

OUR ENVIRONMENTAL HANDPRINT

THE GOOD WE DO



SUSTECH 2013
PORTLAND, OREGON

Authors

Jon Biemer, P.E., *Creating Sustainability*

Willow Dixon, *Creating Sustainability*

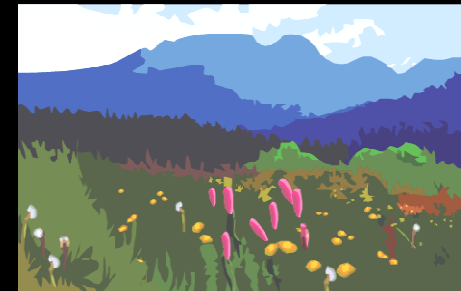
Natalia Blackburn, P.E.,
Blackburn Engineering



The Footprint Foundation

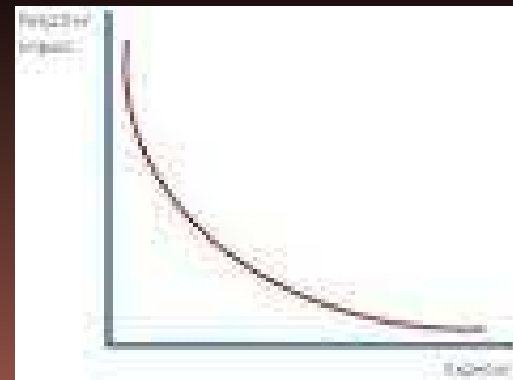
Our Ecological Footprint, Mathis Wackernagel (and William Rees), 1992

Originally natural resources based



Impact oriented

Subject to diminishing return on effort



How We Reduce our Footprints

- Cloth shopping bags
- Energy Star light bulbs and appliances
- Wall, ceiling and floor insulation
- Demand water heaters
- Bicycles; Use public transportation
- Seek alternatives to plastics
- Reduce, Reuse, Recycle!!!



The Blackburn Residence



Basic Handprint Principle

The **Benefit** Delivered



Good We Do

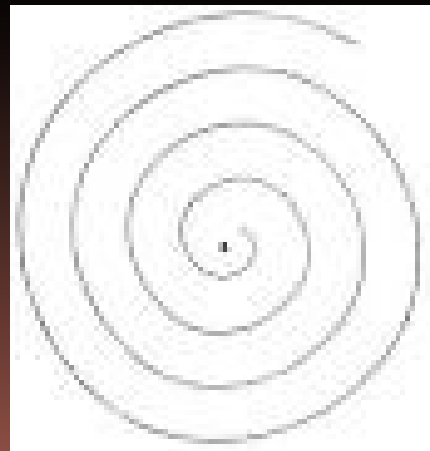


Key Handprint Attributes

Unlimited potential!!!

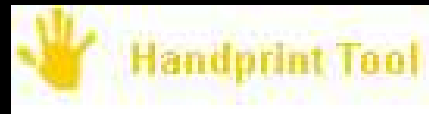


Self-reinforcing positive feedback loop



Handprint Evolution

Center for Environmental Education (India) (2007)



Jon Biemer (2009 *ODE On-Line Magazine*)

Gregory Norris (2012 *Time Magazine*)



Rocky Rohwedder (2013 TED Video)

SECRET

*"Prince William
Rides the Train,
Just Like Us"*




Planting a fruit tree



Environmental Handprint Workshop

“And” not “Or”

HANDPRINT THINKING	+	FOOTPRINT THINKING
The Harm We Do		The Good We Do
Limited Resources		Unlimited Potential
Admonish		Influence/Educate/ Inspire
Calculate		Appreciate/Celebrate
Resist Destruction		Advocate Protection
Problem Solving		Entrepreneurism

Carbon Offsetting

- Footprint **and** handprint thinking -

Calculate last year's **footprint** (in CO₂ equ)



Buy equivalent "environmental attributes" (**handprint**)



Banner Wind Farm, Alaska



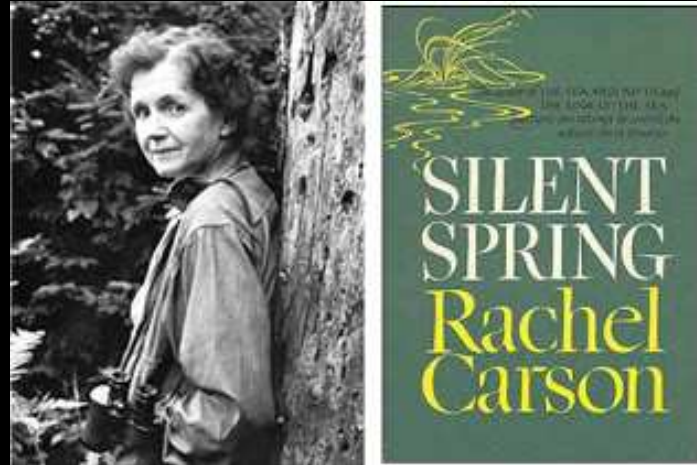
Rio Bravo, Belize

12 tonnes x \$15/tonne = \$180 (for 2012)

Handprint Heroes



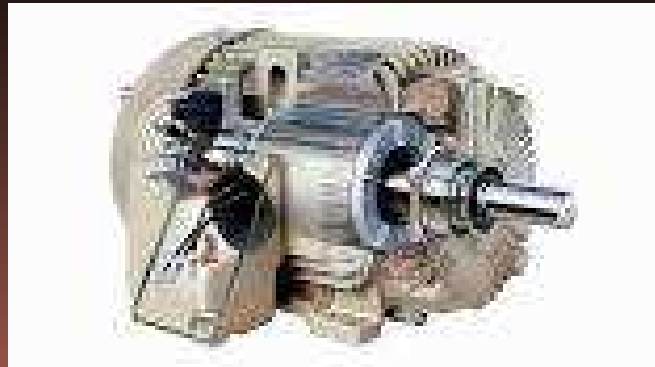
Aldo Leopold



Barry Kennedy, P.E.



Craig Wohlgemuth, P.E.

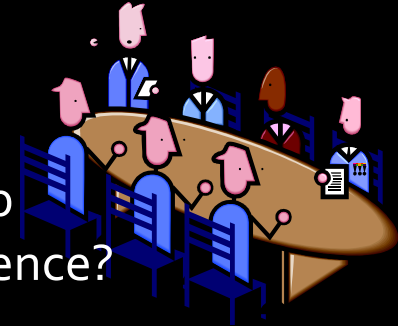


Creating a Career Handprint

Do I have a side passion?



Can I serve on a committee or help organize a conference?



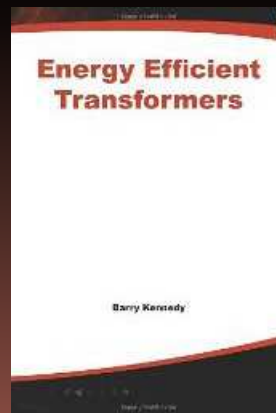
Can I inspire a young professional?



Can I influence how my business operates?



Am I willing to document what I've learned?



Am I willing to shift my career?



Collective Handprints

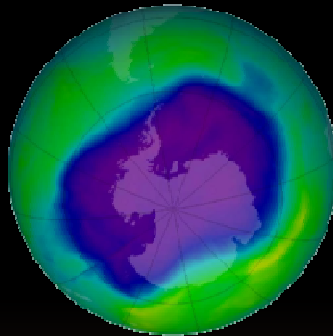
Local, Regional
and National Parks



The 1959
Antarctica Treaty



Closing the
Ozone Hole;
1987 Montreal
Protocol



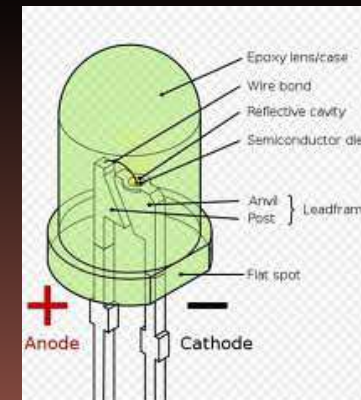
Appliance
Labeling



Protecting
Endangered
Species

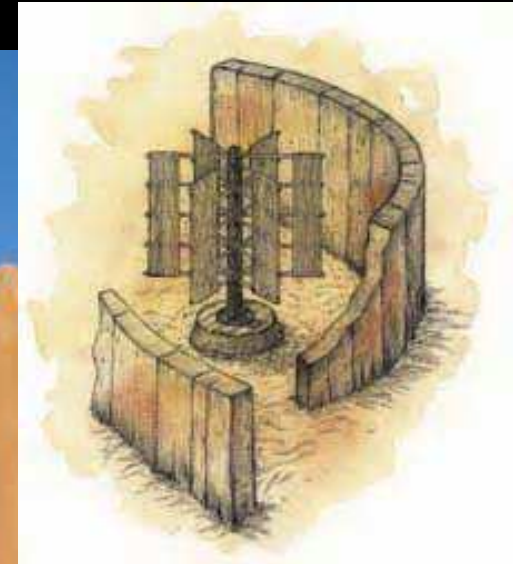


Efficient
Lighting



Power From the Wind

A Historical Handprint Case Study



England
Circa 1200



Spain & Holland
~1400 -1900

Cleveland
1888-1908



Rural America
1920's-1950's



London 2012



Oregon 2012



Vermont
1941-1945

What does wind power tell us about creating a collective handprint?

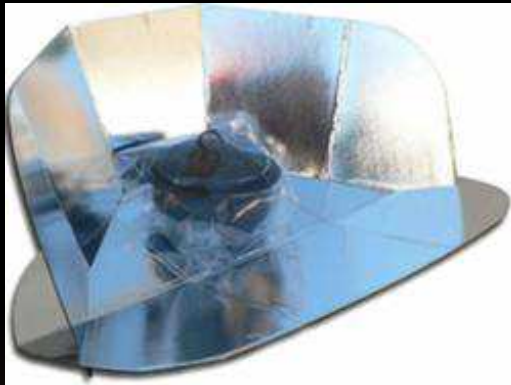
- The state of technology matters
- People in many professions contributed



- Different kinds of development are needed
- Set backs abound; documentation matters

Solar cookers

– An emerging technology case study –



Panel style



Box style



Parabolic style

Solar Cooker Footprint Thinking

\$26 per year per US **household** saving



Annual deferred **utility** generation
of 10,300 megawatt-hours per
medium-sized US company

Solar Cooker

Footprint + Handprint Thinking

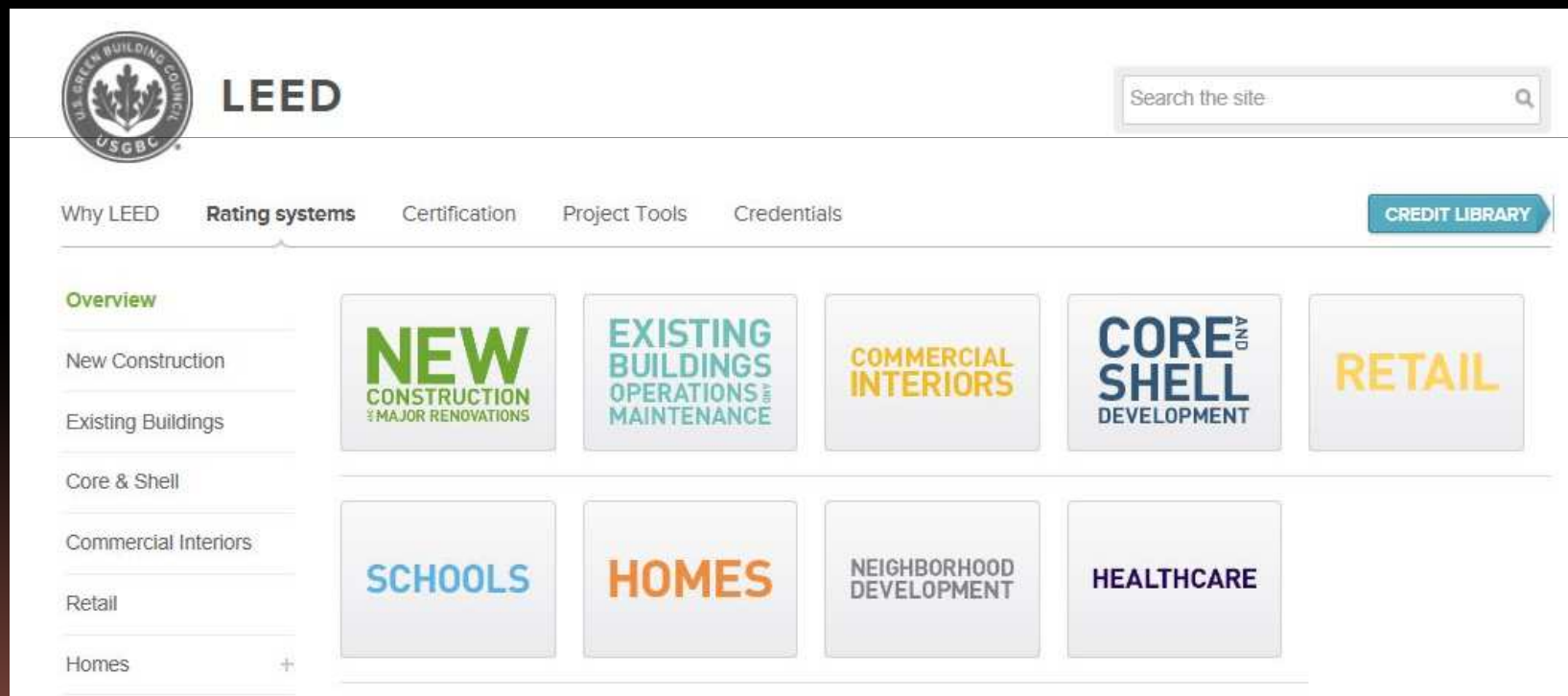


+ (Internationally)



Leadership in Energy & Environmental Design (LEED)

– A Process Case Study –



Original LEED Footprint Thinking

Reduced energy consumption



Reduced water consumption



Current LEED Footprint + Handprint Thinking

Main credit categories



Sustainable sites credits encourage strategies that minimize the impact on ecosystems and water resources.



Water efficiency credits promote smarter use of water, inside and out, to reduce potable water consumption.



Energy & atmosphere credits promote better building energy performance through innovative strategies.



Materials & resources credits encourage using sustainable building materials and reducing waste.



Indoor environmental quality credits promote better indoor air quality and access to daylight and views.

LEED Collective Handprint after 20 years

Mainstreamed sustainable building practices in the U.S.



Alignment with leading edge Materials and Resource tools And services



Raising the sustainability bar internationally



For More Information...

Handprint & Wind

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Solar Cookers & LEED

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