

think beyond the possible"

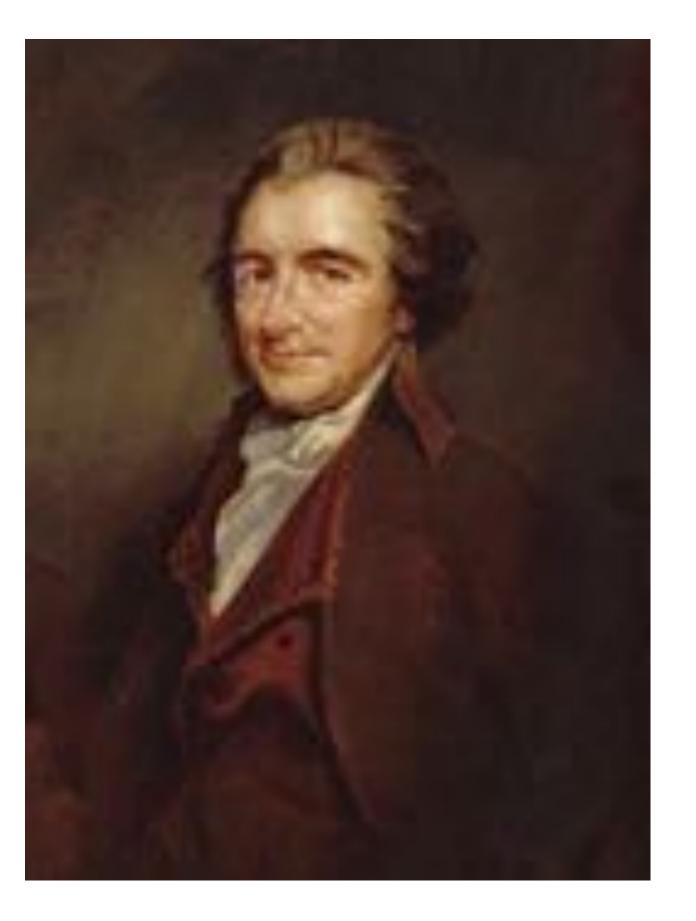
# Sustainability

### A 21st Century American Grand Strategy

Colonel Mark "Puck" Mykleby, USMC(Ret) Co-Director - Strategic Innovation Lab - Case Western Reserve University

http://weatherhead.case.edu/centers/strategic-innovation/





mankind."

Thomas Paine, <u>Common Sense</u>

# "The cause of America is in a great measure the cause of all

### The Concept



A National Strategic Narrative BY: MRL Y with pathon by Assessment Daughter, Polymour of Pathon and International Attack, Proceeding University

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A National Strategic Narrative BY: MR. Y with partice by Area Marie Staugtter, Pedersor of Publics and International Billairs, Princator University WOODDER WILLOW CENTER - 2011 - www.withousenes.org

The Construct American Grand Strategy The alignment of:

our economic engine, our governing institutions, and our foreign policy

### to solve the great challenge of the era

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A National Strategic Narrative EV: MILL N with preface by Anna Marie Tanattar, Pederate of Politics and International Billairs, Princator University WOODDER WILLOW CENTER - 2011 - www.withousenes.org

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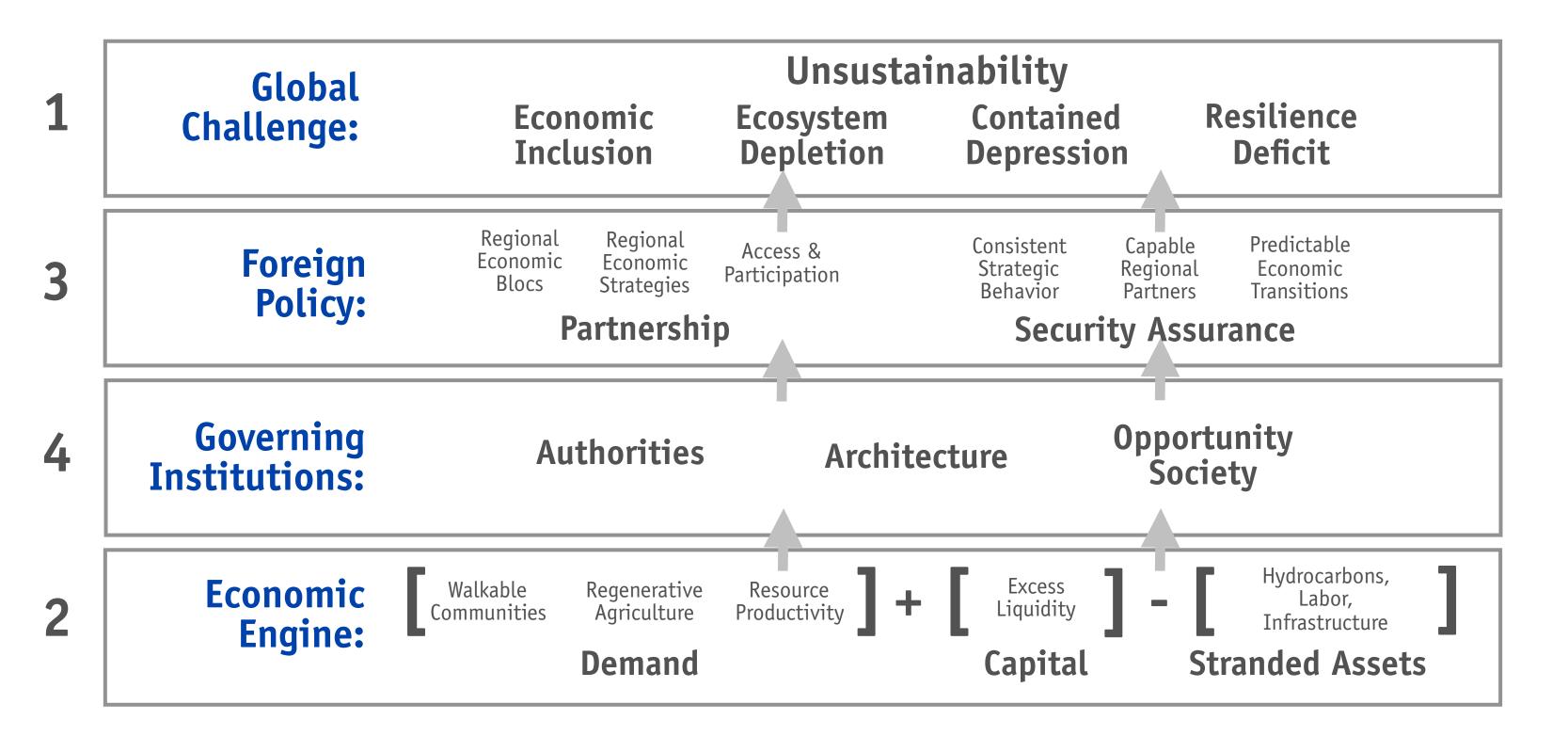
our economic engine, our governing institutions, and our foreign policy

The Challenge...

# ...Global Unsustainability

### to solve the great challenge of the era

# A New US Grand Strategy



## The Opportunity...

#### Walkable Communities

#### Regenerative Agriculture





# ...an historic, grand opportunity.

#### Productivity Revolution



# The Logic...

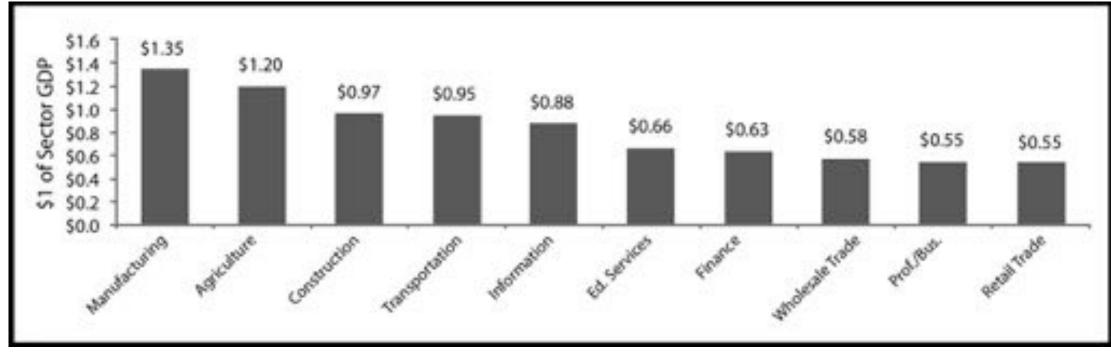
#### Walkable Communities

Regenerative Agriculture

Productivity

Revolution



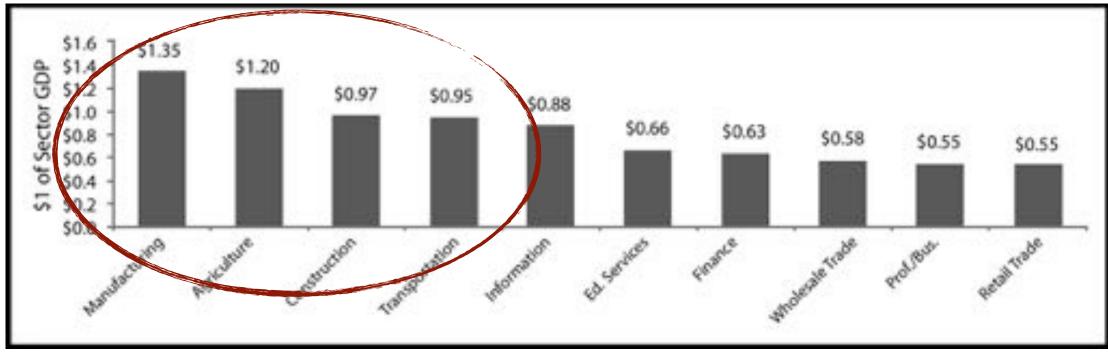


Source: Report to the President on Capturing Domestic Competitive Advantage in Advanced Manufacturing, July 2012

# The Logic...



Turning demand into prosperity and security...

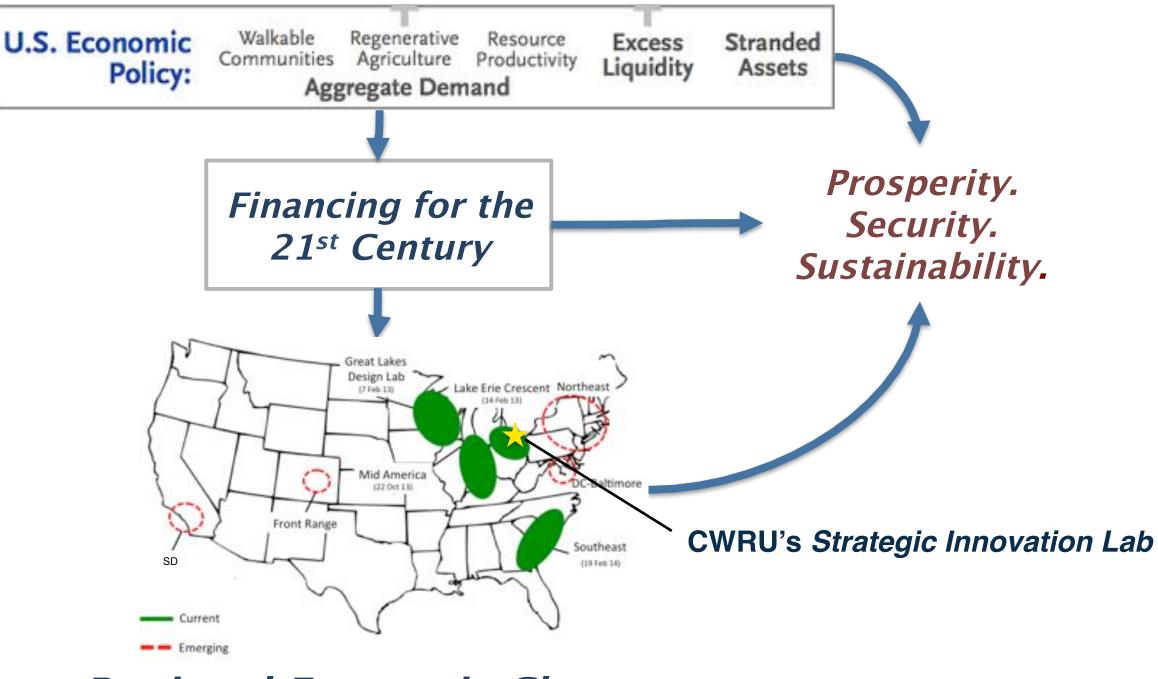


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### ...for future generations

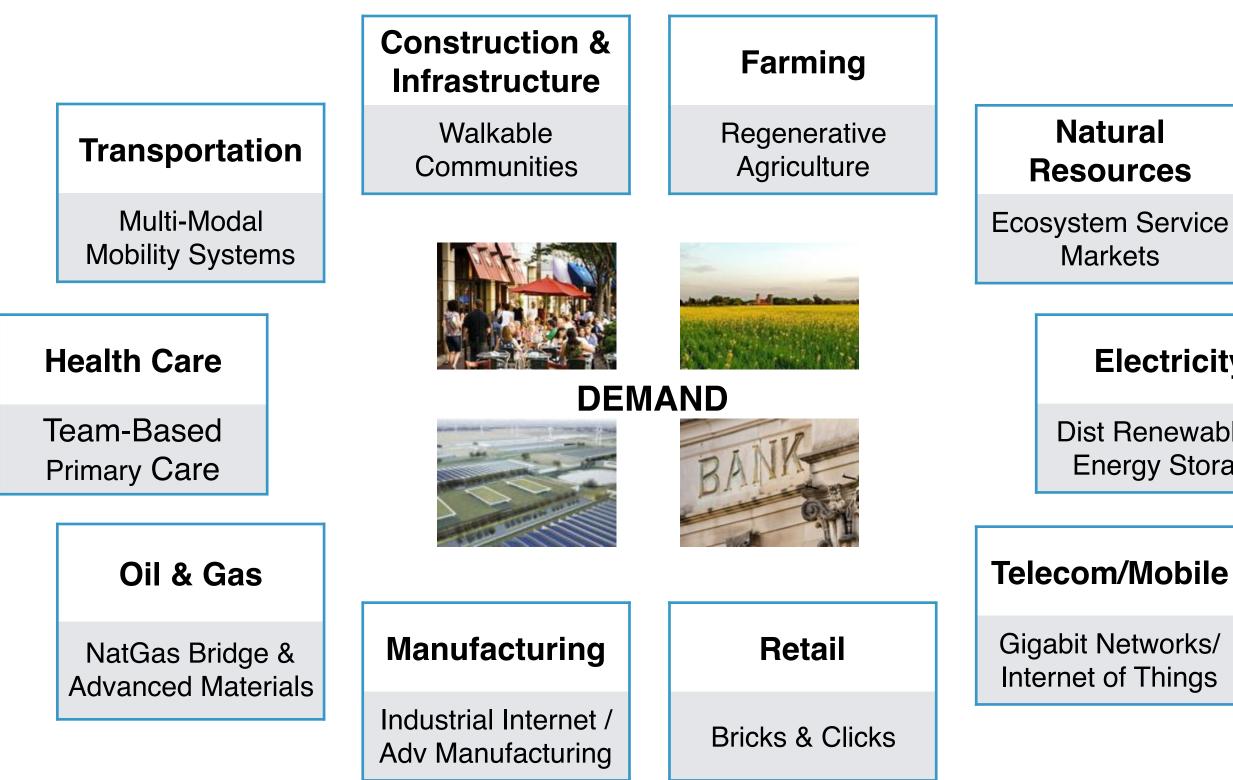
### The Framework...Idea to Action

#### Economic Strategy Task Force



**Regional Economic Clusters** 

# Alternative Growth Scenario...A New Economic System



#### Electricity

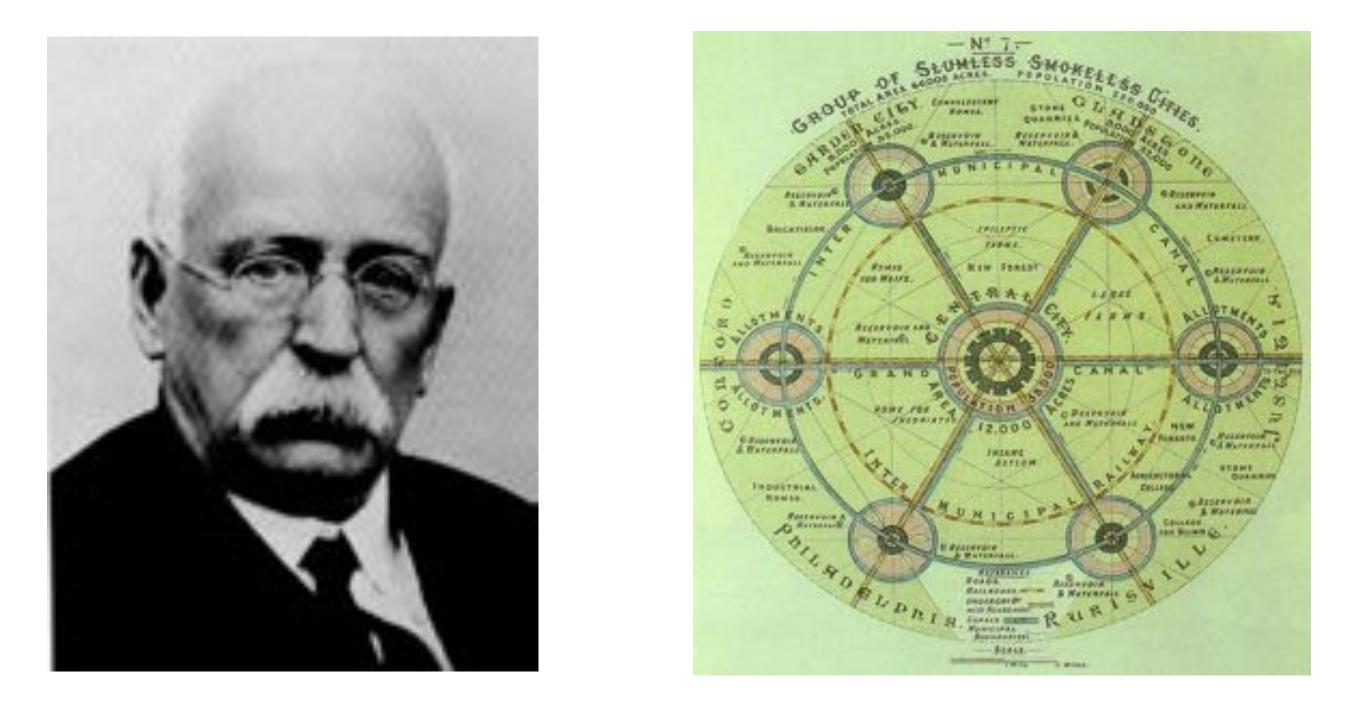
Dist Renewables / **Energy Storage** 

#### Legend

#### [Sector]

[New Business Model]

# The Design...Main Street Prosperity & Security



## Lake Erie Crescent...The Example of Cleveland

**Affordable Passive Housing Initiative** 

Meeting demand and creating demand

#### **Advanced Materials Development Group**

Solving Hydrocarbon **Stranded Asset** Problem





DEMAND





Creating demand, leveraging up to \$1B

**Cuyahoga County Clean Energy Finance Hub** 

Leveraging Private Sector Capital

#### Institutional **Purchasing Power**

### Full-Spectrum Sustainability...



# ...getting to a "good place."

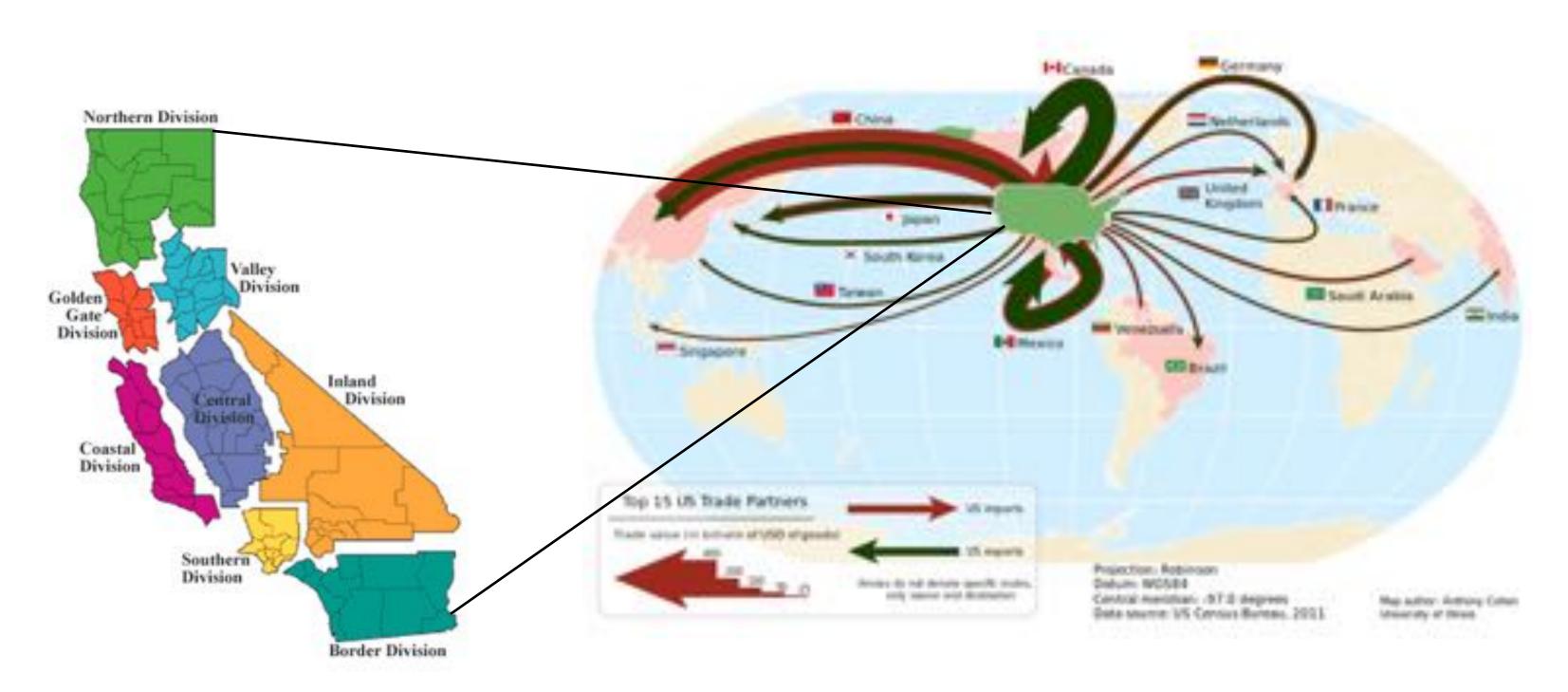
What world is she going to see?



There is no reason good can't triumph over evil, if only the angels will get organized along the lines of the mafia.

Kurt Vonnegut

### Leading by Example Smart Growth at Home; Smart Power Abroad



# Today's California: Position vs Momentum

### The Good Stuff: Wind in the Sails...

- World's 7th largest economy (north of \$2.2T)
- Renewable Energy; 20th in energy-related GHG emissions (2nd lowest carbon intensive economy in the world)
- Increasing diversity
- CA leads US in ag, technology and manufacturing revenue growth
- Average 15% return to investors (vs 12%) nationally)
- 2014 Per-capita income up \$1700 to \$50,338
- \$5B budget surplus
- Manufacturing value up 8% to \$204B (2012)
- CA ag revenue = \$21.4B (2012) 3 x more than second-ranked lowa's \$6.8B

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#### ...but where are we going?





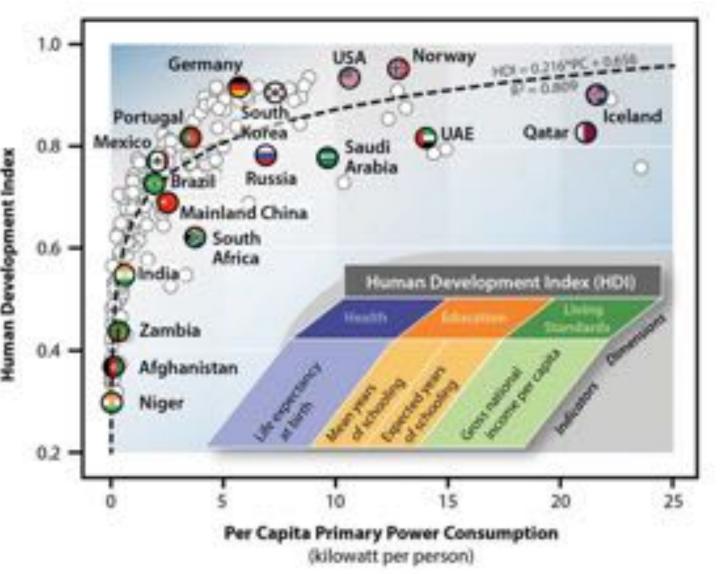
(from EDD's Regional Economic Analysis Profile, April 2014)

Source: Report to the President on Capturing Domestic Competitive Advantage in Advanced Manufacturing, July 2012

# **Energy: Balancing Prosperity and Security**

Some Hard, Scary Numbers:

- Current global energy consumption = 16 Terawatts (TW)
- 3B more middle class by 2050 = add'l 18 TW needed (Total global requirement = 34TW) \*Assumes German consumption rate and remainder of developing world consumption remains static
- Global population = 8B by 2025 – If global average per capita consumption is 4kW, global requirement is 32TW



#### This is only 10 years from now... ...how to meet demand and not burn our way to extinction?

Source: Nov 2014 Article, "Sobering Numbers" by Bruce Dale, Professor of Chemical Engineering, Michigan State University













Gaza







Gaza



Homs, Syria







Gaza



Homs, Syria





Fallujah, Iraq



Gaza



Homs, Syria



Fallujah, Iraq



Greensburg, KS

.1% civilian death rate (Aug 2014)



Gaza



Homs, Syria

.4% civilian death rate (Nov 2004)



Fallujah, Iraq



Greensburg, KS

#### .1% civilian death rate (May 2014)

1.4% civilian death rate (May 2007)

### Lesson Learned...

Mother Nature doesn't care about rules of engagement.

