

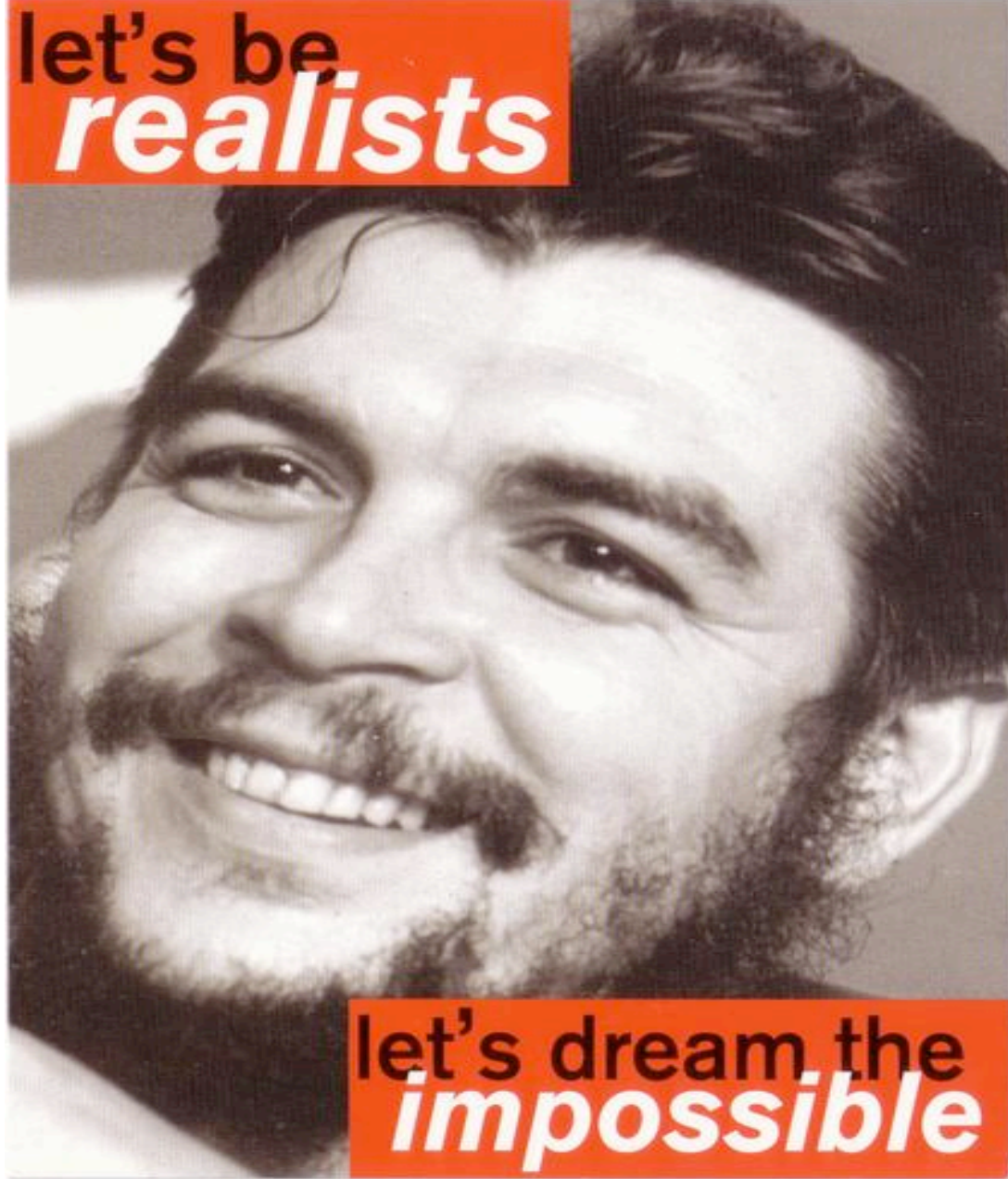
The Green New Deal: *System Change and Energy Transition*

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Metro DC Democratic Socialists of America

let's be
realists



let's dream the
impossible

Confessions of a Climate Denier in Tunisia by Miya Yoshitani

the climate justice fight here in the US and around the world is not just a fight *against* the ecological crisis of all time, it is the fight *for* a new economy, a new energy system, a new democracy, a new relationship to the planet and to each other, for land, water, and food sovereignty, for indigenous rights, for human rights and dignity for all people. When climate justice wins we win the world that we want. We can't sit this one out not because we have too much to lose, but because we have too much to gain... we are bound together in this battle, not just for a reduction in the parts per million of CO₂, but to transform our economies and rebuild a world that we want today.

(quoted by Naomi Klein, "This Changes Everything, Capitalism Vs The Climate")

*The challenge from climate
science*

*How far are we from
Irreversible Catastrophic
Climate Change (C3)?*

<http://www.guardian.co.uk/environment/2011/nov/09/fossil-fuel-infrastructure-climate-change>

World headed for irreversible climate change in five years, IEA warns

If fossil fuel infrastructure is not rapidly changed, the world will 'lose for ever' the chance to avoid dangerous climate change.

Fiona Harvey, environment correspondent
guardian.co.uk, November 9, 2011

Specifically, the peak of global C emissions to the atmosphere must come by 2016-17, and then progressively decline...

Is a 2 deg C rise from the pre-industrial climate now inevitable?

**A 2 deg C rise is a “*prescription for disaster*”
(Hansen et al., 2011)**

“scenarios with 2 °C or more global warming [are] far more dangerous; so dangerous, we suggest, that aiming for the 2 °C pathway would be foolhardy.” (Hansen et al., 2013)

Assessment of Target CO₂

<u>Phenomenon</u>	<u>Target CO₂ (ppm)</u>
1. Arctic Sea Ice	300-325
2. Ice Sheets/Sea Level	300-350
3. Shifting Climatic Zones	300-350
4. Alpine Water Supplies	300-350
5. Avoid Ocean Acidification	300-350

→ Initial Target CO₂ = 350* ppm

*assumes CH₄, O₃, Black Soot decrease

Reference: Hansen et al. Target Atmospheric CO₂, Open Atmos. Sci., 2008

*The political (economic)
challenge*

Global biodiversity and civilization are in peril from the threat of catastrophic climate change (C3).

But this threat is also an immense, unprecedented opportunity, to create the “other world that is possible”.

What is the main obstacle to C3 prevention?



*Threat of **Catastrophic Climate Change (C3)**
and Nuclear War pose an **unprecedented
opportunity** to end the rule of capital on our
planet,*

*because the main obstacle to elimination of these threats is
the “MIC”, aka the **Military Industrial (Fossil Fuel,
Nuclear, State Terror and Surveillance) Complex** at the core
of 21st Century Capitalism*

The MIC is likely the biggest single obstacle to preventing C3:

- 1) The MIC is the present core of global capital reproduction with its colossal waste of energy and material resources.
- 2) The integration of fossil fuel/nuclear industry in MIC.
- 3) The MIC's dominant role in setting the domestic/foreign policy agenda of the United States, with no evidence of weakening in the present administration.
- 4) **Pentagon as the “global oil-protection service”** for the U.S. imperial agenda (Klare), or even for the transnational capital class itself (e.g., Robinson).
- 5) The **Imperial Agenda** blocks the global cooperation and equity required to prevent C3.

Climbing MIC

Falling to oblivion: Contemplating the challenge of overcoming the greatest State Terror Apparatus in the history of the world understandably generates the same fear as imaging oneself in the position of this climber who is using not ropes, only his hands and feet. But when millions collaborate, including those who work for MIC, climbing together, we will succeed... Once on top, MIC will be dissolved and its resources converted to serve humans and nature.

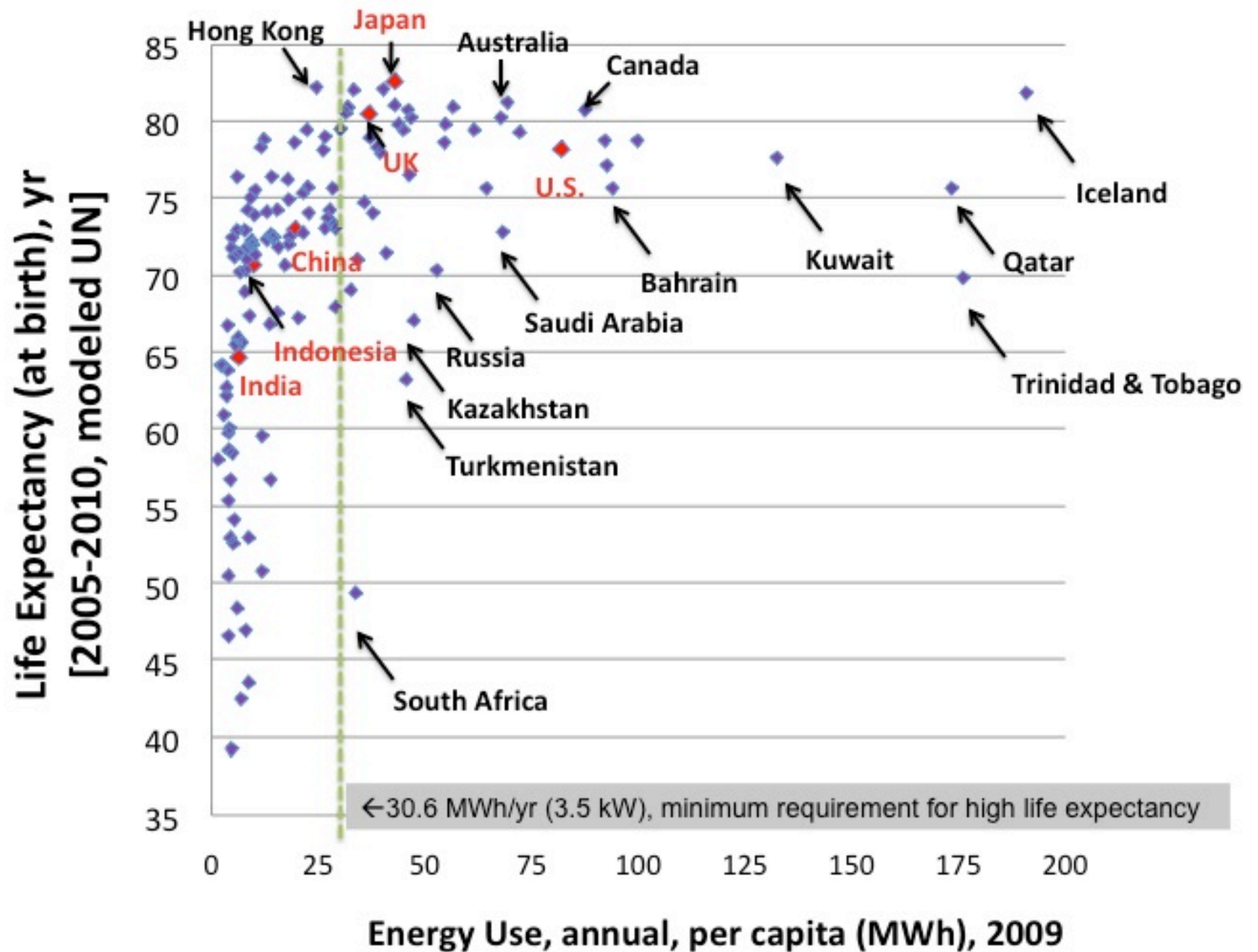


The social challenge

The state of *energy poverty* for most of humanity living in the global South,

conversely the *wasteful consumption of energy* in much of the global North, especially the U.S.

Smil (2003, 2008) estimates a minimum requirement of 3.5 kilowatt per capita for high HDI



Energy Poverty in Africa

	Life Expectancy (years)	kilowatt/person consumption	Gini index
Libya	74	4.3	0.36
South Africa	49.3	3.9	0.65
Nigeria	46.9	0.9	0.44
Ethiopia	52.9	0.6	0.30
Mozambique	39.2	0.6	0.46
For comparison:			
Cuba	78.3	1.4	0.30
United States	78.2	9.4	0.45

3.5 kilowatt/person
Necessary but not sufficient

Income Inequality drives bad health!

Wilkinson R & Pickett K (2009) *The Spirit Level
Why Equality is Better for Everyone*.
Penguin Books. London.

Kawachi I & Kennedy BP (2006) *The Health of
Nations: Why Inequality Is Harmful to Your Health*.
The New Press. New York.

So, how much energy does humanity need?

Approximately 3.5 kilowatt/person

or for 7 billion people, **25 Tera Watts**

(Now humanity consumes the equivalent of 18 Tera Watts.

7 billion people x 3.5 kilowatt/person = 25 Tera Watts;

remember that Power = Energy/Time, watt is a unit of

power; *1 Tera Watt (TW) = 10^{12} watts*)

Degrowth in the global North?

We must confront the global North's historic responsibility for the threat of C3. Hence, the global North must create the solar energy infrastructure sufficient for carbon-sequestration from the atmosphere, the massive cleanup of the biosphere and climate adaptation.

So, just how much energy does humanity really need?

Hence, while the U.S. and several other countries need to reduce their energy consumption, most of the Global South requires a significant increase to achieve "state of the art/science" quality of life.

But a shift to wind and solar-generated electricity as an energy source could reduce the required power level by 30% once a global system is created.... (Jacobson and Delucchi, "A Path to Sustainable Energy by 2030", November 2009, Scientific American: "For example, only 17 to 20 percent of the energy in gasoline is used to move a vehicle (the rest is wasted as heat), whereas 75 to 86 percent of the electricity delivered to an electric vehicle goes into motion.")

Future progress in increased energy efficiency, such as dematerialization of information technology, will likely reduce the required minimum per capita consumption.

On the other hand, additional energy will likely be required to:

- 1) clean up the "mess" left by MIC, and its historic dependency on fossil fuels and nuclear power,
- 2) repair the physical infrastructure, create green cities globally,
- 3) sequester CO_2 out of the atmosphere (using solar power and **agroecologies such as permaculture**),
- 4) make possible climate adaptation, especially in the global South.

SOLUTIONS

The Imperatives for C3 Prevention and Ecosocialist Transition

Rapid replacement of fossil fuels (starting with phase out of coal, **natural gas** and non-conventional petroleum such as tar sands) by global wind and solar energy power sufficient for:

- 1) Carbon-sequestration from the atmosphere to bring atmospheric level of CO₂ below 350 ppm (it is now 400 ppm)
- 2) Termination of energy poverty now afflicting the great majority of humanity.

Demilitarization, Solarization, Agroecology

*Struggles for radical reforms must begin under capitalism,
opening up a path to **Ecosocialist** transition*

*Does the **technology** now exist for
robust **Solar Energy Transition**
accompanied by a rapid and radical
reduction of carbon emissions ?*

Existing solar technologies can now be the basis of a high efficiency infrastructure capable of replacing the present unsustainable fossil fuels/nuclear power/big hydropower energy/biofuels system, especially combined with greater energy efficiencies.

These solar technologies include:

1) Wind power

2) Solar thermal power (CSP)

3) Photovoltaics, including near future thin film high efficiency technology

Expansion of nuclear energy, specifically a reincarnation of fission-powered reactors with new technology, will not significantly mitigate global warming, nor will it plausibly avoid the well-known negative environmental and health impacts of this energy source.

The material resources and land area needed for global solarization are already within reach.....

If 15 percent of present **world rooftop area** were to be used to site *photovoltaics* with an assumed conversion efficiency of 20 percent, the current global electricity power capacity would be created.

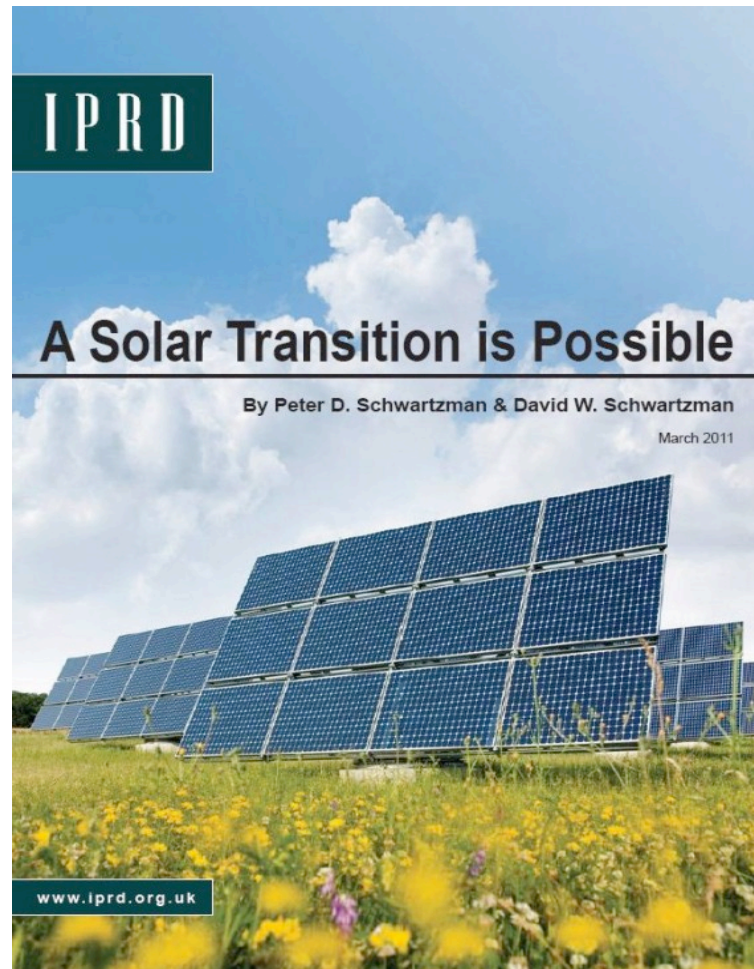
(An estimate of global rooftop area is 3.8×10^{11} m²: Hashem Akbari, Surabi Menon, and Arthur Rosenfeld, “Global Cooling: Increasing World-wide Urban Albedos to Offset CO₂,” *Climatic Change*, Vol. 94, 2009, pp. 275-286.)

A global wind turbine infrastructure could deliver several times the present global energy consumption while not closing off most of the land where it is sited to other uses (e.g., farming).

(Xi Lu, Michael B. McElroy, and Juha Kiviluoma, “Global Potential for Wind-generated Electricity,” *Proceedings of the National Academy of Sciences*, Vol. 106, No. 27, 2009, pp. 10933–10938.)

Concentrated Solar Power (CSP) in the Sahara could supply the current global electricity consumption on less than 6 percent of the Saharan land area (not that CSP should be only sited in the Sahara of course!).

(The Trans-Mediterranean Renewable Energy Cooperation (TREC) Project, published online at: <http://www.trecers.net/index.html>.)



Peer-reviewed, Initially posted at: <http://iprd.org.uk>
(Institute for Policy Research & Development)

This Report and more at: SOLARUTOPIA.ORG

Modeling Results

Assuming *present* wind/solar technological capacities, using 1 to 2% of current annual consumption of energy (85% derived from fossil fuels) for wind/solar power creation per year:

A global-scale transition can be achieved in no more than 30 years, ending with zero anthropogenic carbon emissions, providing the rough minimum of 3.5 kilowatt/person energy consumption for all

Improvements in wind/solar technologies will make this transition easier and faster, specifically boosts in the Energy Return/Energy Invested Ratio (“EROEI”), requiring less fossil fuel input

The role of energy efficiency in solar transition

Many countries in the global North can reduce their energy consumption per capita levels with **aggressive measures to increase energy efficiency**, improving their quality of life, as well as reducing the extraction of fossil fuel reserves thereby ***freeing up additional conventional oil for wind/solar creation, especially for the global South bearing the brunt of energy poverty.*** **This potential and highly desirable transfer from the global North to the global South would translate into a positive contribution to both with respect to quality of life.**

Likewise promoting energy efficiency in the global South can free up *conventional oil for wind/solar creation*, as well as increase its dedicated use without increasing carbon emission in order to reach the 3.5 kilowatt per capita level during the solar transition.

*Two Triggers for **Ecosocialist** Revolution:*

1) The contradictions in 21st century capitalism ripen to produce a political revolution that finally utilizes already-existing conventional solar technologies to their full potential.

2) Revolutionary new renewable energy (wind/solar) technologies *directly precede and make inevitable* a revolution in global political economy, analogous to the steam engine and the industrial revolution/capitalism.

Degrow the Military Industrial Complex
Grow the New Green Economy
A Global Green New Deal

Creating the social and material base for
EcoSocialist transition out of capitalism
while still having a chance to prevent
catastrophic climate change

Political requirement: transnational,
multidimensional class struggle

Ecosocialist strategy:
Global Green New Deal confronts
converging multiple crises;
C3 prevention must begin now!

A Global Green New Deal

United Nations Environment Programme (UNEP) Edward Barbier, A Global Green New Deal, Green Economy Initiative of UNEP, 2009

**International Trade Union Confederation (representing 168 million workers in 155 countries) <http://www.ituc-csi.org/> May 21, 2014,
Union leaders announce their commitments to the fight against climate change**

<http://www.campaigncc.org/greenjobs> (*One Million Climate Jobs, UK*)

<http://www.labor4sustainability.org/>

Unions backing historical Peoples Climate March

<http://www.bluegreenalliance.org>

<http://www.gp.org/GreenNewDeal/>

(Jill Stein for President, Green Party of the United States, 2012)

The Global Green New Deal: Job Creation

- 1) Building, siting and maintaining clean energy capacity (wind/solar), including the elimination of energy poverty in the Global South
- 2) Energy efficiency/retrofitting buildings etc.
- 3) Grid modernization (“smart grids”)
- 4) Transforming agriculture to ecological modes (organic, permaculture, agroecologies)
- 5) Infrastructure repair, creation of Green Cities, mass transit/rail expansion
- 6) Carbon sequestration from the atmosphere to the soil and crust
- 7) Climate adaptation, especially in the Global South
- 8) Massive cleanup of the MIC legacy, chemical and radioactive contamination

<http://neweconomicperspectives.org/2014/10/effective-climate-action-building-project.html>

Effective Climate Action is a Building Project [October 2, 2014](#) by [Michael Hoexter](#)

Will **Green** Capitalism deliver this revolution?

“Several years ago, Tony Seba, an energy expert from Stanford University, published a book called *Solar Trillions*, predicting how solar technologies would redefine the world’s energy markets and create an investment opportunity worth tens of trillions of dollars.... His new prediction is that **by 2030, solar will make the fossil fuel industry more or less redundant**. Even more striking is his forecast That electric vehicles will do the same thing to the oil industry by around the same date.”

<http://reneweconomy.com.au/2013/how-solar-and-evs-will-kill-the-last-of-the-industry-dinosaurs-86893>

How solar and EVs will kill the last of the industry dinosaurs

By Giles Parkinson on 23 August 2013

But is a market-driven “business as usual” scenario with a more aggressive investment in renewable energy infrastructure sufficient for C3 prevention, given the fact that global carbon emissions continue to climb?

(In 2013, even the U.S. carbon emissions increased)

“...*Capital*, I, chapters 6 and 7.

Labor power is, always and necessarily, a special commodity, never subject to full valorization like other commodities. Its value is always the outcome of the balance of class forces (“balance” here in the sense of “relationship” or “correlation,” with no implication of “equilibrium” or any sort of inherent equality or consistency). For present purposes, this means that reforms — all of the proposals emanating from the Reformists as enumerated above*, plus undoubtedly many more — are not only “good things” from the standpoint of the 99%; they represent changes in the balance of forces. They are *empowering*. Empowerment of the exploited is inherently problematic: capitalism must vigorously oppose it, even when it is entirely warranted in terms of general productive development or some superior social–philosophical ethic.”

* “...reforms: fair taxation, government (public) responsibility for job creation in the last instance, full funding for health care, education, child and elder care, ecological sustainability.”

(Laibman, 2012, Editorial Comment, *Science & Society*)

Class struggle redux

“So does the declaration by radical bourgeois feminists, eco-feminists, deep ecologists, libertarian ecologists, communitarians, etc. that Marxism is dead. ...it is possible to point out that **in ecological Marxist theory, the struggle over production conditions has redefined the class struggle beyond any self-recognition as such, at least until now. This means that the capitalist threats to the reproduction of production conditions are not only threats to profits and accumulation, but also to the viability of the social and “natural” environment as a means of life.**”

[red and bold added]

James O'Connor, 1986, CNS 1(1): 11-38.

Multidimensional class struggle

*On every scale,
from the classroom to the globe (transnational)*

*At every intersection of the oppressed and the
exploited, “race”, gender, sexual orientation, ethnicity,
citizenship status, (a)religion, age, degree of
able-bodiedness etc.*

This struggle should include alliances, albeit temporary, with so-called green capital, undermining the “MIC” (i.e., the Military Industrial Fossil Fuel Nuclear State Terror and Surveillance Complex), the main obstacle to C3 Prevention....

“Some of the more far-sighted corporations without significant investments in fossil fuels will see the way the wind is blowing and that money can be made from investing in alternative energies, as is already the case. This will create tension and splits among ruling elites and between conflicting corporate interests, which will open up space for social and labor movements to demand swifter and more coordinated action.” (Chris William, 2010, Ecology and socialism. Chicago: Haymarket Books. p.166, cited in my 2011 CNS paper)

Reload Lenin! (i.e., utilize the divisions within capital)

Transnational, multidimensional class struggle for social governance of production and consumption on all scales, neighborhood to global:

- **Publicly owned and accountable banks, following the example of N. Dakota**
- **Municipalization of electric and water supplies**
- Reconversion of MIC to the new Green Clean Energy physical economy
- Nationalization of the energy, rail, and telecommunications industries
- **Compulsory licensing** of state-of-the-science wind/solar and information technologies, making them freely available globally
- **Creation of decentralized solar power, food, energy and farming cooperatives and worker-owned factories (solidarity economy)**
- Strengthening the regime for environmental, ecological and health protection for workers and communities, particularly for the industries supplying the new renewable energy technologies
- **Replacement of industrial and GMO agriculture with agroecologies**
- **Creation of green cities**
- Organizing the unorganized in all sectors, especially Global New Deal workers.
Terminate the prison-industrial complex and the Drug War.

Lets not accept the inevitability of catastrophic climate change ("C3") yet! We have the responsibility to humanity and future generations to share a sober and accurate assessment of how much time is left to implement an effective prevention program to avoid dangerous climate change. We likely have precious little time left to act, not decades, to force a rapid decrease in carbon emissions to the atmosphere, the driver of C3. But this message must be coupled with hope. An effective prevention program will result in a much better life for all, green sustainable growth, a Global Green New Deal, with the capacity to deliver clean air and clean water, organic food, meaningful employment and more free creative time for all on this planet.

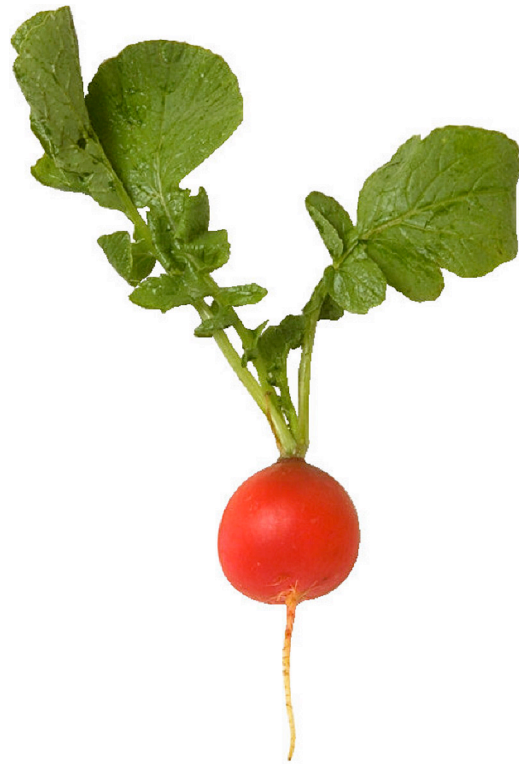
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(pdfs available upon request: dschwartzman@gmail.com)

Radical and Radish have the Same Root



*Be as Radical as Reality Itself, Be **Red** and **Green**!*