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May 18, 2015

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China in Top Ten in Renewable Energy Generation, Clean Tech and Patents Clean Tech VC Spiked 153% in One Year Ranks Among Last in Carbon Intensity and Energy Productivity

Report ranks countries by energy, economy and GHG emissions, charts historic worldwide shift from fossil fuels to renewable energy

SAN FRANCISCO— In advance of the historic United Nations Climate Change Conference (COP21) in Paris this year, the *Green Innovation Index* for the first time analyzes and ranks the economic and energy performance of the world's 50 largest greenhouse gas emitting nations, including China.

Next 10's <u>Green Innovation Index, International Edition</u> charts country GDP, emissions, energy productivity, renewable energy generation, clean tech investments and other key metrics. World emissions leader China is identified as a highly carbon intense economy with low energy productivity but also a renewable electricity and electric vehicle leader.

"Some of the world's largest economies are now decoupling economic growth and energy use, actually growing their GDPs while shrinking their carbon footprints. Last year marked the first time we've been able to say conclusively that a drop in global carbon emissions was caused by something other than an economic downtown," said F. Noel Perry, businessman and founder of the nonpartisan nonprofit group Next 10 (www.Next10.org).

In observance of <u>Climate Week Paris</u> and on the eve of the <u>Business & Climate Summit</u> at UNESCO headquarters, Perry will present the new report findings Tuesday to an international audience including business and government leaders and journalists at a reception at the Hotel de Talleyrand in Paris.

Report highlights for China include:

- EU, U.S., China are top three renewable electricity generators in the world (in order).
- U.S. (with California), California, EU, China (\$1.022 billion) and U.K. are top five in clean tech venture capital (2014).
- Clean tech venture capital investment grew in China (135 percent), California (153 percent), U.S. with California (74 percent), U.K. (34 percent) and world overall (63 percent) from 2013-2014.
- China, U.S., EU, India, Russia, Japan, Germany, South Korea, Iran and Saudi Arabia are the top ten greenhouse gas emitters from energy consumption (in order).



- China, U.S. (with CA), EU, India, Russia, Germany, South Africa, Japan, Australia and Poland are top ten coal consumers in the world.
- U.S. cut GHG emissions per person by 17 percent (1990-2012), while China increased emissions per person by 222 percent (1990-2012), but China cut total emissions by 2 percent shorter-term (2013-2014).
- #44 among top 50 emitters in energy productivity but tracked the biggest improvement 1990-2012 with a 101 percent increase.

"This year's Green Innovation Index, International Edition tracks a clear shift to clean energy around the world. Although fossil fuels still represent a significant portion of our overall energy use, many analysts believe we have reached an important tipping point—globally, we are now adding more capacity for renewable power annually than fossil fuels," said Doug Henton, chairman and CEO of Collaborative Economics, which developed the Index for Next 10.

The Green Innovation Index, International Edition shows how this transition is playing out for the world's top 50 emitters of greenhouse gases. Among these nations, plus California:

- Spain, Germany, Italy, California, Philippines, EU, Belgium, Netherlands, U.K. and Greece have the greatest share of electricity from renewable sources among top emitters (in order).
- France leads the world in lowest carbon intensity; Uzbekistan is highest (GHG per GDP).
- U.S. (with California), EU, Japan, South Korea, Germany, California, China, Taiwan, France and U.K. (in order) are top ten in clean technology patents (2014).
- Clean tech venture capital investment declined in EU (-10 percent), France (-43 percent), Canada (-19 percent), India (-4 percent) and Israel (-11 percent) from 2013-14.
- U.S. clean tech venture capital investment grew 74 percent (2013-14),
 California 153 percent, EU decreased 10 percent.
- Nigeria has the lowest emissions per capita, total energy and electricity use per capita and highest energy productivity (GDP per energy unit). From 1990-2012 energy per capita decreased nearly 26 percent.
- France, California, and Italy have lowest carbon intensive economies in the world.
- Nigeria, Italy, Japan, U.K. and California lead the world in energy productivity (dollars generated per unit of energy).

This week marks the kick off of Climate Week in Paris—a historic gathering of worldwide business and policy leaders. Through events like the Business & Climate Summit at the UNESCO offices in Paris, leaders will highlight business and policy solutions for decarbonizing the economy. These events come in the wake of the International Energy Agency's announcement suggesting that the process of decoupling economic growth from GHG emissions is already underway, since the global economy grew in 2014 but carbon



emissions did not. The Business & Climate Summit is one of a string of international events building momentum towards a climate agreement at a key UN Climate Summit to be held later this year, also in Paris.

Share Index findings on Twitter:

- China & South Korea inventors double down on #energyefficiency #GIICleanFact www.next10.org/international
- #CleanTech explosion: VC investment grew 135% in China in 1 year
 #GIICleanFact www.next10.org/international
- China has best improvement in #energy productivity in last 25 years #GIICleanFact www.next10.org/international
- China's #cleantech patents increased 73 fold in 21st century #GIICleanFact www.next10.org/international

About Next 10

Next 10 is an independent, nonpartisan organization that educates, engages and empowers Californians to improve the state's future. With a focus on the intersection between the economy, the environment, and quality of life, Next 10 employs research from leading experts on complex state issues and creates a portfolio of nonpartisan educational materials to foster a deeper understanding of the critical issues affecting our state.

About Collaborative Economics,

Collaborative Economics (<u>www.coecon.com</u>), which compiled the Green Innovation Index, is a Silicon Valley-based research and consulting organization. CoEcon works with businesses, foundations, government, education, and community sectors to do leading edge innovation and clean economy analysis for states and regions across the country.