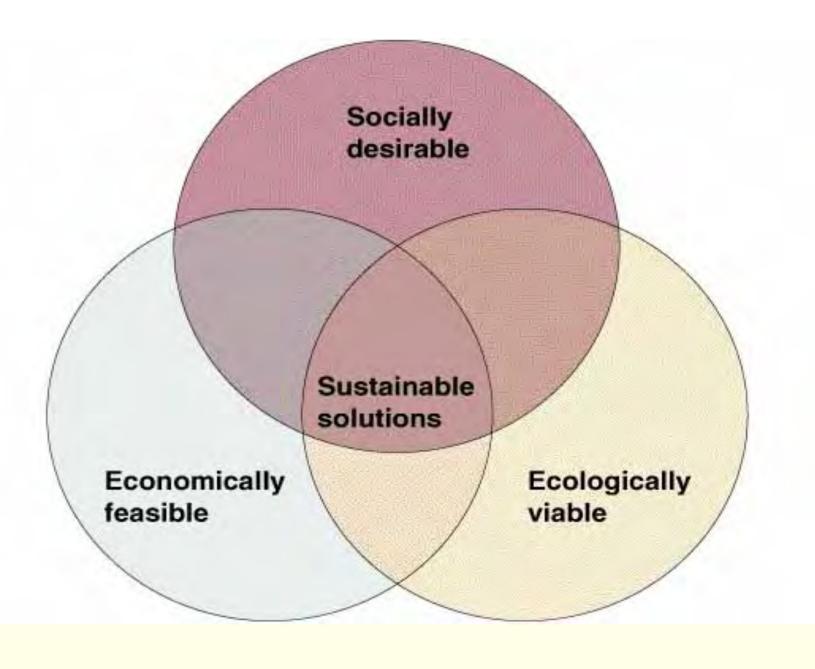


A quick look at the history of green careers

- (1850s-1890) Preservation movement romantic inspiration of wild lands
- (1890s-1950s) *Management* movement –
 long-term thinking about natural resources
- (1950s-1970) *Ecological* movement –
 rise of scientific ecological understanding
- (1970s-1990s) Regulatory movement –
 pollution control and prevention environmental policies
- (1990s-now) Sustainable ecosystems movement –
 integrating ecosystem conservation strategies with social justice and economic security concerns.



Green public servants find the sustainability "sweet spot" in problems and opportunities

Ten megatrends changing your world

Population

1930: 2 billion

1960: 3 billion

1974: 4 billion

1987: 5 billion

1998: 6 billion

2009: 7 billion

2050: 9.2 billion

Megatrends

Rising living standards and expectations

A global economy

The rising influence of China and India

The world's people are moving to cities

The end of cheap oil

Technological progress is staggering

Gap between rich and poor is rising

Warfare as conflict management is not declining

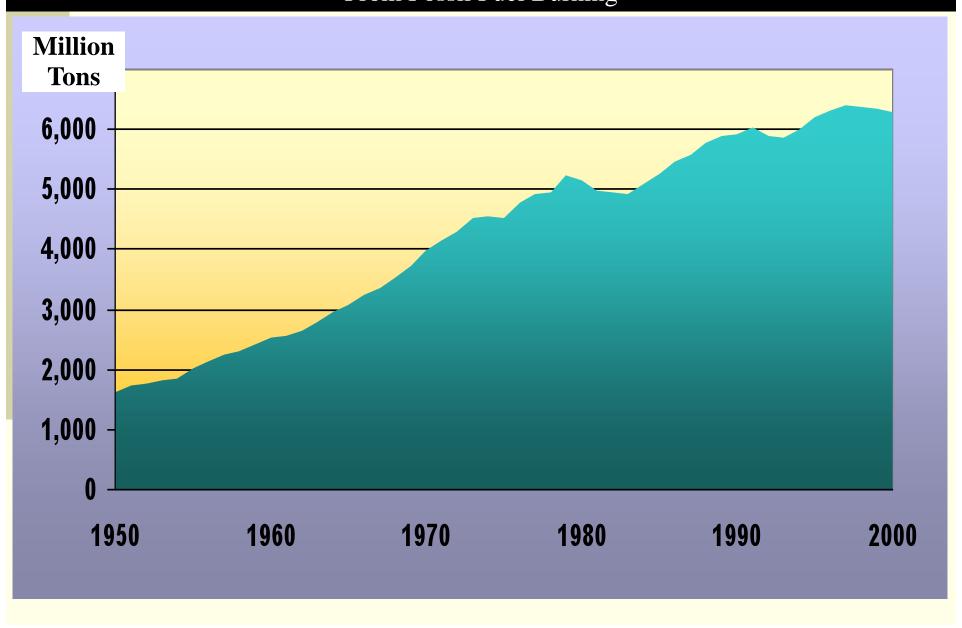
Global ecosystems are under siege

What's your point?

- (1) The world has utterly and completely changed in a very short period of time.
- (2) Global change trends are continuing and accelerating, with serious consequences.
- (3) The ability of our currently structured institutions to respond to the challenges is inadequate.
- (4) We need a new generation of environmental and social change professionals with new approaches and a focus on transformative results.
- (5) You are that generation.
- (6) There are lots of good jobs for you in government, business, academia and the nonprofit world.

World Carbon Emissions, 1950-2000

From Fossil Fuel Burning



washingtonpost.com

Emissions Growth Must End in 7 Years, U.N. Warns

Report Lays Out Stark Choices

Sunday, November 18, 2007

The world will have to end its growth of carbon emissions within seven years and become mostly free of carbon-emitting technologies in about four decades, according to top <u>United Nations'</u> scientists.

A proposed solution

Stabilize CO₂ concentrations by reducing carbon emissions ~80% by ~2040.

Intergovernmental Panel on Climate Change Reports

A task force of leading climate scientists from 98 countries

"There is nothing quite so meaningless as doing well that which should not be done at all."

- Peter Drucker

Asking a new question

Old question: How can we assure a stable, cheap supply of oil, natural gas and coal?

Recent question: How can we reduce as much as possible the negative ecological and health consequences of fossil fuel dependence?

New question: How can we rapidly move to an ecologically sustainable future that dramatically reduces, or even eliminates, the use of fossil fuels as a major energy source?

Career planning approaches

- <u>Self-assessment:</u> Look at what you like to do, what you're good at, what kind of people you like to work with, where your interests lie. See what fits and make decisions based on that.
- Workforce/reality assessment: Examine job titles, employers, employment trends to find opportunities and pursue them.
- <u>Educational match</u>: Identify jobs and employers that match your formal education (e.g. What can I do with an environmental studies degree?)
- <u>Serendipity</u>: One thing leads to another. Something sparks an interest and you go with it. A friend, family member or teacher introduces you to a career option.
- <u>Vision-Based:</u> Make decisions and take actions in accordance with what is needed to reach a future vision effectively.

What problem or opportunity do you most want to work on?

Climate change?
Water quality? Watershed protection?
Wildlife habitat protection?
Coastal management/ocean issues?
Green justice concerns?
Forestry?
Agriculture?
Transportation?
Toxics in the environment?

What is your preferred way to make a difference towards a solution?

Scientific understanding
Technological innovation
Financing solutions
Marketing/social marketing
Government policy
Education and awareness
Advocacy and organizing
Business transformation

What is your preferred sector?

Local government
State government
Federal government
Private business (select an industry)
Consulting
Academia
Nonprofit

Where do you want to live and work?

Matters a lot
Matters a little
Doesn't matter much

Ten Skills Green Public Service Employers Want

- Communication skills
- Collaboration abilities team orientation
- "Customer" orientation
- Creativity, innovative thinking
- Broad environmental sciences understanding
- Analytical ability, critical thinking, problem-solving
- Work orientation, professionalism, positive attitude
- Occupation-specific skills and knowledge
- Mastery of information technology, including GIS
- Leadership ability

Source: USEPA Workforce Assessment Project

Researchers at Sapient, Inc. have given us creative language to describe how these changemakers work as:

- Functional Mavens
- Dogged Conceptualizers
- Transformational Leaders

The Program Portfolio and Functional Mavens

People

- -Communications and Stakeholder Outreach
- -Human Resources and Recruiting
- -Contractor/Performer Management
- -Performance Measures and
- Incentives
- -Union Management
- -Training

Business

- -Mission
- -Governance
- -Program Management
- -Budgeting
- -Financial Management
- -Business Process Re-design
- -Legal Counsel



- -Develop Proofs of Concept
- -Deploy Systems
- -Systems Security
- -Inter-agency Operability



- -Policy creation
- -Policy evolution
- -Ensuring privacy



- -Procurement, contracting
- -Facilities
- -Security





Inputs and Outputs of the Dogged Conceptualizer

Inputs

Stealthy Salesmen

Doggedness and Determination

Communications

Wildly Over-authorized

Think Factory

Think horizontally

Shift the paradigm

Bend the frame type of people

Outputs

New Rule Sets

Technology Solutions

Business Processes

Concept of Operations

Transformational leaders provide a center that holds



What's in the DNA of Transformational Leaders?

Self Confidence

Character Taits Demonstrate great self-knowledge and self-assurance

Relationship Builders

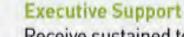
Build relationships par excellence across agencies and well beyond

Effective Communicator

Communicate well to crowds or in one on one

Sense of Service

Are driven by a limitless sense of the good that government can do



Receive sustained top down executive support and authorization

Horizontal Thinkers'

See things in the context of what it can be

Professional Experience

Have deep reference points for success and failure

Clustering

Cluster togetrher and attract other change agents to their cause

* Thomas Barnett first evoked the idea of horizontal thinking in his best selling book, The Pentagon's New Map. In our interview with him he said "change agents are horizontal thinkers in a vertical world."

Who employs green public servants?

Federal government
State government
Local government
Not-for-profit organizations
Academia
Green businesses in all industries
"EHS" departments in "brown" businesses
The traditional "environmental" industry

Selected Federal Government Employment 2009

<u>Agency</u>	<u>Perm</u>	<u>NonPerm</u>	<u>Total</u>	<u>Hires</u>	Separations
Forest Service	29,873	9,039	38,948	14,658	16,325
NRCS	12,158	335	12,493	957	1,388
Land Managm't	9,591	1,795	11,386	2,979	3,159
Reclamation	<i>5,4</i> 98	196	5,694	547	721
Geo. Survey	7,607	1,212	8,819	1,012	1,397
Park Service	15,901	6,357	22,258	8,282	9,001
Fish & Wildlife	8,213	1,039	9,252	1,225	1,417
Energy	14,523	<i>4</i> 26	14,950	1,312	1,271
Int'l Development	1,766	645	2,413	189	200
Environ. Protect.	17,097	1,146	18,2 4 8	1,180	1,139
NASA	17,229	1,225	18,457	963	1,187
Food & Drug	8,298	2,992	11,315	762	749
Nat'l Inst. Health	14,324	3,393	17,733	2,192	1,432
Disease Control	6,847	903	7,768	485	407

199,734

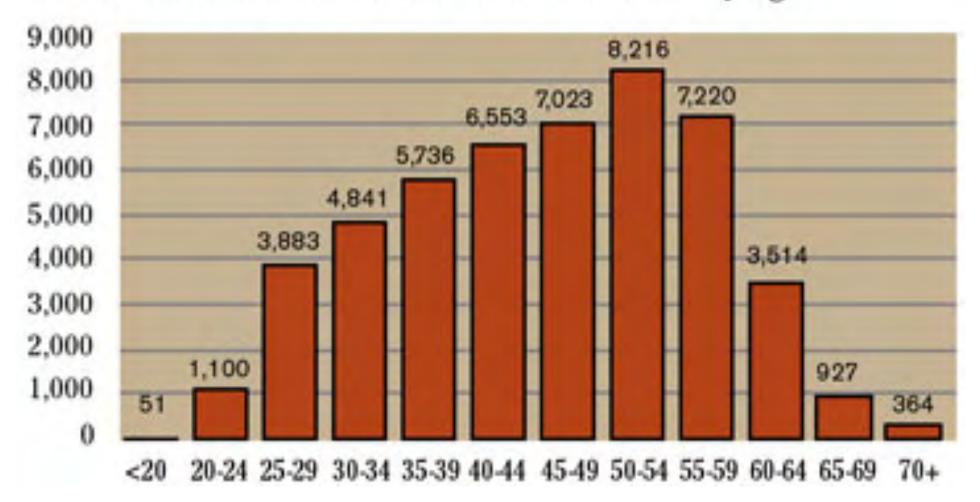
Local and State Government Employment: 2009

<u>Department</u>	State Gov't	<u>Local</u>	<u>Total</u>
Highways	240,300	306,904	547,204
Public Health	189,054	250,163	439,217
Solid Waste	1,930	107,506	109,436
Sewerage	1,769	125,795	127,564
Parks & Recreation	39,170	233,213	272,383
Community Develop.	?	114,100	114,100
Natural Resources	161,481	41,715	203,196
Water Supply	711	165,221	165,932
Electric Power	4,055	73,580	77,635
Transit	33,201	195,656	228,945
K-12 Instruction (10%)	4,132	<i>458,000</i>	462,132
High Ed Instruction (10%)	76,500	13,500	90,000
Other	21,000	10,000	31,000
Total	773,394	2,095,356	2,868,747

<u>Career Trend: Retiring Boomers = Opportunity!</u>

AGING STATE WORKERS

About one in five state employees is nearing retirement age. Below is a breakdown of the number of state workers by age.



Environmental "Industry" Employment: 2009

Segment	Revenue	Entities	Employment
Analytical Services	\$ 1.8 billion	1,110	20,000
Wastewater Works	\$35.6	26,000	141,000
Solid Waste Mgmt.	\$47.8	<i>10,450</i>	256,500
HazWaste Mgmt.	\$ 8.4	680	43,700
Remediation	\$10.8	2,300	94,500
Consulting/Engineer*	\$22.4	3,650	220,800
Equip/Chems/Instrum.	\$59.7	6,200	410,900
Water Utilities	\$35.1	61,400	145,200
Resource Recovery	\$20.8	4,700	155,100
Clean Energy Systems	\$22.3	1,300	100,400
	\$264.6 billion	117,790*	1,588,200

^{* ~30,000} private companies, ~88,000 public or quasi-public agencies

THE TOP 100 GREEN DESIGN FIRMS 2011 RANK FIRM NAME & LOCATION

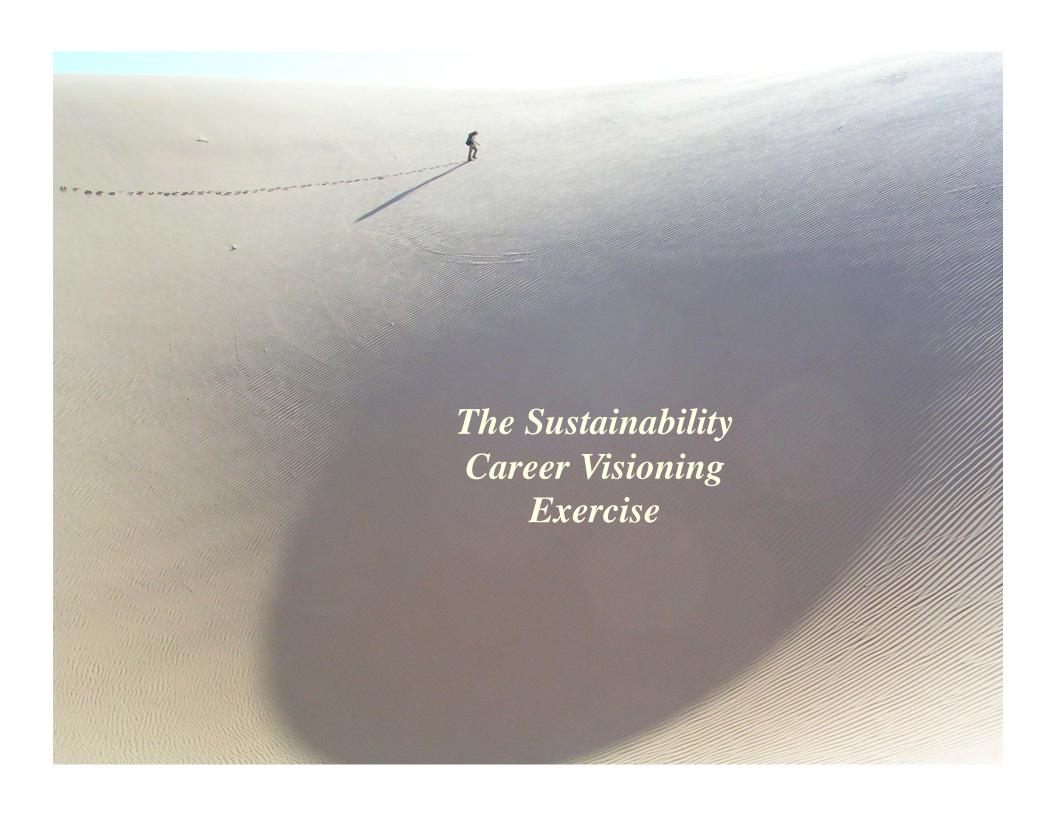
- 1 URS Corp., San Francisco, Calif.
- 2 Gensler, San Francisco, Calif.
- 3 AECOM Technology Corp., Los Angeles, Calif.
- 4 Perkins+Will, Chicago, Ill.
- 5 HOK, St. Louis, Mo.
- Tetra Tech Inc., Pasadena, Calif.
- 7 CH2M HILL, Englewood, Colo.
- 8 HDR, Omaha, Neb.
- 9 NBBJ, Seattle, Wash.
- 10 HKS Inc., Dallas, Texas
- 11 Jacobs, Pasadena, Calif.
- 12 ZGF Architects LLP, Portland, Ore.
- 13 KlingStubbins, Philadelphia, Pa.
- 14 Hammel Green and Abrahamson Inc. (HGA), Minneapolis, Minn.
- 15 EYP Architecture & Engineering, Albany, N.Y.
- 16 Fentress Architects, Denver, Colo.
- 17 KPFF Consulting Engineers, Seattle, Wash.
- 18 Michael Baker Corp., Moon Township, Pa.
- 19 Syska Hennessy Group, New York, N.Y.

THE TOP 100 GREEN CONTRACTORS (BASED ON CONTRACTING REVENUE FROM REGISTERED SUSTAINABLE PROJECTS) Rank2010 Firm/Location

- 1 The Turner Corp., New York, N.Y.
- Tutor Perini Corp., Sylmar, Calif.
- 3 Clark Group, Bethesda, Md.
- 4 Hensel Phelps Construction Co., Greeley, Colo.
- 5 Skanska USA, New York, N.Y.
- 6 Gilbane Building Co., Providence, R.I.
- The Whiting-Turner Contracting Co., Baltimore, Md.
- 8 PCL Construction Enterprises Inc., Denver, Colo.
- 9 Balfour Beatty US, Dallas, Texas
- 10 Bovis Lend Lease, New York, N.Y.
- 11 Hunt Construction Group Inc., Scottsdale, Ariz.
- 12 Holder Construction Co., Atlanta, Ga.
- 13 Structure Tone, New York, N.Y.
- 14 Mortenson Construction, Minneapolis, Minn.
- 15 Webcor Builders, San Mateo, Calif.
- 16 McCarthy Holdings Inc., St. Louis, Mo.
- 17 Caddell Construction Co. Inc., Montgomery, Ala.
- 18 Swinerton Inc., San Francisco, Calif.
- 19 Clayco Inc., St. Louis, Mo.
- 20 David E. Harvey Builders Inc., Houston, Texas

THE TOP 200 ENVIRONMENTAL FIRM FIRM NAME & LOCATION Total (in \$ MIL.) 2011 2010

1	1	CH2M Hill Ltd., Englewood, Colo. †	3,835.0
2	2	URS Corp., San Francisco, Calif.†	3,362.0
3	4	Veolia Environnement SA, Chicago, III.†	3,294.0
4	3	Bechtel Corp., San Francisco, Calif.†	2,731.1
5	5	Tetra Tech Inc., Pasadena, Calif.	2,050.0
6	6	AECOM Technology Corp., Los Angeles, Calif.	1,767.7
7	7	EnergySolutions Inc., Salt Lake City, Utah	1,752.0
8	9	The Shaw Group Inc., Baton Rouge, La.†	1,559.0
9	8	Fluor Corp., Irving, Texas†	1,235.7
10	13	Kiewit Corp., Omaha, Neb.†	1,160.6
11	12	Arcadis/Malcolm Pirnie, Highlands Ranch, Colo.†	1,143.0
12	11	MWH Global, Broomfield, Colo.	1,104.8
13	**	Battelle, Columbus, Ohio	1,019.7
14	15	CDM, Cambridge, Mass.	993.6
15	10	Parsons Corp., Pasadena, Calif.†	901.0
16	14	Black & Veatch, Overland Park, Kan.†	864.9
17	81	Golder Associates Corp., Calgary, Alberta, Canada†	797.5
18	18	Layne Christensen, Mission Woods, Kan.†	711.9
19	17	Science Applications International Corp. McLean, Va.	† 699.4
20	21	The Walsh Group Ltd., Chicago, III.†	658.4



What's in a vision?

Vision: an image of the mission accomplished, the ideal future state made concrete through words and pictures.

A compelling vision:

- Reflects a high standard of performance
- Describes a unique attribute
- Represents future accomplishments
- Conjures up an image or picture
- Presents a unifying theme
- Appeals to shared values

My own career vision

In collaboration with a diverse, international network of environmental leaders, I am helping professionals create careers and organizations that allow them to make a meaningful difference on the sustainability concerns they care most deeply about.

I use excellent writing, teaching, coaching, consulting, research, facilitation, evaluation, and multi-media information delivery skills, which I am constantly improving. I work nine months of the year, allowing time for friends, local politics, reflection, travel and outdoor recreation.

Because of our interaction, the people and institutions I work with achieve dramatically greater eco-career success and sustainability results while having more fun and personal satisfaction.

While achieving this vision, I assure my family's long-term security.

Your career vision statement

Write your career vision statement, in less than 100 words.

Sharing your vision statement

By sharing your vision statement with a small group of classmates, you can both clarify it for yourself, and improve your ability to express your vision to others.

The questions below can get the discussions going:

- Is my vision clear? Please tell me in your own words what you think I mean. Ask me to define clearly any words that can have multiple meanings. Ask me to illustrate my vision with examples.
- Is my vision aggressive enough? Remember that visions define "mission accomplished" for your career, not just short-term goals and objectives.
- Is my vision expressed in a way that shows benefits for other people and/or for the natural world, or does it only show how I will benefit?



