

## Green Technology: The 10 leading countries



Report prepared by the consulting firm Cleantech Group and the WWF, shows which countries are characterized by creativity and innovation in green technology, and who also have stimulating environment for companies in the industry, either public policy or private funding.

As technological innovation facilitated incredible changes in consumer lifestyles and productivity in the last 200 years, the development of so-called green technologies will be essential to catalyze and facilitate the sustainability revolution in the 21st century. But which countries have the greatest potential to produce and commercialize this clean future?

To answer this question, the consultancy Cleantech and environmental group WWF assessed 38 countries using 15 indicators related to developing of green solutions companies, such as public policies and regulations, financial incentives for private, academic incentives, private investment in the sector, and number of environment patents registered, among others.

The survey "Global Cleantech Innovation Index" shows that the renewable energy sector is the main catalyst of green investments: 77% of the total invested in cleantech in 2010, for example, was for the generation of renewable energy. In the ranking, Brazil was in 25th place, as a country "very strong corporate business culture, but low investment in innovation and research and development."



**Denmark (#1)** - Interestingly, the first places in the ranking of green innovation are dominated by small countries, but with potential to make major changes towards a more sustainable future. The leadership of Denmark is explained by the ability to support new companies developing clean technologies aware, until this becomes

profitable and benefit both, the economy and the environment.

In Denmark, the wind energy sector is one of the most advanced and, according to the government's ambitious plan to reduce its emissions by 40% by 2020; the winds are expected to contribute more than half of Danish energy consumption over the next decade. On the issue of pioneering, it is noteworthy that the capital Copenhagen was the first in the world to promote the public lending of bicycles, a model that was later copied by major cities such as Barcelona, Berlin, Paris and Rio de Janeiro.



**Israel (#2)** - Since the 50s, Israel is committed to developing environmentally sound technologies to deal with scarce energy resources and the limited availability of water.

Without fossil fuels and without friendly relations with its neighboring oil producers, the country looked at the sun in search of solution.

Currently, at least 90% of Israeli homes use solar energy to heat the water. The treatment system of this natural resource is a world reference - Israel is the country that invests more resources in treating and recycling water. The country is also the creator and world leader in drip irrigation, a technique that transformed deserts into farmland.



**Sweden (#3)** - The Sweden ranks third in the ranking, performing well on all indicators evaluated. According to the report, the government offers funding bulky for research and development of clean technologies. To meet environmental challenges, the country has centers of excellence in know-how that has strategic partnerships with leading industries.

The tradition in the development of environmental solutions is present in various sectors - from green building till the mechanical recycling and the waste energy, which heats 80% of Swiss homes, just to name a

few. In sewage treatment, the country has one of the highest standards in the world.



**Finland (#4)** - Fourth on the list of leaders in green technologies appears to Finland, another small Nordic country that serves as a laboratory for environmental solutions. Only in 2010,

the Finnish renewable energy sector grew 5.6% with sales of R\$ 17.9 billion. Behind this performance is the "Cleantech Finland" organization, bringing together over 2,000 sustainable technology companies in the country, facilitating contact between them and with potential investors.

Recently, Brazil has signed a technological cooperation agreement with Finland. An area of common interest between the two countries is the offshore technology, since Finland has a tradition of shipbuilding in the area and of drilling platforms and oil drilling.



**United States (#5)** - The fifth place ranking in green was the United States, which last year recorded a significant increase in investments in the sector, rising from \$ 5.2 billion in 2010 to 6.8 billion in 2011 - an increase of 31%.

Among the American states, what stands out most is, of course, California, the most bustling hub of clean technologies. Last year, the state received a total of US\$ 3.7 billion in investment, more than half (54%) of the total invested in the sector across the U.S.



**Germany (#6)** - We cannot talk about green innovations, especially with regard to the renewable energy sector, without to mention Germany that appears at 6th position of the

ranking of Cleantech. The country, which promised to end the use of nuclear reactors and replace them with new sources by 2022, is notable for the encouragement given to solar and wind.

According to a survey by the "Global Wind Energy Council", Germany is the third country in the world that invests more in the strength of the winds, with installed capacity of 29,000 MW, accounting for 12.2% the cumulative of the world. The conversions to clean energy guarantee not only the reduction of emissions of harmful gases to the planet as the generation of new jobs. In the last decade, more than 300,000 jobs were created in the busy green market in the country.



**Canada (#7)** - Although announced his departure from the group of signatories of the Kyoto Protocol during the last UN climate meeting in Durban, South Africa, Canada has been striving to develop cutting-edge green technology in recent years.

The country has a series of incentives and investments in clean technology as a practice for capturing and storing carbon. Regarding renewable energy, Canada is the ninth largest country with installed wind power capacity, about 5200 MW, representing 2.2% of the world total.



**South Korea (#8)** - The eighth place in the ranking is reinventing itself as a core exporter of green technology to cities. The South Korea has developed ambitious projects of sustainable urban planning, as the "Songdo International Business District", a center of excellence in technology, education and business, being built to 65 kilometers from Seoul.

The strategy of the country's green growth is sustained in the action plan "Green Growth". Launched in 2009 and lasting five years, the plan provides, among other mediated, the increased of government investment, the commercialization of green technologies and the international cooperation.



**Ireland (#9)** - There is a green atmosphere around Ireland, placed ninth in the ranking, and not only on St. Patrick's Day. In recent years,

active green investment funds more than doubled in the last two years reaching U\$ 2.3 billion, according to research by PricewaterhouseCoopers (PwC).

Moreover, Ireland has also become, in early February, the first country to accept carbon credits generated by projects that reduce emissions from deforestation and degradation (REDD) in its tax system.



**United Kingdom (#10)** - In tenth place on the ranking of clean technologies, the United Kingdom promises to inspire Brazil and the world with environmental solutions that England

implemented to build the Olympic Park. In the list enter Projects of the decontamination of soil, arenas fully recyclable and a modern system of electric transportation in the area of the main London airport.

Moreover, the country has an enthusiastic entrepreneur with new technologies. A survey by consultancy Carbon Trust showed that 99% of British business leaders see growth opportunities in the development and use of green technologies. In the race for renewable energy, the country is the sixth most attractive investment, ranking second at Ernst & Young.

**Source and Photos:** [Exame](#), March 15<sup>th</sup>, 2012

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