeoIngeniería has built a reputation of excellence, being recognised for their skilled team of professionals and strong commitment to exceeding client expectations throughout their 22 years of experience.

GeoIngeniería's operations include civil design of exploration and pipeline

facilities, oversight of petroleum production fields, geotechnical and environmental studies, licensing, permitting, development of EHS management programs, project management and project supervision.

GeoIngeniería counts BP Exploration, EcoPetrol, Lukoil, Oiltanking, Petrominerales, Hupecol, Nexen, Petrobras and Talisman among its primary clients.

The acquisition makes GeoIngeniería a member of Antea Group, Oranjewoud N.V.'s international engineering and environmental consulting division.

For further information please contact Alison Trauley
Alison.Trauley@anteagroup.com

Angel Ambiental announce new contract with Vale, one of the biggest mining companies in the world. Brazil, March 2011

ANGEL Ambiental has signed a contract to work for Vale, one of the biggest mining companies in the world, to deliver environmental assessments and remediation for the Vitoria-Minas Railway. The railway is 1,000 km long (crossing two States) and is the biggest operating railway in Brazil for raw material exportation, mainly iron ore.

The contract, worth a total amount of R\$13 million (Brazilian Reais) (US\$7.9million) has been ongoing since April 2010, and is due to be completed in 2015.

Angel has already installed four remediation systems in sites located along the railway, in Espirito Santo and Minas Gerais States. Angel is using techniques including pump and treat, Multi Phase Extraction (MPE), Vapor Extraction (SVE) and Air Sparging (AS) to address some of the contaminated areas by VOC and SVOC.

Over the next four years, several site assessments and monitoring will be conducted by Angel and further remediation systems will be implemented. Vale requires Angel to ensure goal achievements for each site, and demonstrate continuous improvement in delivering the work and service quality as the project develops.

Rivaldo Mello, Director at Angel said; 'to be a part of the Inogen Environmental Alliance makes us confident to be able to work with Vale, using best practice and taking advice from our Inogen peers. I'm proud to be in charge of this project.'

For further information please contact, Rivaldo Mello, Director of Angel Ambiental at Rivaldo.mello@angelambienatal.com.br



First UK Corporate Manslaughter Case

UK, March 2011

On 17 February 2011, Cotswold Geotechnical Holdings Ltd was fined £385k after being found guilty of corporate manslaughter under the Corporate Manslaughter and Corporate Homicide Act 2007. This was the first case in UK law under this Act. The court took into account that a greater fine would have tipped the company into insolvency and thus the judge allowed the business to pay the fine over a 10 year period. The company director was previously charged with gross negligence manslaughter and a health and safety offence, charges were dropped due to the worsening state of his health.

The company allowed an employee to work in a narrow 3.5 metre deep pit without supporting the pit sides and it collapsed and killed him. The court findings were that they allowed employees to carry out such work knowingly and supplied no training, method statement, risk assessment or adequate information.

The Act applies across the UK and also extends to offshore installations covered by UK criminal law. The Act creates an offence whereby an organisation will be guilty if the way in which its activities are managed or organised causes a person's death and amounts to a gross breach of a relevant duty of care owed to that person. This breach must lie mainly with the senior management team. The Act extends to companies and partnerships but not to individual directors.

A business can face an unlimited fine if convicted and ordered to publicise the conviction, which could have significant PR implications. Cotswold geotechnical only has four employees currently and larger businesses should note that normal fines will seldom be less than £500K.

The outcome of the case should lead businesses in UK jurisdiction to review their health and safety policies and to ensure their management systems and work instructions are robust and up-to-date. Staff should be fully aware of those policies and trained regularly on any important changes. Line management should supervise and audit work so that breaches are detected and corrected early. For further information contact Chris Hinchcliffe, Chris.hinchcliffe@deltasimons.com

HPC Italy wins contract with global oil company

ENI, Italy, March 2011

In September 2010, HPC opened its new office in Milano. Undeterred by the disruption and logistical problems from opening the new office, the 'core' Italian staff worked hard against all odds to qualify for a tender from Italian Oil Major ENI S.p.A.

The tender was for a three-year "open framework contract" to provide soil and groundwater remediation throughout the country to petrol stations, refineries, fuel depots, pipelines, thermal power and petrochemical plants. In terms of contract value and complexity this was by far the largest opportunity arising in Italy for a very long time.

For the scope of the tender, ENI had "divided" Italy into five regions; each successful bidder could be assigned a maximum of two regions.

In order to meet the stringent qualification criteria, HPC Italy formed a consortium with the Italian company ACR, leveraging on their sound reputation in solid waste disposal, waste treatment, excavation and construction work.

After several weeks of verification, on December 1st HPC/ACR received written confirmation from ENI that they had been assigned two regions in Italy's highly-industrialised North-West;



Region 1 Piemonte, Liguria, Val D'Aosta, Lombardia and Region 3 Emilia Romagna

These are not just attractive areas, but enclose a huge portion of ENI's assets in Italy.

A lot of organisational tasks had to be fulfilled initially since the contract was signed in late January: closing contracts with laboratories and drilling companies, internal organisation and staffing, client connections and taking over ongoing projects from the previous contract holders.

In the meantime, the HPC/ACR "dream team" found the time to bid and win another similar contract for Italy's second largest oil company (API), while HPC Italia has also secured other smaller projects for reputed industrial clients.

The relationship with ENI, which operates in 79 countries worldwide, has already generated opportunities in Poland and several other European countries, making this a truly top client for the HPC Group and for Inogen. For more information please contact cviola@hpc-italia.it

Geoingeniería participates in the designs and environmental studies for the longest pipeline in Colombia

Bogotá, Cundinamarca, Colombia, March 2011

In 2010 Geoingeniería was invited to participate in the project “Environmental Impact Assessment (EIA) and Basic and detailed Engineering Designs for the Araguaney – Banadia Pipeline”. This project involved 229 km of the project “Bicentennial Pipeline” which extends from the main pumping station in Monterrey (Eastern Plains) to the port of Coveñas in the Caribbean coast of Colombia, a total length of 960 km.

Construction of the pipeline is due to commence in April 2011, with a diameter of 42 inches the pipeline will be the largest in Colombia. This pipeline is strategic for the growth expectations in oil production and necessary for the evacuation of 600,000 bpd (almost 80% of the production in the country by January 2011) from the most important oil producing region in the country.

The EIA’s objective was to obtain the environmental license for this stage of the project and was developed by a team of approximately 70 people mostly in field work; including archaeologists, biologists, forest engineers, environmental engineers and social experts, among others. The path defined for this part of the pipeline was designed to avoid sensitive ecosystems as

much as possible and have as little social and economic impact on the communities around the pipeline route. The pipeline crosses 16 main rivers 40% running through flood areas.

Key project objectives included the detailed study of the epiphytic flora along the route of the pipeline, an economic evaluation of the impacts, greenhouse gases appraisal and the change in land use assessment. This economic approach was the first in Colombia for this type of project.

The impact on society is particularly significant, social studies took place in four different stages of the project, initially to explain the project, secondly to present the impacts and results, and the last two stages to reinforce certain sensitive topics for the community, such as the measures to minimise the impacts of the irrigation systems in rice crops (the pipeline will be underground). After the presentation of the study, the Ministry of Environment and Housing arranged a 10 day field visit to verify the technical information and validate the social participation guidelines implemented. For further information contact Ivan Fernando Angel
Ivan.angel@geoingenieria.com

Antea™ Group and Peter J Ramsay and Associates serve Kiewit Corporation

Wisconsin, USA, March 2011

Antea™ Group has secured a continuing services agreement with Kiewit Corporation to provide non-intrusive consulting services across its operations.

Initial services include work through Inogen partner, Peter J Ramsay and Associates in Australia, providing a comparison between air and water regulations in Australia and New Zealand. Antea Group has also prepared a proposal to provide Greenhouse Gas benchmarking support for Kiewit’s European construction services.

Kiewit Corporation is one of the world’s largest employee-owned companies, providing services in construction, mining and off-shore operations. The contract was signed at the Corporate Headquarters in Omaha, Nebraska, USA.

For further information please contact Andrew Flynn at andrewflynn@anteagroup.com



Angel successfully concludes asbestos containing materials removal in São Paulo

São Paulo, Brazil, March 2011

Angel Ambiental has recently concluded a complex Asbestos Containing Materials (ACM) removal for an industrial client in the São Paulo metropolitan area, Brazil.

Almost 1,500m² of ACM roofing was completely removed from an eight metre high operational industrial facility and disposed of in accordance with the Brazilian Health, Safety and Environmental rules and regulations. The material removed generated a total of 20 tons of ACM and was appropriately disposed of to a licensed landfill. The on-going production activities that took place in the building were carefully planned so that no significant interruption on these activities was needed.

'The asbestos issue in Brazil is quite different from the challenges in other countries. Despite the absence of significant quantities of ACM that was used for insulation purposes in old buildings, the related HSE Brazilian legislation is quite comprehensive and complex', states Maureen Lee, Angel Ambiental expert in Health and Safety who has recently obtained a Master's degree from the University of São Paulo.

'The key to the success of this project was the combination of a responsible client, who wanted to follow all the applicable legislation, a carefully selected contractor, experienced in this kind of operation and a HSE Consulting company (Angel) which facilitated the effective coordination and achievement of pre-defined objectives and goals', says Hilton Lucio, Director of Angel Ambiental.

For more information contact Hilton Lucio at hilton.lucio@angelambiental.com.br

Antea™ Group (Belgium) work awarded at the Ramsar convention on Wetlands Belgium, March 2011

During the latest wetlands convention, The Ramsar Convention, held in Geneva, Antea Group was appointed as coordinator of EU 7FP-project WETwin in the expert team.

The appointment was made during the Scientific and Technical review panel (STRP). Together with this invitation, the Ramsar convention agreed to publish WETwin work as a full Ramsar report.

More specifically, it has been agreed that WETwin work will be published by Ramsar on two topics;

- 1) The vulnerability analysis of wetlands to global change from a livelihood and biophysical point of view
- 2) The integration of wetlands into river basin management with

application to African wetlands.

Further international interest for WETwin is shown by the World Health Organization (WHO) for our work on the health impact assessment of wetland management solutions and the Group on Earth Observations (GEO).

With respect to the latter, Antea Group was invited as an expert for the 2nd African water cycle event, which took place in Addis Abeba, Ethiopia.

For further information contact
Kris Van Malderen
Kris.vanMalderen@anteagro.com



BECO supports Nutreco in realising their sustainability ambitions

*Rotterdam, The Netherlands,
March 2011*

Nutreco is a global leader in animal nutrition and fish feed. Quality, innovation and sustainability are guiding principles embedded in the Nutreco culture from research and raw material procurement to products and services for agriculture and aquaculture.

Nutreco has a long history and impressive track record in the field of sustainability. However, at the end of 2009 the Executive Board of Nutreco defined a set of concrete sustainability targets, which were also translated to the bonus scheme of Nutreco management.

In January 2010 BECO was appointed to help Nutreco in translating the different sustainability targets into result driven day-to-day activities.

The first deliverable for BECO was a sustainability project plan. The main part of the plan was structured around the sustainability targets.

There was a distinction between the sustainability targets that were better addressed by a global corporate approach (procurement, product innovation, engagement, feed-to-food quality and Human Resources (HR)) and those targets benefiting from a local approach (sustainability action plans and carbon reduction programmes for each site).

For the sustainability targets requiring a global corporate approach a small team for each target was formed, led by the relevant corporate manager. The team prepared principles, policies and methodologies to facilitate progress towards innovating sustainable products, sustainable procurement, engagement on sustainability with industry value chains, reducing the Carbon footprint and HR management, which included increasing internal engagement with sustainability. BECO was, among others, involved

in the development of the new sustainable policy, in the development of the corporate Carbon Footprint Programme and in the development of a specific set of corporate HR indicators to steer the performance in this field in the coming years.

On a local level all operating companies were asked to develop a Sustainability Action Plan and a Carbon Reduction Plan specific to their activities. These initiatives were addressed by the management in the operating companies and/or sustainability teams in each business unit.

As a member of the corporate sustainability team, BECO gave support to the local businesses throughout the year, for example by providing planning frameworks and tools, facilitating pilot projects and development sessions and by giving feedback on draft plans. BECO also helped the local businesses in different parts of the world through executing energy assessments and building local Carbon Reduction Plans. Inogen Associate, Antea, was also involved in delivering parts of the project with BECO.

An overview of the sustainability initiatives of Nutreco in 2010 can be read in their Sustainability Report 2010, also supported by BECO:

http://www.nutreco.com/images/stories/NutrecoPublications/CSR/2010/nut_sr_lay-out_at_nut_160211_18h45.pdf

For further information contact Steven Meun at meun@beco.nl



China Interim Measures on the Assessment and Review of Energy Conservation of Fixed Asset Investment Projects / China REACH / First Product Catalogue of China WEEE Published *Beijing, China February 2011*

Released by National Development and Reform Commission (NDRC) on September 17th 2010, and effective on November 1st, the Interim Measures on the Assessment and Review of Energy Conservation of Fixed Asset Investment Projects (Fixed Asset Conservation Measures) are designed to curb excessive energy consumption and increase the efficiency of energy use across China.

The Fixed Asset Conservation Measures require enterprises, governments, and government agencies contemplating an investment in fixed assets to conduct an energy assessment and energy efficiency review before applying for approval of the proposed investment. The measures also require NDRC offices to examine the energy conservation assessment reports before making decisions on proposed investments.

According to the measures, any project consuming more than 3,000 tons of standard coal per year must compile an energy-saving assessment report, any project consuming 1,000-3,000 tons of standard coal per year should submit an energy-saving assessment reporting form, and any other low energy consumption projects (consuming less than 1,000 tons standard coal per year) should submit an energy-saving registration form. The measures also contain provisions on its implementation,

supervision and penalties.

China REACH

“Measures on the Environmental Management of New Chemicals” came into effect from 15th October, 2010. The New Chemical Measures are similar to EU REACH and thus is called "China REACH".

Companies shall submit a new chemical substance notification to the Chemical Registration Centre (CRC) for the new chemicals irrespective of annual tonnage, i.e. chemicals other than the approximately 45,000 substances currently listed on the Inventory of Existing Chemical Substances Produced or Imported in China (IECSC). The notification not only applies to a substance on its own, in preparation, or articles intended to be released, but also applies to new substances used as ingredients or intermediates for pharmaceuticals, pesticides, veterinary drugs, cosmetics, food additives and feed additives, etc.

There are three types of notifications under China REACH:

1. Typical notification: *New chemical substances to be manufactured or imported at or above the annual volume of 1 ton.*
2. Simplified notification: *New chemical substance with tonnage under 1 ton per year; For export only with tonnage under 1 ton per year; For scientific research with*

tonnage between 0.1 to 1 ton per year;

For technological research with tonnage less than 10 ton per year; For polymers with all monomers already listed in IECSC or polymers containing less than 2% new chemicals weight by weight; and For low concern polymers.

3. Scientific research record: *New chemical substances used for scientific research with an annual quantity less than 0.1 ton or if the sample is to be tested in laboratories in China.*

First Product Catalogue of China WEEE Published

Management of Recycling and Disposal of Waste Electrical and Electronic Products (so-called "China WEEE") came into effect from January 1st 2011. Five types of products (television, refrigerator, washing machine, air conditioner, and computer) will be the first batch products under China WEEE.

Similar to the EU directive, the China WEEE imposes the responsibility for the disposal of waste electrical and electronic products on the manufacturers of such products. Those companies should establish an infrastructure for collecting WEEE and are requested to use the collected waste in an ecologically-friendly manner, either by ecological disposal or by reuse/refurbishment of the collected WEEE.

For further information contact Lu Fu, lfu@esdchina.com.cn

Greenhouse Gas Abatement Australia - A Taxing Issue? Victoria, Australia, March 2011

The Australian Government recently announced that it is proposing to implement a carbon tax in Australia within two years. The announcement was announced by the first female Prime Minister of Australia, Ms Julia Gillard. The proposed carbon tax is contrary to her campaign promise not to introduce a carbon tax or emissions trading scheme. The previous Prime Minister, Mr Kevin Rudd had proposed an emission trading scheme termed the Carbon Pollution Reduction Scheme (CPRS). He then dropped this proposal which led to a change of leadership prior to the election of Ms Julia Gillard.

The emission trading scheme or CPRS proposed by the Rudd Government, was to raise approximately \$120 billion annually with only a few percent of this going to greenhouse abatement measures and renewable and the bulk of the funds raised going in subsidies to trade exposed industries and families. The carbon tax now proposed by the Gillard Government also has a very substantial compensation package to industry and to the majority of families.

Australia produces 1.4% of the total mass emission of greenhouse gases globally which makes Australia a very small emitter on a global stage; however, both the Government and the Federal Opposition are committed to abating greenhouse gases.

The vexed question remains what is the most cost effective approach to reducing emissions? The Opposition favours direct action with investment in clean technologies and renewables, whilst the Gillard Government is now committed to a carbon tax within two years then morphing into an emissions trading scheme.

The European Emissions Trading Scheme (ETS) commenced in 2005 and is a cap-and-trade system. Phase 1 of the ETS ran from 2005 until 2008 and was regarded as a trial period. The scheme now is in Phase 2 which corresponds to the Kyoto commitment period 2008 to 2012. Phase 3 will run from 2013 to 2020. The EU ETS targets approximately 11,000 emission intensive installations and only addresses carbon dioxide emissions.

A carbon tax and ETS can cause carbon leakage in countries that implement them putting their industries at a competitive disadvantage to those countries which do not implement a carbon tax or ETS.

The counter argument is that they foster innovation and investment in clean technologies and renewables.

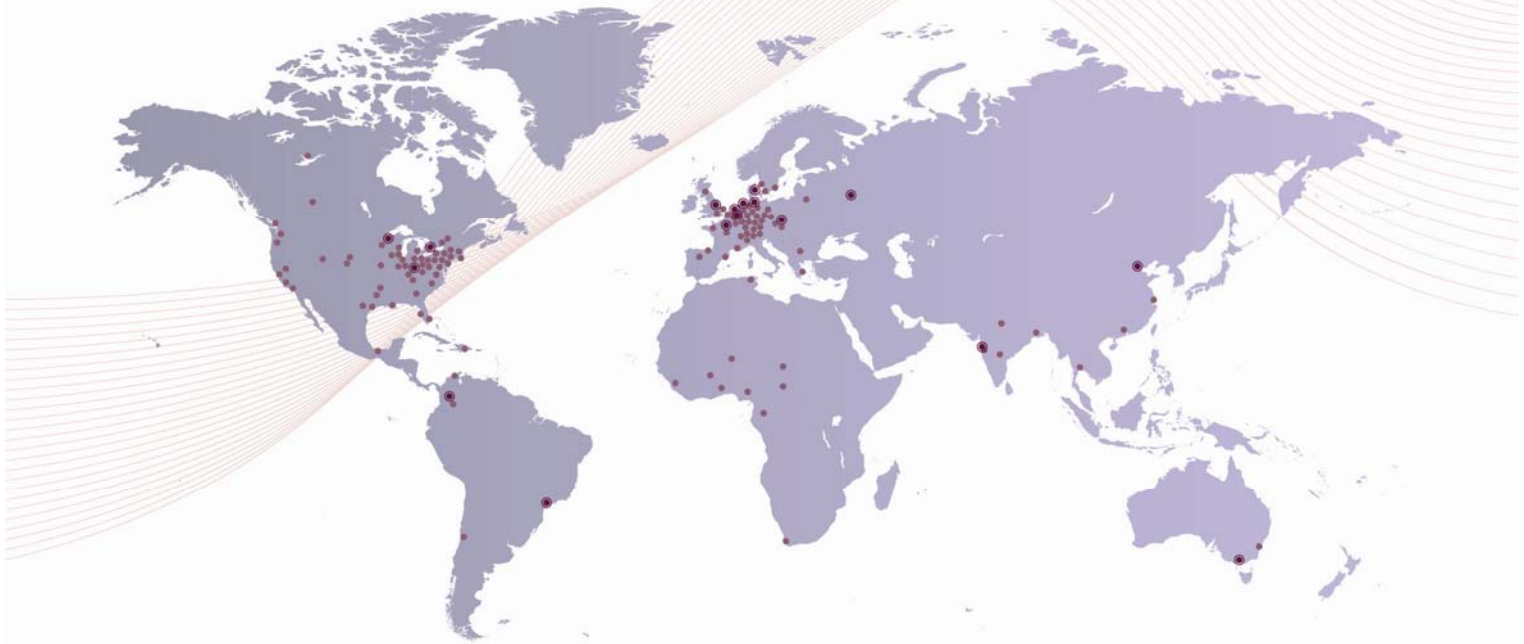
There are two fundamental questions that should be asked regarding a carbon tax or ETS. Firstly what will be the contribution to reducing global temperature and secondly what does the scheme cost.

Costs associated with administering a carbon tax and implementing a ETS are very substantial and should be balanced against the alternative of direct action on climate change.

A carbon tax is a much simpler and potentially a more effective way to ensure that cleaner technologies are developed and that there is growth in renewable energy. However, this is subject to the political process and by the time exemptions are taken into account and subsidised the desired outcome of a significant reduction in greenhouse gases may not be achieved.

Subsidising the majority of the population in a country, as is proposed in Australia, from the effect of a carbon tax is unlikely to send a signal that a change in behaviour in terms of energy usage is necessary for a low carbon economy. For more information contact alison.mcrae@pjra.com.au





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For further information please contact
Peter Penning; President & CEO
Inogen Environmental Alliance, Inc
T: +31 65323 0186
E: ppenning@anteagroup.com

