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The answer to that question I believe depends on all of us. It is a global question, and it is a local question. In Sun Valley it is our question, and I hear companies, presidents, governors, mayors, all asking the same one.

Urgency of Climate Threat: IPCC

Warming of the climate system is unequivocal, and since the 1950s, many of the observed changes are unprecedented over decades to millennia…atmospheric concentrations of carbon dioxide, methane, and nitrous oxide have increased to levels unprecedented in at least the last 800,000 years. Carbon dioxide concentrations have increased by 40% since pre-industrial times…Human influence has been detected in warming of the atmosphere and the ocean, in changes in the global water cycle, in reductions in snow and ice, in global mean sea level rise, and in changes in some climate extremes…It is extremely likely that human influence has been the dominant cause of the observed warming since the mid-20th century.

Report of 5th Assessment of the IPCC (April 2014)

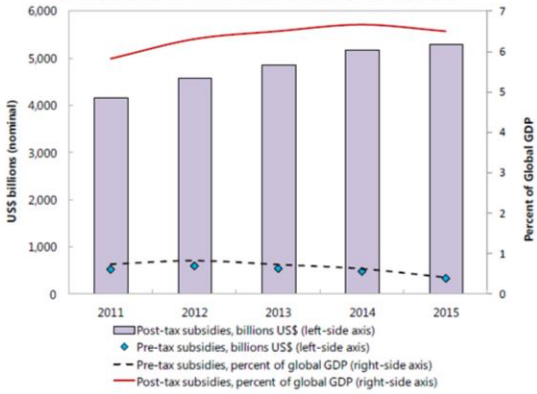
Threat to Business: 2014

Physical infrastructure, supply chains, government liability (as insurer of last resort)

Fossil Fuel Subsidies: G20

Figure 4. Global Energy Subsidies, 2011–15

(US$ billions on left axis; percent of global GDP on right axis)



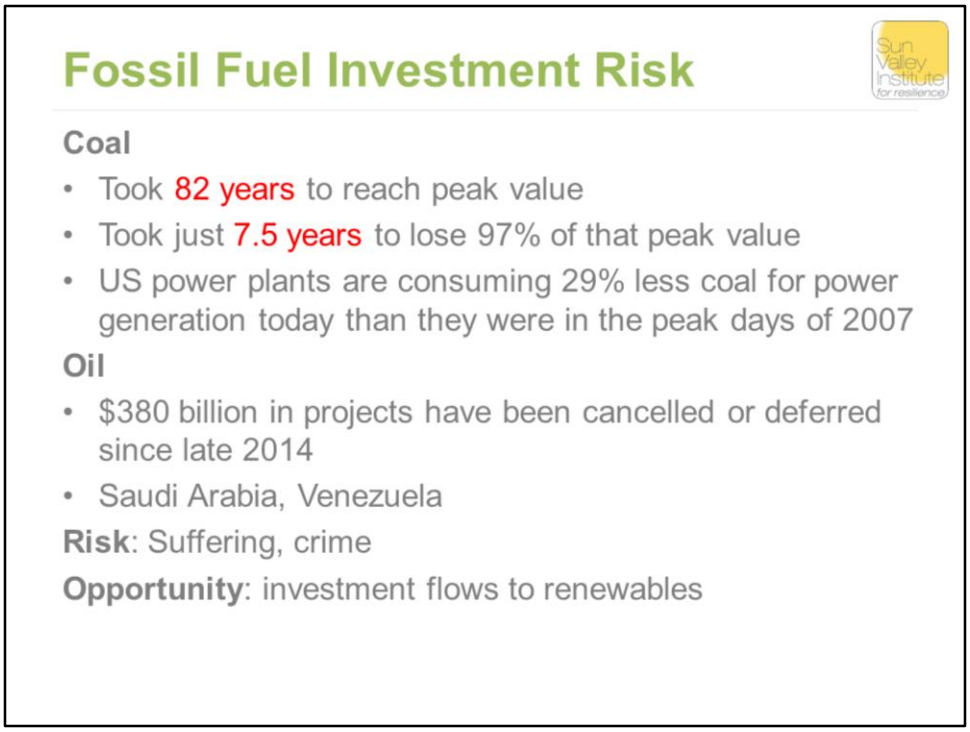
Source: Authors' calculations, based on sources in Appendix Table 2.

Energy Subsidies = $5 Trillion (IMF)

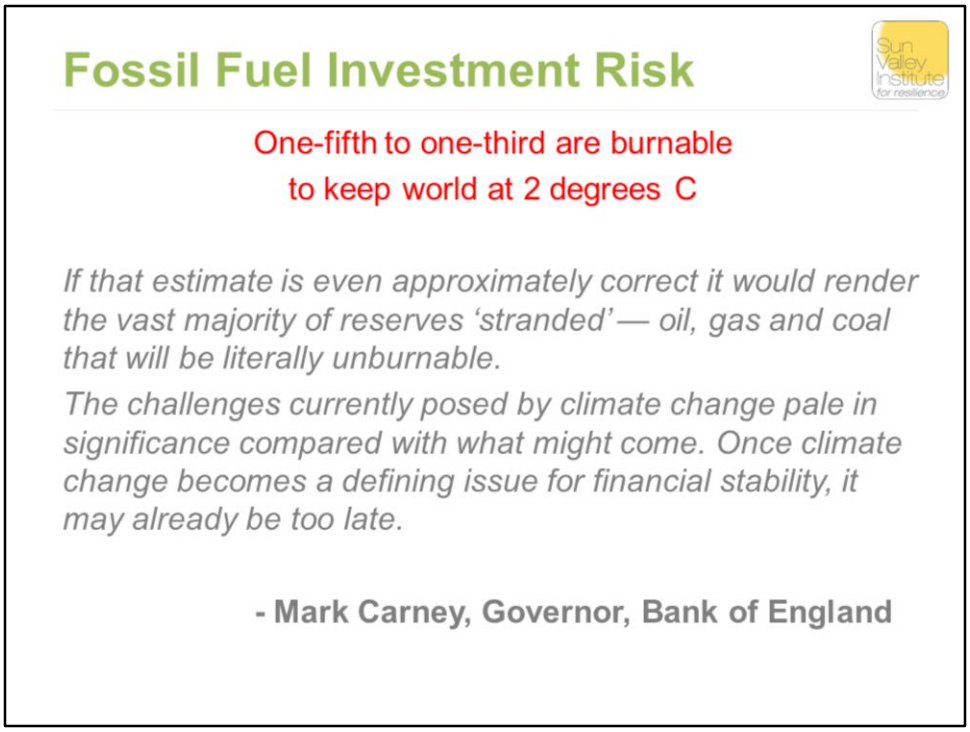
Fossil Fuel Investment Risk

Financial specialists making carbon investment risk real today in the capital market.

Stranded Assets =
$20 Trillion (IMF)
$22 Trillion (IEA)



Saudi Deputy Crown Prince (age 31) announced $2T new fund to wean the country off oil and is selling 5% in IPO of Saudi Aramco transforming it from an oil company into an industrial conglomerate. So investments will become the source of revenue for Saudi Arabian government, not oil.



Carbon budget: between one-fifth and one-third of the world's proven reserves of oil, gas and coal.

Rockefellers – Standard Oil Co heirs. Now over 500 organizations worth more than $3.4 trillion have pledged to divest from fossil fuels – foundations, individuals, universities. Most recently the City of Copenhagen announced its plans to divest its $1.1B investment fund from fossil fuels

Confluence: Climate & Fossil Risks

Fort McMurray

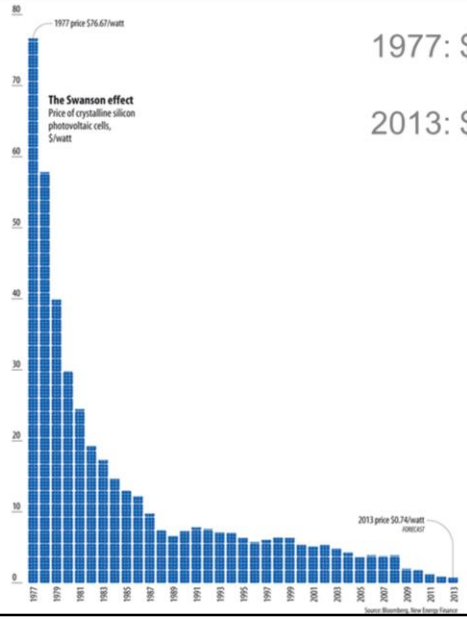
- Evacuation of over 80,000 people in the oil sands gateway city of Fort McMurray, and the destruction of over 1,600 structures.

- According to insurance industry reports, losses from the fire are approaching $1 billion, and will likely set records for the country.

The Opportunity:

Build Our Bright Future

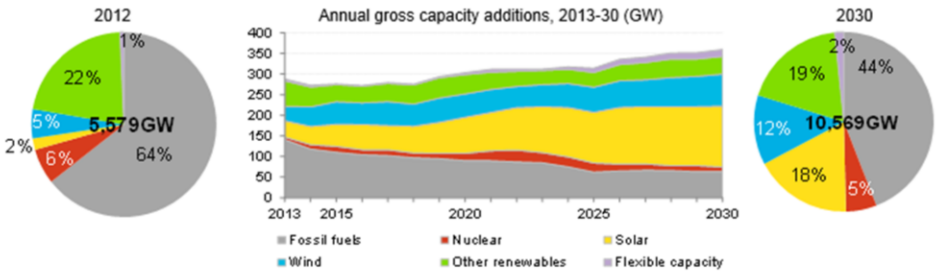
Solar PV Costs: 1977 – 2013



1977: $76.67 / watt

2013: $.74 / watt

Bloomberg: 2030 Energy Outlook



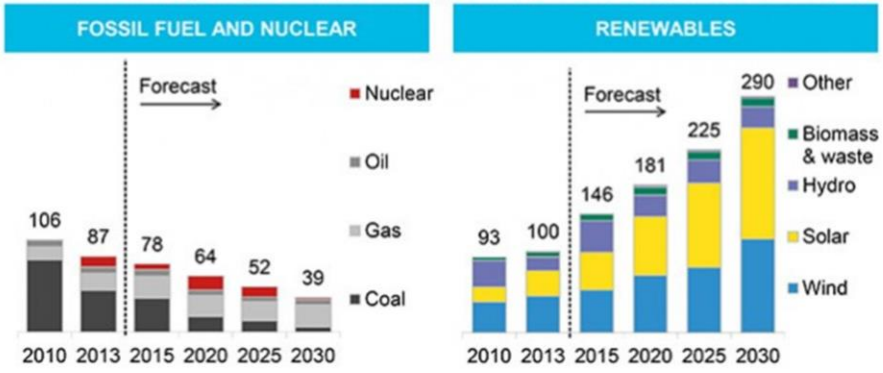
Bloomberg New Energy Finance, July 1, 2014

Solar will grow 10x by 2030.

Fossil fuels will fall to less than half of total power capacity globally, as they already have in the United States.

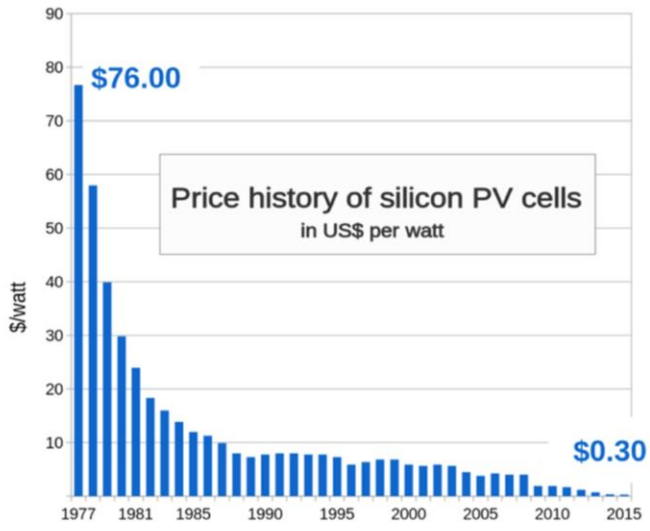
Bloomberg: 2030 Energy Outlook

GLOBAL POWER GENERATION CAPACITY ADDITIONS
2010 – 2030 (GW)

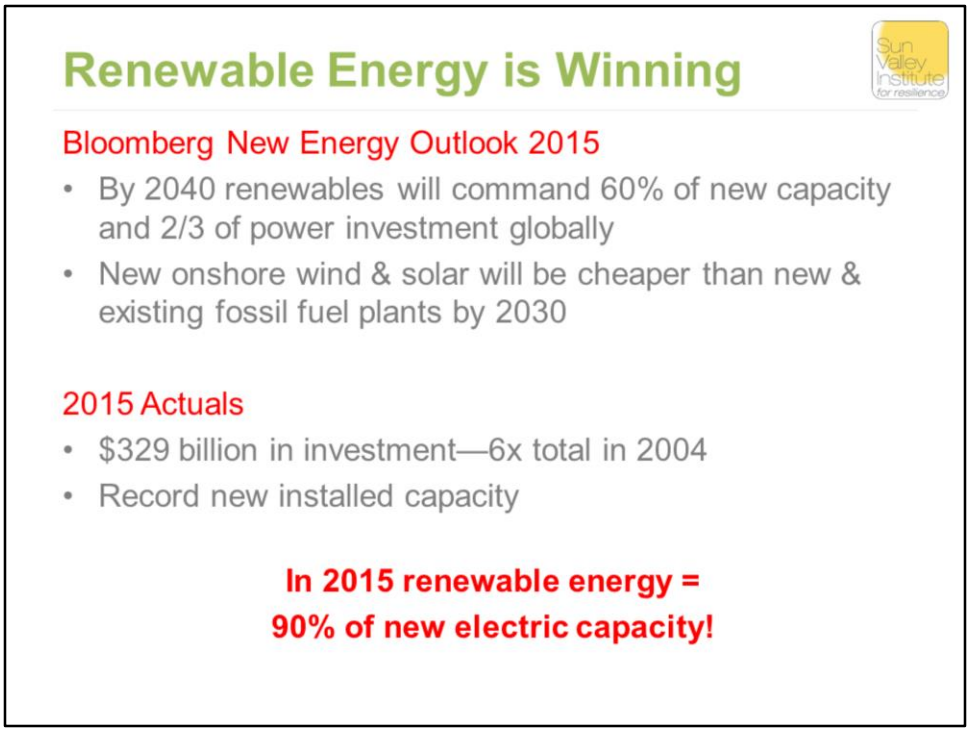


Bloomberg New Energy Finance, July 1, 2014

Solar Cost Reductions Continue

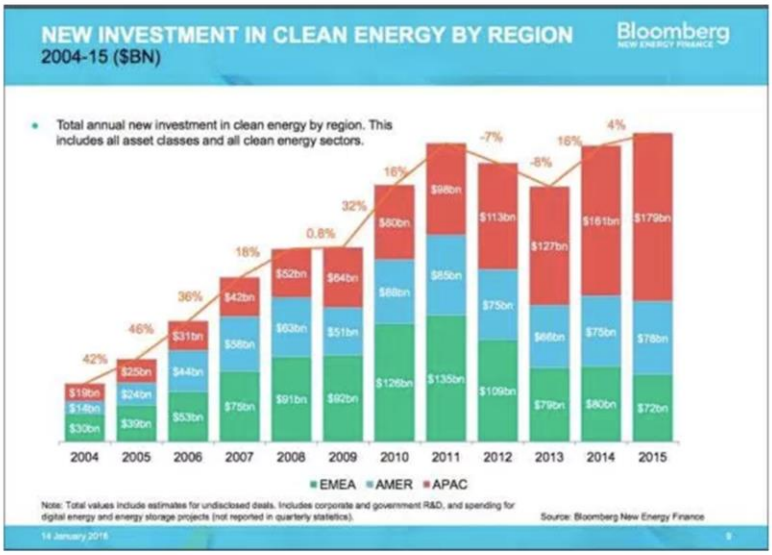


Source: Bloomberg New Energy Finance & pv.energytrend.com

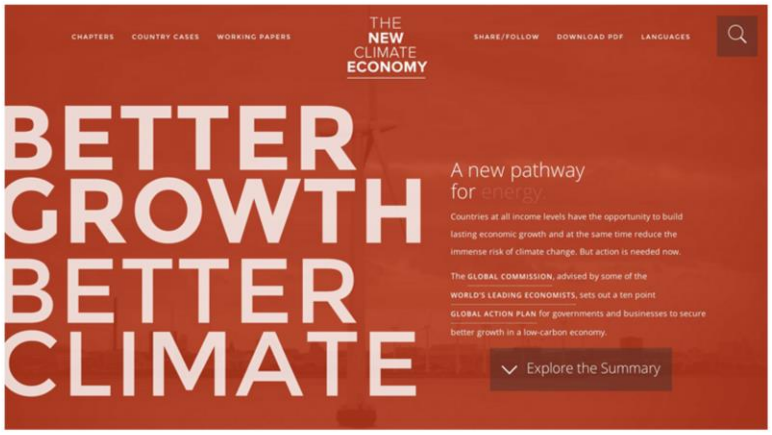


Solar and wind in 2015 added 121 GW (record new capacity)

2015: Record Investment



Recognition: New Climate Economy



September 2014

24 leaders from government, business, finance and economics in 19 countries advised by panel of leading economists chaired by Lord Nicholas Stern released the New Climate Economy Report, Better Growth, Better Climate, finding that **over the next 15 years**, about $90 trillion will be invested in infrastructure in the world's cities, agriculture and energy systems. The world has an unprecedented opportunity to drive investment in low-carbon growth, bringing multiple benefits including jobs, health, business productivity and quality of life.

2014: Global Political Momentum

CP LC CARBON PRICING LEADERSHIP COALITION

UN week 2014 – CPLC **74 nations and over 1000 companies** representing 52% of GDP and 54% of GHG emissions and half of population.

U.S. – China Climate Accord

November 2014

US – China agreement – US set ghg intensity targets; China agreed to get off ghg emissions growth path by 2030.
US 26 percent to 28 percent less carbon in 2025 than it did in 2005. That is double the pace of reduction it targeted for the period from 2005 to 2020.
China will carbon emissions by 2030, if not sooner; pledged that renewables would account for 20 percent of China's total energy production by 2030.

September 2015: The UN SDGs

The UN SDGs: Why They Matter

1. The MDGs drove dramatic improvements in development outcomes. Targets and accountability matter.

1. Climate change and conflict undermine development.

2. Environment has been integrated into development.

1. The SDGs are the follow on to the Millennium Development Goals (MDGs) and these issue-specific targets by a set date focused global action and resulted in real impact.
2. MDGs – global poverty reduced 40%; maternal mortality reduced 45%
3. Environment = development not environment vs. development
4. The world is finally integrating environment into development, not seeing them at odds, but supportive of each other

Cities, business, governments, all taking action, real momentum and focus on action
58 companies have made the commitment to be 100% renewable energy with RE 100, including Microsoft, Apple, and Walmart

Paris: December 2015

WHAT WAS AGREED TO – 195 countries signed agreement; 186 announced "nationally determined commitments" regarding how they will reduce ghg emissions (solar targets, forest targets etc.)

2015: Urgency of Climate Risk

2015: Hottest Year on Record

- 15 of 16 warmest years on record occurred since 2001
- 2015: first time global average temperatures were 1°C or more above pre-industrial temps
- On December 30, 2015 temperatures at the North Pole were above 32°F – 50°F above normal!
- At the same time, record-breaking floods in mid-west, normally spring run-off is when records are broken

Syrian unrest: climate-fueled drought

- 1 million food insecure, 1.5 million fled to cities

56 percent of Republicans believe climate is warming

5 years ago = less than 40 percent

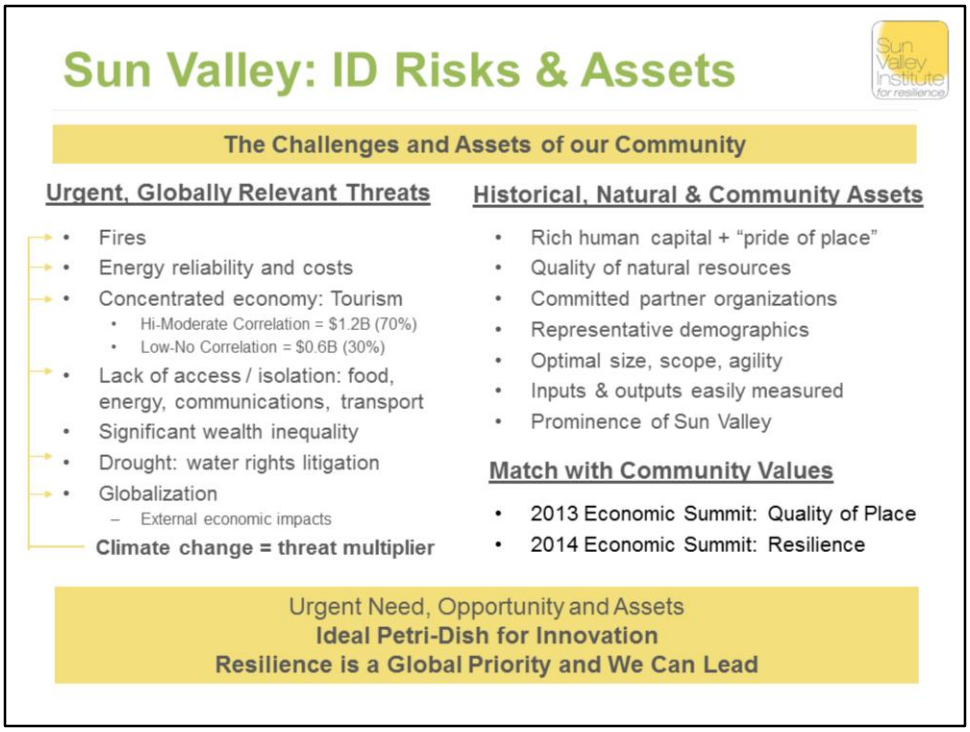
Syria: Secretary Kerry, climate scientists

Northwest Climate Risk

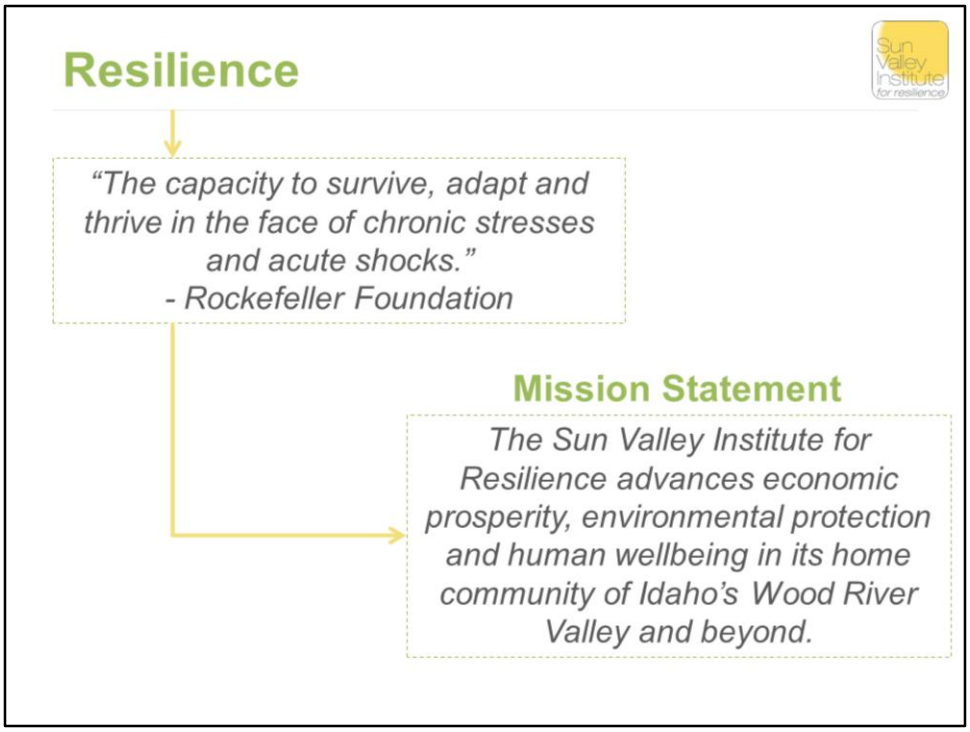
In the northwest these climate impacts are very real including on our iconic species, our salmon.
Must assess and address

Sun Valley Climate Risk

In Sun Valley – second largest fire in the country in 2013, major impact on tourism economy. Snowfall changes.



So we are assessing our risks and how we can mitigate them by mobilizing our resources/assets to address specific areas of vulnerability and diversify economy.


Resilience
Sun Valley Institute for resilience
"The capacity to survive, adapt and thrive in the face of chronic stresses and acute shocks."
- Rockefeller Foundation
Mission Statement
The Sun Valley Institute for Resilience advances economic prosperity, environmental protection and human wellbeing in its home community of Idaho's Wood River Valley and beyond.

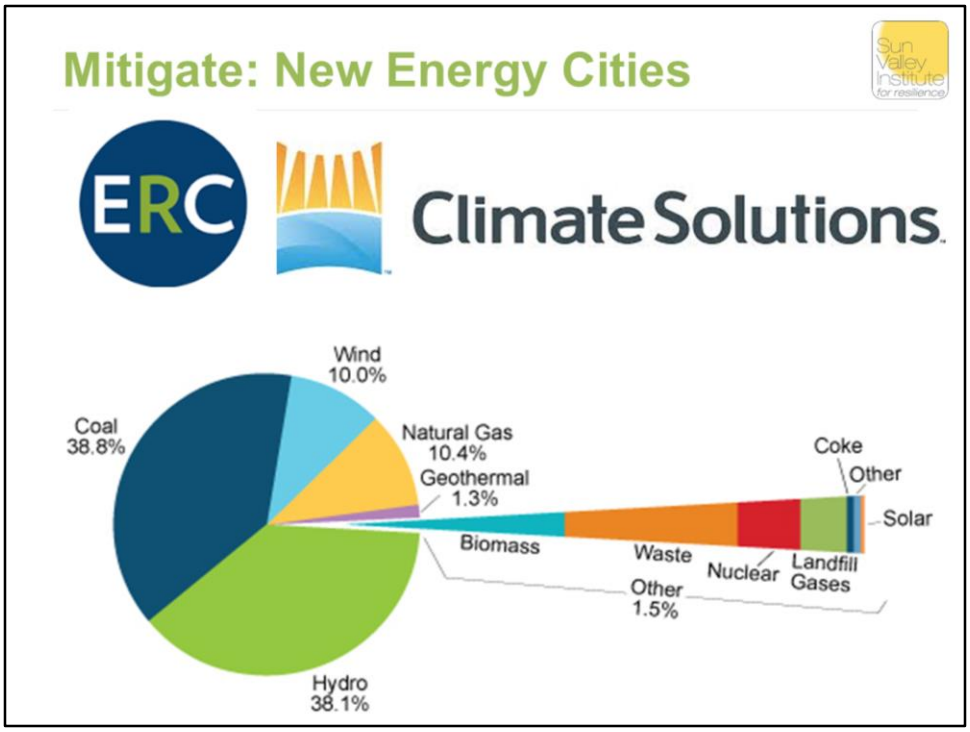
Mitigate Risks & Build Opportunities

"Integrate prevention and care." - Dr. Paul Farmer

The Institute builds community resilience with global impact

Northwest Climate Risk

For the salmon, with climate change it is now finally t(past) time to breach the dams



ERC brought CS New Energy Cities to help us identify our climate situation and how to act.

Local Energy Resilience

Risks:
Reliability, Economic, Environmental

Opportunities:
Reliability, Economic, Environmental

Plan: Distributed, Local, Collaborative = Resilient

Now we are acting on that information by building a resilient energy system.

Local Energy Resilience

Energy is a RISK that can be an OPPORTUNITY

Energy goal: transform our grid into a reliable, economically and environmentally sound energy system, providing:

- Reliability
- Protection of our natural environment
- Reduced power prices
- Local job creation

Start: Local solar generation through…

SolarizeBlaine

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Let's Put the Sun in Sun Valley

Partners with whom we are working ot address our energy risk, build a resilient system toward an islandable microgrid.

The Role of Optimism

"Impossible is not a fact, it's an attitude."

- Christiana Figueres, UNFCCC Executive Secretary

Christiana – optimism critical

We Can Do This

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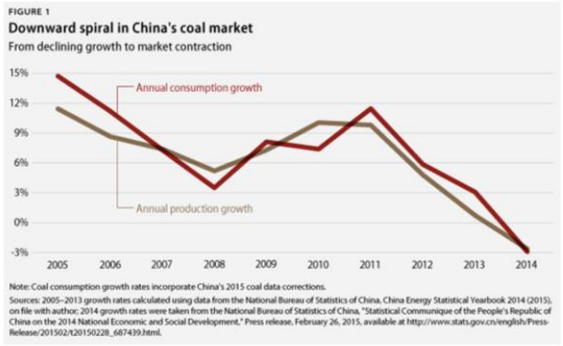
What gives me hope – was a small group of us when I started in DC working on climate and clean energy, now are millions

Innovative companies bringing us the new clean economy – with products that are BETTER

We Can Do This

1. Globally, we are decoupling emissions from GDP
2. China is creating largest carbon market in the world
3. In 2015, coal generated less than 70% of Chinese electricity, 10% less than four years prior (in 2011).
4. Over the same period low-carbon sources jumped from 19% to 28%



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Remember the 2030 target for China to turn down its emissions, well it's happening

We Can Do This: Investors

Climate & Capital

$1T in the room in paris at Climate & Capital – new investors learning science, policy, investment risks, investment opportunities
Mercer's research – a 4 degree world is chaos, a 2 degree world can be prepared for and investments aligned

Milken last week – 3500 leaders – many focusing on how to invest in climate, sustainable development
The investment opportunities are not in fossil fuels, they are in clean energy

Final thing that gives me hope – the incredible people working tirelessly on climate at all levels, particularly galvanized by the leaders like these.

From Risk to Opportunity: Building Our Bright Future

Sun Valley Institute for resilience