

# Sustainability Trends



## Next Generation Transportation for a Sustainable Future Conference

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**Sustainability is inevitable.**



Here's 14 trends to watch  
that are likely to influence  
next generation  
transportation choices:



## **Dramatic Weather Events Make an Impression:**

Heat waves, fires, storms, and floods are on the rise across the planet. Every time another “natural” disaster strikes, it makes people painfully aware of the connection between our impact on the environment, and its impact on us.



# **Billion Dollar Storm Events are on the Rise**

A single billion-dollar storm event per year in the 1980s,

two per year in the 1990s,

five per year in the oughts,

10 in 2011, 14 in 2012, 11 in 2013

and since we've had the polar vortex of 2014, and simultaneously the CA drought and the Texas floods of this year.



# Increasing Role for Big Data

Flowminder, a non-profit based in Sweden, used illustrated data - gleaned from anonymized and aggregated cell phone signals - to predict the spread of Ebola and focus medical resources and information campaigns.



## **Growing Interest in Carbon (in China):**

China has introduced the world's largest cap and trade program which will roll out in full in 2016.

China intends to have 30% of all automobile purchases be electric cars by the end of 2016.

In 2014, China installed more solar power than the US cumulatively had installed



# Food Crises Threaten Global Security:

In 2014, a billion people went [hungry](#) every day, and as the climate changes and the population increases, food security is being threatened worldwide.

However, worldwide in 2014, food prices have been trending down, and are currently at their lowest level since 2010.





# Impending Water Wars:

We are mining groundwater, redirecting rivers, and polluting the oceans with oil spills, agricultural runoff and mountains of plastic trash. Wells are running dry and air pollution is increasing ocean acidity, threatening the entire marine food chain. Droughts and desertification threaten crops on land. Leading business organizations and military agencies now recognize that water is as important as oil – and today's shortages will be tomorrow's wars.



# Fossil Fuels are Running Out:

The International Energy Agency finally [admitted](#) in 2011 that we have passed Peak Oil. They also [recognize](#) that removing subsidies for fossil fuels could improve the economy and reduce emissions at the same time. In February, 2013, China announced that they will implement a carbon tax, making the US the largest emitter with no plan on how to limit CO2 emissions.



# Massive Economic Distortions in Fossil Fuels

The subsidies to the coal industry exceed the market cap of the industry.

Every minute, \$10m is given to fossil fuel companies in global government subsidies. This amounts to \$5.3 trillion per year – more than the world's governments spend on health.

Taxpayers are looking hard at transfer payments to an industry in trouble.



# **The Shift to a Renewable Economy is Occurring Faster Than Many Expected**

The cost of generating electricity from solar energy is at grid parity right now, and investment in renewables exceeded investment in fossil and nuclear energy combined for the last two years.



# The Impact on Companies

Companies are not only realizing substantial cost savings from eco-efficiency –\$395 million in two years for Unilever— but also substantial top line revenue gains from sustainability focused product innovation – \$130 billion for General Electric.



# **Sustainable companies are winning the talent wars:**

Unilever ranks 3rd in LinkedIn's list of in-demand employers.

LinkedIn's top 8 most in demand companies (in order): Google, Apple, Unilever, P&G, Microsoft, Facebook, Amazon, PepsiCo. Unilever is the anomaly here — for a company not nearly as well known as the others, it came in just behind two of the hottest, most valuable companies in the world, and ahead of much better known brands like Disney, Nike, and Coca-Cola. Executives at Unilever credit their ranking to the company's known leadership on sustainability.



## **Rising Political Power of “Developing Nations”:**

Rising giants like the BRIC countries (Brazil, Russia, India, China) – along with hundreds of smaller nations – argue that they are entitled to develop as they choose. International discussion around sustainability is focusing on reversing decades of wealth transfer from southern to northern economies.



# Rising Power of Women

Women are more likely to seek higher educational opportunities, to save money for their children's future, and are the fastest-growing group of entrepreneurs. These trends are global, extending from urban centers in the United States to villages in emerging economies. The face of sustainability is largely female.





# **The Obama White House is Committed to Being a “Player”:**

In the 2011 State of the Union address, President Obama talked about generating 80% of electricity from domestic sources by 2035, providing high-speed train service to 80 percent of Americans by 2035, and putting one million electric cars on the road by the end of 2015. Note that he is also talking about climate change.



## **Employees emerge as a key stakeholder group**

Corporate sustainability is less about the size of the staff and more about how people across the company are embedding sustainability throughout their work. A trend has begun to make sustainability a part of performance evaluations in an attempt to drive sustainability into an organization.



# Faith Traditions Support Stewardship:

Faith traditions of all denominations are increasingly supporting a message of creation care and stewardship. A whole host of [Christian](#), [Jewish](#), [Muslim](#), and [Evangelical](#) organizations agree that unsustainable behavior will hit the world's poor the hardest, and that we have a **moral duty** to respond. The pope's 2015 edict on climate change urged Catholics to take action on climate change on moral and scientific grounds.



# Younger Generations Demand Action:

The number of millennials is greater than the Baby Boomers

They are largely motivated by things other than money.

Organizations like [350.org](https://www.350.org/) are tapping this power to create an international movement directly targeting political leaders. Their numbers are sure to grow as the impacts of unsustainable behavior hit home.



# Change Trickles Up, Not Down:

Politicians are much better followers than leaders. The real action on sustainability is happening in companies and communities around the world. Mayors from over 135 major cities from Paris to Buenos Aires signed an accord to report and reduce their emissions. And California – the world’s 8th largest economy – implemented the nation’s largest cap-and-trade plan. National and international markets, commitments, and investments are only a matter of time.



# Supply Chain Pressure Continues to Increase

WalMart will eliminate 20 million metric tons of CO<sub>2</sub> – from its supply chain.

MillerCoors saves more water by working with barley growers than they can by changing the brewing process.

P&G develops a supplier scorecard.



# Entire Industries are Being Turned on Their Heads

AirB&B put as many beds under management in seven years as the leading hotel chains did in 70 years.

ZipCar claims a 10x improvement in capital efficiency – and challenges the notion of auto ownership.



# The Role of Transportation for a Sustainable Future

- Incorporate sustainable design principles into infrastructure development
- Support the development of more sustainable transportation options.
- Integrate principles of sustainability into procurement and purchasing decisions.