

Efficiency is doing things Right
Effectiveness is doing the Right things

Peter Drucker



“Promoting Competitiveness *Through* Energy Efficiency”

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competitiveness

Definitions



Ability of a firm or a nation to offer products and services that meet the quality standards of the local and world markets at prices that are competitive and provide adequate returns on the resources employed or consumed in producing them.

Source: [www.Business Dictionary.com](http://www.BusinessDictionary.com)

- ***An aggressive willingness to compete;***
- **The ability of an entity to operate efficiently and productively in relation to other similar entities.**
- Usually refers to characteristics that permit a firm to compete effectively with other firms due to low cost or superior technology,

“Enabling and stimulating innovation and entrepreneurship.”

In Pictures: The 10 Most Energy-Efficient Countries



<http://www.forbes.com>



No. 1: Japan

Energy intensity: 4,519 BTUs
per dollar of GDP

Consumption: 22.6 quadrillion BTUs

The islands of Japan have nowhere near the energy Japan needs.

In order for the giant Japanese economy to keep growing, without being throttled by its energy imports, **the Japanese have turned to energy efficiency to keep down the fuel bills, and also to control its carbon dioxide emissions.**



No. 2: Denmark



Energy intensity: 4,845 BTUs per dollar of GDP

Consumption: .83 quadrillion BTUs

Denmark sits low on the list, thanks to **longstanding and aggressive government efforts** (including a high energy tax) to reduce dependence on foreign fossil fuels, dating all the way back to the oil crisis of 1973.



No. 3: Switzerland



Energy intensity: 4,901 BTUs per dollar of GDP

Consumption: 1.27 quadrillion BTUs

One initiative that has contributed to improvements in energy efficiency has been designating towns as "energiestadts" or energy towns.

Local governments work to earn the label, as well as other government and private initiatives, combined to allow Switzerland to achieve a 29% increase in energy efficiency in 2004 alone, according to an OECD Environmental Performance Review. That's part of the reason why the 2008 Environmental Performance Index produced by Columbia and Yale University ranked **Switzerland as the world's greenest country.**



No. 4: Hong Kong



Energy intensity: 4,911 BTUs

Consumption: 1.04 quadrillion BTUs

One advantage of having as little land as Hong Kong:
There's simply not as much space to build high-intensity factories.

China uses 35,000 BTUs per dollar of GDP--more than seven times as much energy as Hong Kong.



No. 5: Ireland



Energy intensity:
5,315 BTUs per dollar of GDP
Consumption:
0.66 quadrillion BTUs

A 2007 report from Sustainable Energy Ireland, the name of Ireland's national energy agency, found that *Ireland's energy-efficiency scores were so high in part because of structural changes in its industries.*

Ireland's industrial policy focused on increasing the manufacture of pharmaceuticals and electronics.

One benefit of the policy: These are low-energy-intensity industries.



No. 6: United Kingdom



Energy intensity: 6,145 BTUs per dollar of GDP
Consumption: 10 quadrillion BTUs

Despite being the E.U.'s largest producer of oil and natural gas, the U.K. cannot produce enough to power its economy.

The U.K. is now a net importer of natural gas and will soon be a net importer of oil as well--and to meet this challenge, *the country is pursuing more efficiency.*



No. 7: Israel



Energy intensity: 6,719
BTUs per dollar of GDP

Consumption: 0.85 quadrillion BTUs

The MENA region comprises of one of the worst regions for energy efficiency. *Abundant natural resources have left much of the region with little incentive to focus on efficiency.* But not Israel.

A lack of supplies and *a desire for a post-industrial economy* have resulted in Israel being much more efficient than its neighbors.



No. 8: Italy



Energy intensity: 7,118 BTUs per dollar of GDP

Consumption: 8.08 quadrillion BTUs

Like many energy-efficient countries, Italy has few domestic resources. What's more, the country has been unable to install enough electricity to keep up with demand, forcing the country to import expensive electricity. *Since 1991, however, Italy National Energy Plan has had a focus on energy efficiency.*



No. 9: Germany



Energy intensity: 7,396 BTUs per dollar of GDP

Consumption: 14.5 quadrillion BTUs

Germany has large reserves of coal, allowing it to create more of its power than many of its neighbors.

Attributed to simple German efficiency, the country has delved head first into improving its infrastructure and developing renewable energy sources. *Germany is the world's largest generator of wind energy.*



No. 10: Austria



**Energy intensity: 7,430 BTUs
per dollar of GDP**

Consumption: 1.54 quadrillion BTUs

Austria, too, has more energy-efficient neighbors.

**But while Germany has a green advantage with wind power,
Austria's advantage is hydroelectricity.**

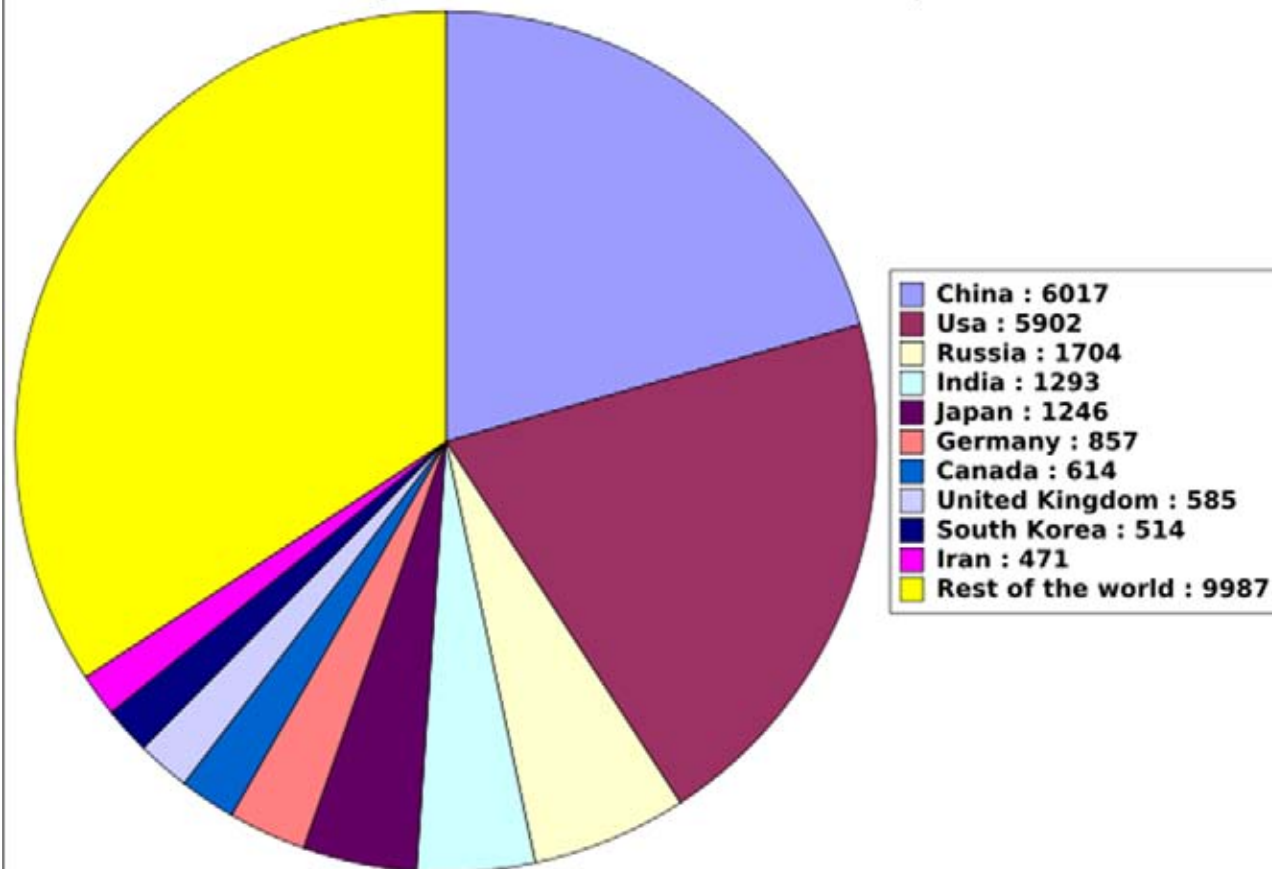
**Nearly half the country's electricity comes from hydroelectric
plants.**

**According to the Environmental Performance Index, Austria
is the world's sixth greenest country.**

Only Switzerland is both greener and more efficient.

CO2 Emissions related to Fossil Fuel consumption (2006):

World Carbon Dioxide Emissions from the Consumption and Flaring of Fossil Fuels, 2006
(Million Metric Tons of Carbon Dioxide)



Source : Energy Emission Administration

Jordan
Ranks
No. 80
with 0.1%
of total
emissions!

Detail: Countries by carbon dioxide emissions:

Rank	Country	Annual CO ₂ emissions (in thousands of metric tons)	Percentage of total emissions
-	 World	28,431,741	100.0 %
1	 China	6,103,493	21.5 %
2	 United States^[9]	5,752,289	20.2 %
-	 European Union^[10]	3,914,359	13.8 %
3	 Russia	1,564,669	5.5 %
4	 India	1,510,351	5.3 %
5	 Japan	1,293,409	4.6 %
6	 Germany	805,090	2.8 %
7	 United Kingdom	568,520	2.0 %
8	 Canada	544,680	1.9 %
9	 South Korea	475,248	1.7 %
10	 Italy^[11]	474,148	1.7 %

Rank	Country	Annual CO ₂ emissions (in thousands of metric tons)	Percentage of total emissions
11	 Iran	466,976	1.6 %
12	 Mexico	436,150	1.6 %
13	 South Africa	414,649	1.5 %
14	 France^[12]	383,148	1.4 %
15	 Saudi Arabia	381,564	1.3 %
16	 Australia	372,013	1.3 %
17	 Brazil	352,524	1.2 %
18	 Spain	352,235	1.2 %
19	 Indonesia	333,483	1.2 %
20	 Ukraine	319,158	1.1 %
21	 Poland	318,219	1.1 %
22	 Thailand	272,521	1.0 %
23	 Turkey	269,452	1.0 %
24	 Kazakhstan	193,508	0.7 %
25	 Malaysia	187,865	0.7 %

Rank	Country	Annual CO ₂ emissions (in thousands of metric tons)	Percentage of total emissions
76	 Croatia	23,683	0.1 %
77	 Tunisia	23,126	0.1 %
78	 Bahrain	21,292	0.1 %
79	 Yemen	21,201	0.1 %
80	 Jordan	20,724	0.1 %
81	 Dominican Republic	20,357	0.1 %
82	 Estonia	17,523	0.1 %
83	 Lebanon	15,330	0.1 %
84	 Slovenia	15,173	0.1 %
85	 Lithuania	14,190	0.1 %
86	 Jamaica	12,151	<0.1 %
87	 Kenya	12,151	<0.1 %

Role of **Jordan Enterprise** Development Corporation (JE):

1. Develop & Enhance the competitiveness of Industry, Services and Agro-Industries in Jordan.
2. Expand, promote and diversify Jordan's exports to the global market.
3. Upgrade Enterprises by providing them with tailored solutions.

JE is a proactive yet Demand-driven Organization.

JE's Initiatives in Meeting Energy Challenges:



1. **Improve Efficient Use of Energy – utilizing Energy Audit Services and supporting private sector with related grants to cover TA expenses and implement recommendations.**

Goal:

Reduction of Production Costs – therefore reflect on unit prices & as such price competitiveness

2. **Encourage the utilization of renewable energy...particularly “solar” energy!**
3. **Launching a “green cluster” in the near future (i.e. provision of direct equipment subsidies to manufacturing industries, financing upstream feasibility studies, training and specialized certification, facilitating access to finance through establishing tools such as VC funds, loan and export guarantee credit funds in addition to other innovative financing instruments!**
4. **Policy advocacy to support private sector growth.**

Conclusion: ***“Beyond Social Responsibility....”***



Global Trends Reflect:

- 1. If you have few/many domestic resources – ultimately focus on energy efficiency!**
- 2. Have a plan – especially if the desire exists to become “a post-industrial” economy...and the trend is for countries to become “Knowledge economies”**
- 3. Have an industrial policy that supports/prioritizes “low-energy” intensity industries (maybe!)**
- 4. Study government efforts/taxes & associated incentives for both industries & even households!**
- 5. Improve infrastructure and develop renewable energy resources.**
- 6. *Drive and promote the culture of going “green!”***

Future Perspectives....



Questions to be thought about and answered:

1. What type of Energy efficiency doctrine should Jordan have?
2. What is an acceptable mix (traditional, renewable, nuclear, other)?
3. Public-Private Partnerships and what should they aim at?

Thank you for your good
listening

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