

Sector briefing

Brazil Opportunities in Environment & Water

Why Brazil?

Brazil is the largest country in South America, both in geographical and commercial terms. As a high-growth market there is huge potential across many sectors.

Brazil has the world's largest reserves of tropical forest, biodiversity and flows of fresh water (25%). It has the largest underground reservoir (Guarani Aquifer).

Brazil has a strong science base, is a keen promoter of technology transfer, and is a world leader in bio-fuel technologies.

The Growth Acceleration Programme (known as "PAC Plan") launched in 2007 has driven investments in the areas of energy, transport, housing and sanitation. In addition, the construction programmes for the development of the 2014 FIFA World Cup and 2016 Olympic Games will drive sustainable management plan frameworks that will bring opportunities for UK Environment Goods and Services companies.

Find general information on Brazilian market conditions on [UKTI's website](#). The [Doing Business Guide for Brazil](#) gives an overview of Brazil's economy, business culture, potential opportunities and an introduction to other relevant issues.



"The Brazilian Environmental Sectors are expected to receive investments of over U\$ 10 billion per year for the next 10 years"

Opportunities

There is a wide range of factors driving investments in Environmental Goods & Services in Brazil (EG&S): an increasing number of companies with environmental management systems, adoption of international standards of environmental performance by exporters and multinational companies, new legislation framework etc.

Brazilian businesses are fully aware that their competitiveness is tied to improving management of their social and environmental impacts. In that sense, private companies are extensively looking for low carbon solutions.

Current estimates of the size of the Brazilian environmental technologies sector (solid waste management, water and sewage supply, soil remediation and air pollution control) and the renewable energy sector are over US\$ 10 billion. Main investments in 2010 were in water, followed by solid waste, energy efficiency and air emissions reduction. See the industry size, as follows:

Environmental Goods & Services:	Industry Size (R\$)
Soil Remediation	R\$1 billion
Air Pollution Management	R\$1 billion
Water & Sewage	R\$6 billion
Solid Waste	R\$10 billion

Environmental Legislation

Brazil had important issues on its agenda for COP15 (the UN Framework Convention on Climate Change in December 2009), such as REDD (Reducing Emissions from Deforestation and Forest Degradation); Post-Kyoto protocol debate to define a further commitment period for GHG emissions reductions and Sustainable Forest Management mechanism, which put Brazil in a leading role to achieve significant emissions reduction goals.

President Lula signed the National Policy on Climate Change in December 2009 proposing a target for 36.1% to 38.9% reduction in greenhouse gas emissions by 2020.

Environmental legislation such as the Sanitation Law 11455/07, Public Consortium Law 11107/05 plus funds from PAC and IDB (Inter American Development Bank) has fostered investments in the sanitation sector over the past 2 years.

The National Waste Policy where Brazil is leading the way in Latin America in terms of the producer responsibility principle and adoption of legally binding instruments was sanctioned in August 2010.

Water and wastewater treatment

Constitutionally, the supply of basic sanitation services (water and sewage) in Brazil is responsibility of the municipal government, optionally exercised by means of a concession to private enterprise. Up until now, most cities have fulfilled their constitutional obligation by making a concession to a state-run basic sanitation company. Other cities operate their own services via a city sanitation department or a municipally owned company.

Most municipalities (80.9%) have piped water supplies to domestic premises. However over 50% of households are not connected to the sewerage system, but this figure varies depending on the Brazilian region. As an example, the southeast is better served (over 70%) followed by the mid-west (over 40%), whereas in the north just below 6.5% of homes are connected to the sewerage system. Only approximately 60% of the collective sewage is treated. The majority (11 billion liters per day) is daily dumped into rivers, streams, beaches and lakes.

Basic sanitation has gained a new legislative framework since the approval of the Sanitation Act in December 2007 (11.445/07). The law reduced the uncertainties at federal, state and municipal levels. Finally, public private partnerships (PPP) are now contributing to an increase in investments. Besides the new regulatory framework, Brazil announced plans to invest US\$ 25bn into sanitation projects.

Furthermore, the 12 FIFA World Cup host cities (Belo Horizonte, Brasília, Cuiabá, Curitiba, Fortaleza, Manaus, Natal, Porto Alegre, Recife, Rio de Janeiro, Salvador and São Paulo) are currently receiving investments in water supply and sewage collection, to comply with patterns established by FIFA and the national policy goals for this sector.

According to the International Federation of Private Water Operators in 2010 private companies were servicing 12% of the urban population in Brazil and rising. The differences in the systems demonstrate how the environmental sanitation sector is undergoing a revolution in terms of operational mechanisms.

Major Brazilian contractors are investing heavily in the sanitation sector and have set up new companies such as Foz do Brasil (part of the Odebrecht Group) and Cab Ambiental (from Queiroz Galvao) just to operate in this sector.

There is potential market for new technology and products such as analytical and measuring equipment, monitoring equipment for water/sewage treatment stations, sludge treatment, leakage detection control, odour removal processes, flow meters (micro/macro measurements), pipe cleaning, pipe joints and flow control products, sensors and environmental monitoring and industrial effluent.

Waste Management Technologies

The Brazilian Law 12.305 of 2 August 2010, National Policy on Solid Waste, will reform the country's position on the treatment of solid waste.

Brazil's production of solid waste in 2010 was approx. 61 million tonnes/year (65% is organic content). According to ABRELPE (Brazilian Association of Public Cleansing) currently approximately 42.4% of this waste does not receive adequate treatment which means that it is either dumped in open spaces or worse still, disposed of in watercourses and other environmentally sensitive areas. Major cities in the country suffer from chronic waste disposal problems.

Most of the private companies work under long-term concession from municipalities. In Brazil, there are currently 28 concession contracts in progress, serving 28.1 million inhabitants corresponding to approximately 30% of the total population served by private companies. In these contracts, the complete concession modality is predominant, comprehending urban cleansing (collection, transportation and sweeping) and final disposal.

The key opportunities lie in education; knowledge transfer and dissemination; guidance on waste management plans; sustainable packaging and product design; waste segregation/sorting and waste treatment.

Contaminated Land Remediation

Official estimates put the number of contaminated sites in Brazil at 15,000. In

December 2010 CETESB (Sao Paulo State Environment Agency) identified the existence of approximately 3,675 contaminated sites in the state.

For most of the Brazilian states, specific legislation does not exist for dealing with contaminated land. The existing environmental legislation offers a base referring to different aspects of the problem. However, São Paulo has approved (in July 2009) a State Law (13.577/09) on protection of soil quality and management of contaminated areas stating that land owners, users and those who caused contamination will have co-responsibility for the prevention, identification and remediation of the area.

The real estate boom in Sao Paulo over the past two years has offered good opportunities for local companies given the urgent need to turn contaminated areas into new residential and commercial building areas.

The local market is well supplied with technical capacity and equipment dealing with remediation of land contaminated by petrol stations, but there is a serious need for expertise in project management, risk assessment, monitoring strategies and data management as well as cost-effective solutions for remediation of land contaminated by industrial activities.

Air Pollution Control

On average in main Brazilian cities, automotive vehicles are responsible for the emission of 62% of air pollution. However, in the metropolitan area of São Paulo, which is responsible for 40% of the countries automotive fleet, vehicles are responsible for 90% according to a study developed by CETESB (Sao Paulo Environment Agency). The cities of São Paulo, Campinas and Cubatão region (a major petrochemical area) are identified as having a high level of pollution, both from vehicle and industrial origins. The country side municipalities also deserve attention due to their strong industrial development, large number of vehicles and due to those areas where agricultural activities produce the emission of air pollutants (e.g. burning of sugar cane bagasse).

The air pollution control sector lacks technical capacity including those provided by laboratories. Most of the air pollution control equipment currently used is supplied by US

and European companies through locally established partners.

Potential market opportunities for UK Suppliers of NOX and VOC control equipment, CEM analysers and fugitive and particulate emissions monitoring systems.

CDM - Clean Development Mechanism

Since the Kyoto Protocol was signed in 2005, there has been an increasing interest by companies and potential investors in designing projects aimed at the reduction of greenhouse gas emissions. As a non-Annex I country, Brazil's involvement in the international climate change initiatives is through the Clean Development Mechanism (CDM).

From a total of 3,146 registered projects in the UN Executive Board (June 2011), there are 226 Brazilian projects and the country occupies the third post in registered projects, accounting for approximately 7% of the global total.

According to ABEMC (the Brazilian Association of the Carbon Market Companies) who represent 50% of all carbon credits generated in Brazil, CDM and Joint Implementation (JI) projects reached US\$ 118 billion in 2008.

The predominance of the project activities in Brazil is in the energy sector. As part of the Brazilian CDM projects are: renewable energy, waste to energy, fossil fuel switch and landfill.

CDM Projects	%
Renewable Energy	49%
Waste to Energy (Swine)	16%
Fossil Fuel Switch	10%
Landfill	9%
Others	16%

There is potential market for UK companies in the areas of project design and management, carbon-trading mechanisms and funds, project validation and low carbon technologies.

Renewable energy

Brazil is the world's largest renewable energy market, thanks to its hydropower and its long-established bio ethanol industry, the latter of which has thrived alongside the country's sugarcane industry. Renewable energy sources account for 77% of the country's electricity generation capacity, including large scale hydropower. Even though Brazil is a

traditionally low carbon economy; it still has a total annual GHG emission of 170 million tonnes of carbon dioxide, which accounts for 8% of the global total, thus making the country the third largest contributor of GHG emissions in the world.

If you have any questions on the opportunities above, contact the UKTI contacts named in this report. Business opportunities aimed specifically at UK companies are added daily to UKTI's website. These leads are sourced by our staff overseas in British Embassies, High Commissions and Consulates, across all sectors and in over 100 markets.

You can be alerted to business opportunities on a regular basis by registering on the UKTI website. [Find out more on UKTI's business opportunities service on the UKTI website](#)

Sector reports on opportunities in the 2016 Olympic Games, Ports and UK Environment and Water Opportunities in Brazil are also available from the UKTI website. Access to a more comprehensive report on Environment & Water Opportunities in Brazil is available from: [Garry Poole](#) in UKTI Environment & Water Sector Team.

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Major events and activities

UKTI Brazil Mission to Recycling and Waste Management Exhibition 2011

Email: valeria.martinez@fco.gov.uk

Time: 13 to 15 September, London

UKTI Environment and Water Mission to FIMAI 2011 (Environmental Trade Show)

Email: valeria.martinez@fco.gov.uk

Time: 08 to 10 November, Sao Paulo

Find full details of all events in this country and sector on the UKTI website.

New export events are added daily to the site and [you can register to be alerted to them](#) on a daily, weekly or monthly basis

UKTI's Tradeshow Access Programme (TAP) provides grant support for eligible Small & Medium Sized Enterprises (SME's) to attend trade shows overseas. Find out more about [UKTI support](#) for attendance at overseas events

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Next steps - How UKTI can help

British companies wishing to develop their business in the Brazilian market are advised to undertake as much market research and planning as possible in the UK. UKTI's team in Brazil with its wide local knowledge and experience, can provide a range of services to British-based companies wishing to grow their business in global markets.

This can include:

- Provision of market information
- Validated lists of agents/distributors
- Key market players or potential customers in the Brazilian market
- Establishment of interest of such contacts in working with you
- Arranging appointments
- Organise seminars or other events for you to meet contacts and promote your company in the Brazilian market

This work is available via our [Overseas Market Introduction Service \(OMIS\)](#) a chargeable service which assists British-based companies wishing to enter or expand their business in overseas markets.

To find out more about commissioning this work, or accessing other UKTI services and specialist advice, please visit the UKTI website to find [contact details for your local UKTI office](#).

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