



trinity  green

Presents

The **'Clean Careers'** Workshop

*MBA IE*

*25<sup>th</sup> October 2011*

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## Two major challenges:

- Gloomy post-recession period – double dip dangers
- Ecological crisis

.....Challenges are interlinked and can bring about .....**OPPORTUNITIES and JOB CREATION**



*The facts of the matter are.....*

- Beg of 2010 : **831,000 jobs** in the clean technology sector globally. Cleantech jobs are expected to grow almost 300% to **3.3 million jobs by 2019**.
- In the US, The Apollo Institute estimates that **every \$1million** invested in energy efficiency projects creates **21.5 jobs** (compared to 11.5 in new natural gas generation).
- In Germany, **\$5.2 billion** of public subsidy leveraging private investment led to the energy efficiency retrofitting of 340,000 apartments, creating or saving **140,000 jobs**.

*BUT much higher competition = increased need to stand out*

# GREEN SHOOTS OR GREEN BOUNCE?

## *“What's Watt” in 4th QUARTER 2011*

### positive +

- Massive consolidation of the industry – need for structured managers
- Larger investments being made – shift in deal size eg. Alphabet Energy
- Recruitment freeze lifted in clean energy eg. Big 4
- Negative media attention re. Natural resources – post US BP oil spill/Japanese disaster/Middle East
- Germany & Switzerland storming ahead – a model to follow

### negative -

- Contract to perm
- Still few deals being made – esp.early stage – fewer firms can afford it
- Premature technologies – eg. algae
- Funding completely changed: No more blank cheques
- Cleantech not VC friendly – long R&D, tech problems etc..
- Rapid influx of newly minted clean-tech graduates
- Less media hype surrounding renewables

# GREEN PRIVATE EQUITY AND VC



- Boutique PE funds (fallout from banks)
- Pan-European and pan-sector focus: survival method
- Newer technologies – eggs in basket philosophy
- Junior and mid-management positions
- Many at Fund Raising stage - window shopping
- VC generalist funds branching out - bandwagon
- Difficult to source online – networking
- Growing interest in emerging markets
- Advisory in Switzerland
- Look at Portfolio companies – future career focus

## Part 1:

# *The future's bright, the future's green!*

A global perspective - Areas to keep your eyes on:

- N. and S. America
- UK
- Europe
- Asia
- *Switzerland*



# TOP 10 CLEAN-TECH EMPLOYERS (PUBLICLY TRADED PURE PLAYS)

Rank	Company	Headquarters	Sector/Activity	Employees
1	<b>Vestas Wind</b>	Denmark	Wind Systems	21000
2	<b>LDK Solar</b>	China	Solar	14,100
3	<b>Nalco</b>	Il, USA	Water	11,700
4	<b>Suntech Power</b>	China	Solar	9,000
5	<b>Itron</b>	WA, USA	Smart Grid	8,700
6	<b>China BAK Battery</b>	China	Energy Storage	8,200
7	<b>Baldor Electric</b>	Fort Smith, USA	Electric Motors	7,800
8	<b>Gamesa</b>	Spain	Wind	7,200
9	<b>Kingspan Group</b>	Ireland	Green Building	5,500
10	<b>Source: Clean Edge, Inc., SunPower</b>	CA, USA	Solar	5,400

# North America

- Fresh focus on Clean Energy recently marred by BP and Solyndra
- Latest bill passed – to create 850 000 new jobs, 25% renewable generation by 2025.

Rank	Sector
1	Solar
2	Biofuels & Biomaterials
3	Conservation and Efficiency
4	Smart Grid
5	Wind Power



## ○ Where are the jobs?

- Start-ups (70%), esp West Coast, overlap with .com boom/Khosla Ventures \*disruptive tech, long-term payback
- Euro/Asian offices in US eg. Trina solar
- State-by-state approach: California, Texas, Illinois, New York
- Regulation dependent
- Increase in angel investing eg. Texas solar

# TOP CLEAN-TECH JOB SECTORS IN US



## Energy

- Renewable Energy (e.g., Solar, Wind)
- Energy Storage
- Energy Conservation and Efficiency
- Smart Grid Devices and Networks
- Electric Transmission and Grid Infrastructure
- Biomass and Sustainable Biofuels

## Transportation

- Hybrid-Electric Vehicles
- All-Electric Vehicles
- Electric Rail
- Hydrogen Fuel Cells for Transport
- Advanced Transportation Infrastructure
- Advanced Batteries for Vehicles

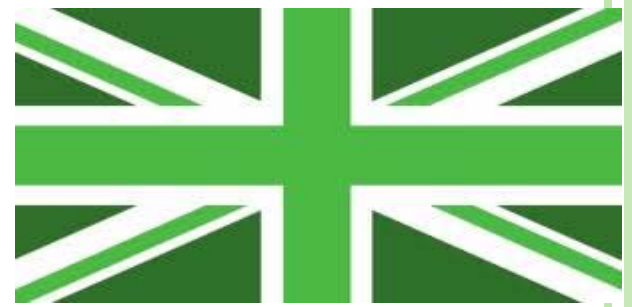
## Water

- Energy-Efficient Desalination
- UV Filtration
- Reverse Osmosis Filtration
- Membranes
- Automated Metering and Controls
- Water Recovery and Capture

## Materials

- Biomimicry
- Bio-Based Materials
- Reuse and Recycling
- Green Building Materials
- Cradle-to-Cradle Systems
- Green Chemistry





## UK

### *Three-way split:*

- The Environmental Technology and Services Industries
- The carbon management industry
- The renewable energy industry – nascent solar undermined by FIT review
- **Jobs – finance, consultancy and trading internationally**

### **Focus on Sustainability** – rebirth after recession

Key for retailers: *“the choice is not “green or grow”. That is a false choice. You can do both - and you must do both. Reducing emissions does not merely fight climate change, it also cuts costs.”* (Sir Terry Leahy, Tesco,)



## UK strengths include:

- **Offshore wind is no. 1 however cuts planned**
- Smart grid
- Scotland – marine renewables
- Renewable heating Incentive (RHI)
- Low carbon buildings eg. £6500 for each home to energy efficiency
- Transport – new bike system, Olympic preparations

**SHOW ME THE MONEY!** – Green stimulus - £535 million enviro-targeted

– *Transition time: Cameron/Clegg coalition – will policies be implemented?*

<http://www.guardian.co.uk/politics/2011/may/07/david-cameron-poor-green-progress>

# Europe

*“an opportunity that should create thousands of new businesses and millions of jobs in Europe”* European Commission Presidency.

○ **Scandinavia: 35% renewable energy generated**

○ **Germany: “master plan” focussed on:**

1. Water
2. Climate protection
3. Resource efficiency technologies

***Currently leader in solar PV production***



○ **Spain – incentives cut in 2008 – activity moves to Italy and Turkey: Solar PV and tidal. Greece- vulture deals \*tiny windows of opp – not career friendly**

# Asia

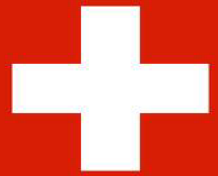
- Still large focus on **fossil fuels** – post Copenhagen debate
- Global **leader in investing** last year: Australia (US\$ 2.2 billion), Thailand (US\$ 749 million) and Vietnam (US\$ 377 million); but **China dominated with US\$ 47.3 billion**
- Focus on **PE funds** in **Hong Kong** and **Singapore** – exp in larger deals
- **Japanese government** expand “green business market” - **1 million new jobs** – NB post nuclear disaster
- **China** more committed – **world leader in Solar PV manufacturing, wind (offshore)** and FIT expected in 2012
- Concerns surrounding **energy security**



# SUSTAINABLE SWITZERLAND?

***“THE SWISS HAVE A CULTURE AND LIFESTYLE THAT EMPHASIZES SUSTAINABILITY IN THEIR DAILY LIVES.”*** NICK BEGLINGER

SWISSCLEANTECH



- Recently ranked second on the 2010 Environmental Performance index. Down to:

*renewable energy*

*green buildings*

*waste management*

*sustainable transportation*

- Long history of living within their environmental and economic means.

-one of the highest recycling rates in the world—95% of glass recycled

-Mobility Carsharing has roots in Switzerland

- Workforce of 160,000 in Cleantech - 4.5 percent of all employment in the country

-World leader in entrepreneurship and research and strong in manufacturing - Geberit, Schulthess Group, Ernst Schweizer Metallbau, Walter Meier, Hoval, Landis&Gyr, TRITEC and Renggli.

# SUSTAINABLE SWITZERLAND? CONT.

*“THE SWISS COMBINE ENTREPRENEURIAL SKILLS WITH TECHNICAL EXPERTISE”*

JURGEN HABLICHER, MOUNTAIN CLEANTECH FUND



- **58% electricity production run on hydropower – no more fossil fuels**
- **Joint Masdar Project**
- **Canton-by-canton approach: V. favourable feed-in tariffs went into effect beg of 2009**
- **Entrepreneurial startups:** MyClimate, Geroco, Nolaris, Flisom, TEXX, Flexcell, Airlight Energy, Edisunpower and Smixin.

# \$USTAINABLE INVESTING IN \$WITZERLAND

*“THIS IS GROWTH THAT NO GOVERNMENT CAN IGNORE”* DORIS LEUTHARD

## ○ **Pioneers in sustainable and cleantech investing:**

- Bank Sarasin* led the way in 1989 with the first asset management mandates defined by ecological criteria.
- Sustainable Asset Management* (SAM) created niche fund over a decade ago and has also been at the forefront of sustainable investing.

## ○ **The financial global hub of cleantech investing:**

- home to a huge pool of cleantech money from financial powerhouses – **Mountain Cleantech, SAM, Good Energies, Emerald Ventures, UBS, Picet, Sarasin, Credit Suisse, ZKB, and Unigestion**

## ○ **Top priority of the country’s economic recovery.**

- one billion Swiss francs of the Swiss government stimulus package targeted towards energy efficiency:

**Swiss Cleantech, Think Swiss, Switzerland Trade and Investment Promotion, & Embassy of Switzerland**

# \$USTAINABLE INVESTING IN \$WITZERLAND.. CONT..



- **Financial crisis may have persuaded more Swiss investors to return their money to sustainable funds with an ethical focus**
  - Research shows that sustainable funds grew at a faster pace than traditional vehicles in 2009 = *investors may be searching for safer prospects*
- **Screening out of undesirable practices, selecting companies displaying best social responsibility & allocating funds to themes, such as clean energy production**
  - Other countries, such as Italy = broader approach that screens out fewer practices or includes firms that agree to engage in dialogue with asset manager.
- **Switzerland's SFr34 billion against SFr541 billion total European market**



# GREEN JOB CENTRE

## ○ Solar companies

Etrion [http://www.etrion.com/contact\\_us.php](http://www.etrion.com/contact_us.php) (Geneva)

## ○ Geothermal companies

Erdstrom - to construct and operate geothermal power plants as well as the development of renewable energies.

[http://www.erdstrom.eu/index\\_en.html](http://www.erdstrom.eu/index_en.html) (Zurich)

## ○ Hydro

Iteco <http://www.iteco.ch/en/renewable-energies.html> (Affoltern am Albis)

## ○ Trading companies

RWE Trading (Geneva)

Asja Environmental <http://www.asja.biz/> (Ticino)

# GREEN JOB CENTRE ...CONT...



## ○ Investment Companies

Refeel <http://www.refeel.eu/> (Zurich and Italy)

## ○ Asset Management and advisory

EIC <http://www.eicpower.com/en.html> (Zurich)

Quadrum Partners [www.quadrumpartners.com](http://www.quadrumpartners.com)  
(Zurich/London)

Active Niche Funds <http://www.activenf.ch>  
(Lausanne)

## The jobs – take your pick:

- **Engineering** – electrical/civil/structural, demand in finance sector eg. Octopus Ventures
- **Project Management** – technical degree usually a prerequisite
- **Project Development** – managerial skills and relevant experience in industry usually a must
- **Legal counsel** – practise/within energy firms/utilities. NB Knowledge of regulations necessary across market
- **Business Development & Strategy** – project finance useful/fave amongst MBA students. NB check job spec
- **Finance** – principal inv & advisory
- **Policy and regulatory affairs** – research houses/academic credentials bonus

## Part 2:

# The Art of Power Networking

- Essential esp. if no experience. Niche sector still so black books count
- Online as well as Face-to-Face
- London & Zurich - a central hub for finance and startups
- Research – breakdown renewables pie
- Common Links – alumni/local knowledge
- Offer project work
- Close on Next step

## **Life beyond Linked In!**

### **Newsfeeds:**

BNEF - [www.newenergyfinance.com](http://www.newenergyfinance.com)

Point Carbon - <http://www.pointcarbon.com/>

Clean Tech newsletter - <http://cleantech.com/newsletter.cfm>

Spark Spread - <http://www.sparkspread.com/>

Greenbeat - <http://venturebeat.com/category/green/>

Strategy Eye – [www.strategyeye.com/wp/portfolio/cleantech/](http://www.strategyeye.com/wp/portfolio/cleantech/)

### **Events:**

Solar Events - go to [www.trinasolar.com](http://www.trinasolar.com)

Wind Events - go to <http://www.bwea.com/events/index.html>

Clean Capital – go to [www.cleancapital.co.uk](http://www.cleancapital.co.uk)

Green in the City – go to <http://www.eco-connect.org/category/events/upcoming-events>

Law firms – eg. Olswang

### **Meeting Points:**

The Hub – [www.the-hub.net](http://www.the-hub.net)

### **Forums:**

Skipso - <http://www.skipso.com/>

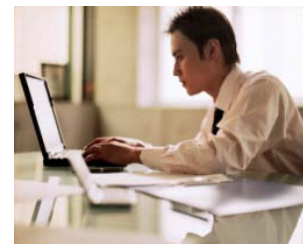
21<sup>st</sup> century network - <http://www.meetup.com/21stCenturyNetwork>

### **Additional sources:**

Subscribe to relevant Twitter entries and blogs



# Renewables Recruiter Remarks....



## *KEY: Think Relevant & Recent*

- Sustainable **conferences**, networking events, and internships - volunteer
- **Buzz Words & Bullet Points** – not too spread out nor pigeonholed
- Interests - **balance** b/w treehugging and money-spinner
- Education – use clean energy **dissertations/transferable studies title**
- **Clubs** eg, Energy Club, Entrepreneur, Finance, NetImpact
- Profile – turn yourself into the **job spec...subtly!**



## ○ When CVs go wrong:

Warning CV disaster ahead!



- "Wholly responsible for two (2) failed financial institutions."
- "Reason for leaving last job: maturity leave"
- "Failed bar exam with relatively high grades"
- "It's best for employers that I not work with people"
- "Let's meet , so you can 'ooh' and 'aah' over my experience"
- "Marital status: single. Unmarried. Unengaged. Uninvolved. No commitments"
- "Personal interests: donating blood. Fourteen gallons so far"
- "Reason for leaving last job: They insisted that all employees get to work by 8:45 am every morning. I couldn't work under those conditions"

## ○ 3 main reasons behind preparation:

- **One:** To be able to answer questions concisely and clearly.
- **Two:** To be confident – cultural fit
- **Three:** To look keen – PASSION for the arena



Know your company inside out:

- **Structure** – recent merger? eg. BNEF
- **market position** – think CV branding
- **management style** – corp/entrepreneurial/cultural differences
- **company size** – promotion opps
- **how long have they been operating** – follow growth curve
- **what are their key income revenues** - NB bubbles
- **who are their major competitors** – compare to Chinese comp
- **major upheavals or successes** – change in policies etc



# And they're off!

To conclude....



- ◆ Essential to move with a constantly changing market
- ◆ Start now! View the job search as an organic process
- ◆ Be resourceful - selective but global networking



- So that brings us to the end of our workshop. I hope you all enjoyed it and have got some ideas about interviews you have already arranged or are yet to arrange in the future.
- Please ask any questions.
- Please help yourself to a business card - you can always ask questions by email or give us a call at a later date and we will be happy to help you.

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*All the best with your job search and see you soon!*