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# Ecosocialism:

## What Is It and Why Do We Need It?

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Resident of Ecovillage at Ithaca  
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Panel on How Environmental Justice/Sustainability Aligns with  
Political Transformation and Socialism

Ecosocialism is a vision of a society free of most class divisions and with the maximum possible equality among humans – with we humans ourselves living in the most mutually beneficial possible relationship with their natural environment. The ecosocialist movement gradually began developing in the 1980s, first mentioned perhaps in documents of the German Green Party and then theorized more formally by the U. S. economist James O’Connor and associates who founded the journal *Capitalism, Nature, Socialism* in 1988. Among the scientists and activists who helped develop ecosocialism as a concept are the Spanish Marxist [Manuel Sacristán](#), the British socialist [Raymond Williams](#), the French-Austrian philosopher [André Gorz](#), and the American biologist [Barry Commoner](#) – the latter who suggested that “some sort of socialism” would be required to overcome mid-twentieth century environmental destruction (Löwy 2020:8).

### I. The First Ecosocialist Manifesto

While attending a conference in Vincennes – just outside Paris – in 2001, Marxist academics and activists Michael Löwy and Joel Kovel issued the first *Ecosocialist Manifesto*. Modeled somewhat on the style of Marx and Engel’s *Communist Manifesto* of 1848 (which

runs about 30 pages), the *Ecosocialist Manifesto* however, is fewer than 5 pages long and begins without reference to a “specter,” but with the following:

The twenty-first century opens on a catastrophic note, with an unprecedented degree of ecological breakdown and a chaotic world order beset with terror and clusters of low-grade disintegrative warfare that spread like gangrene across great swathes of the planet.

The authors go on to identify two great “structural forces” that are responsible for the catastrophes:

“...rampant industrialization that overwhelms the earth’s capacity to buffer and contain ecological destabilization” and;

“...the form of imperialism known as globalization...”

And these two forces themselves “are essentially different aspects of the same drive, which must be identified as the central dynamic that moves the whole: the expansion of the world capitalist system” ...(Löwy 2015:77).

The manifesto goes on to denounce: greenwashing, squandering of resources, indebtedness, the capitalist injunction to Grow or Die!, the rise of empire, unsustainability, and “fascist degeneration,” leading to the quote of a famous 1915 statement by the early twentieth century socialist Rosa Luxemburg that the choice we face is “Socialism or Barbarism.”<sup>1</sup>

The Manifesto goes on to critique what they call “first-epoch socialisms,” a reference to the Soviet, East European and Chinese experiences (Wallis 2018:42 – 46) and could be extended to include the many 19th century socialist movements as well.<sup>2</sup> The fundamental component of their critique is the need for more internal democracy within the socialist movement (Kovel 2002:242) and to put the relationship of humans to nature alongside the relationships among humans as equal mechanisms in overcoming capitalist catastrophe. The Manifesto also criticizes “productivist” socialism, a reference to the attempts by – for example – the Soviet Union to match or supersede the capitalist world in production – attempts that brought on damage to the environment. It should be noted that many of today’s environmental concerns were not yet obvious until well into the twentieth century (Löwy 2020:7).

The Manifesto further denounces “the attenuated, reformist aims of social democracy.” This is a reference to the Scandinavian and perhaps also British Labor Party programs to expand the social safety net while not profoundly undermining capitalism – only making it more livable.

Although overcoming class inequality is the original and fundamental socialist goal, ecosocialism “struggles to overcome all forms of domination, including, especially, those

of gender and race, [along with] a withering away of the dependency upon fossil fuels integral to industrial capitalism.” (Löwy 2015:81)

And finally, ecosocialism, “will be international, and universal, or it will be nothing. The crises of our time can and must be seen as revolutionary opportunities, which it is our obligation to affirm and bring into existence.” (Löwy 2015:82)<sup>3</sup>

As can be seen from the above, the first ecosocialist manifesto was more socialism than ecology. However, at the 2016 Third International Ecosocialist Conference Final Manifesto issued at Bilbao, Spain, point #4, we read that capitalism’s driving force towards

...unlimited growth fully collides with the biophysical limits of the planet. We are witnessing a growing exhaustion of natural resources, shortage of drinking water,...growing scarcity of strategic minerals, collapsing fisheries, deforestation ... an obvious degradation of ecosystems, accelerated loss [of] biodiversity, [and worsening] soil contamination and water reserves, degradation or overexploitation of services provided by ecosystems...and unprecedented deterioration of natural balances, not only at local or regional level, as it took place in the past, but also for the first time in the global environmental system, whose most obvious manifestation is climate change: ecocide. This ECOLOGICAL state of emergency also causes every year millions of environmental refugees.

## **2. (Re-) Discovering Marx and Engels’ Ecological Thought**

Just as ecosocialism was emerging onto the world historical stage in the 1990s, there almost simultaneously appeared a rediscovery of ecological thinking that had taken place in classical Marxism in the 19th century but that had been languishing for decades. To some, this might seem a cynical or opportunist move on the part of some Marxists to gain credibility after the ecological failures in Soviet, East European and Chinese socialist practices – but, it turns out the proponents of this position have a pretty strong argument.<sup>4</sup>

The biggest claim critics have made of Marx’s ecological ideas is that Marx adopted the common 19th century position that nature was boundless and that human labor could create affluence forever once socialism was achieved (Foster 1999:372). This “Promethean” view of nature, however, seems not to take into account Marx and Engels’ concern with “soil exhaustion” brought about by using up natural fertilizers without replacing key ingredients and by concentrating populations in cities where human waste ended up washing down the sewage pipes and into the rivers and oceans. So desperate were 19th century European farmers for soil enrichment that – after the loss of the Peruvian guano deposits – that they raided Napoleonic battlefields for the human bones to grind into fertilizer (Foster 1999:375). Engels detailed much of this soil destruction in

his 1845 study of *The condition of the Working Class in England*. Marx was aware of these problems as well as of the discoveries of the famous German chemist at the time – [Justus von Liebig](#) who discovered the agricultural roles of phosphorous, potassium, and nitrogen (Foster 1999:376).<sup>5</sup>

Marx combined von Liebig's discoveries plus his knowledge of the fertilizer shortage in Europe plus his observations of the long-distance trade in agricultural products that was also moving chemicals around in an unorganized manner to sell goods. He also noted that in agriculture, humans were essentially engaged in an energy and matter exchange. He came up with the idea that capitalist agriculture brought about a "metabolic rift," that is, the nutrients removed from the soil were not being replaced in the same amounts in any particular location (Foster 1999:380). And capitalist production and imperialism can be part of this process: "For a century and a half, England has indirectly exported the soil of Ireland, without as much as allowing its cultivators the means for making up for the constituents of the soil that had been exhausted" (quoted from *Capital* vol. I in Foster 1999:383). And in his classic description of the "condition of the English working class" in the 1840s, Marx's longtime colleague Friedrich Engels (1980[1845:62]) gives page after page of detailed accounts and observations of streets, "generally unpaved, rough, dirty, filled with vegetable and animal refuse, without sewers or gutters, but supplied with foul, stagnant pools instead." In place of a rational recycling of nutrients to maintain rural soil fertility, the nutrients were being pulled into urban centers and piling up in giant concentrations where they were causes of disease and misery.

The re-discovery of the Marxist "metabolic rift" carries an important implication for modern ecosocialist theory. It constitutes a challenge to mainstream environmentalism which often limits itself to creating "market incentives" (Wallis 2018). If destruction of the soil in 19th century Europe could be a result of the workings of capitalism, could not the same be true of our current dangers? Does the world need a system to exert control over these movements of nutrients – a form of control that would be consistent with ecosocialism? One way to approach this is to consider the ecosocialist proposal for democratic ecological planning.

### **3. Democratic Ecological Planning**

Marxist theorist Joel Kovel envisions ecosocialism as

...a great network of productive communities, from agricultural cooperatives, to trans-national scientific teams, to governing assemblies – many varied settings creating the conditions for individual self-realization (2002:247).

Internationally, trade would be regulated by a "World People's Trade Organization,' controlled by and responsible to a confederation of popular bodies organized on a global basis which will set parameters for regulating trade to allow for the flourishing of

ecosystems, while providing at the same time an international forum for the cooperation and unification of peoples” (2002:249) The metabolic rift will be healed – the irrational movement of the elements of nature (such as soil nutrients described above) will be replaced by democratic management of the shifting of nature balanced with local and regional plans for local production.

The network of communities will begin through the creation of “ecological ensembles,” which will grow into islands of resistance, the formation of large-scale ecosocialist political parties – as prefigured perhaps by the Zapatistas who operate on a bioregional scale (2002:234). These ensembles might start out as organic farms, local credit unions, intentional communities, or neighborhood associations – displaying or bringing into action the values of

“social justice, ecological wisdom, non-violence, decentralization, community-based economics and economic justice, feminism, respect for diversity, a sense of global responsibility, future-focus and sustainability” (2002:219).<sup>6</sup>

What holds this vision together is the replacement of the capitalist market by democratic ecological planning. This replacement cannot be by a “politburo” or other similar command board. Instead, a panoply of multi-tiered democratic bodies would take over from the big banks and capitalist enterprises, setting prices, taxes and incentives, banning some production – such as coal-fired plants, but exempting businesses such as “local restaurants, groceries, small shops, or artisan enterprises” (Löwy 2020:3). For worker-owned cooperatives, the internal decisions would be made internally by the workers, but relations with the larger society would be managed by a larger decision-making assembly, perhaps within the industry or in the geographic region.<sup>7</sup>

A major goal of ecosocialist planning – as well as socialist planning overall – is to generate more free time and encourage creativity among participants in the new society. Another emphasis would be encouraging sports, arts and social activities as much as possible as alternatives to the accumulation of consumer items, and a much too long working week, which socialist theorists and activists generally consider harmful to the psyche and to the true satisfactions of life. A 20 hour workweek would be desirable.

#### **4. Thomas Piketty’s “Participatory Socialism” (without Marx) – Expanding Social Democracy**

The ecosocialist vision contained in the manifesto as summarized in Section I of this essay represents a dramatic break with existing international capitalism. Some stages along the way from here to there might be identified. The French radical (but not Marxist?) economist Thomas Piketty has drafted a vision of a modern form of what he calls “participatory socialism” with attention to environmental concerns. Deriving in part

from Scandinavian and German social democracy, Piketty's socialism would contain the following elements:

- A vast restructuring of power in (large and medium sized) businesses so that workers would control at least one-half of the director board positions – (called “co-management” or “codetermination” – something that already exists on a small scale in Germany and Sweden (Piketty 2020:972 – 75);
- A 3-part set of significantly progressive taxes on property, inheritance, and income. This tax system would finance a guaranteed minimum income and a “universal inheritance” where all individuals reaching, say, the age of 25, are provided a one-time “capital endowment.” This endowment – using sample figures for 60% of average per capita income in the currently rich nations, could reach 120,000 Euros (2020:982 – 83).<sup>8</sup>
- A heavily progressive carbon tax that would kick in above an amount to insure that only the very rich would pay (2020:1004 – 1007)

Perhaps surprisingly, other elements of the social democracy program are already being tried or have been proposed:

- On 4 February, 2021 U. S. Senator Cory Booker and Representative Ayanna Pressley introduced the *American Opportunity Accounts Act* – also sometimes called “Baby Bonds.” According to the press release which also notes that the bill initially has 15 sponsors in the Senate: “The legislation will create and seed a savings account of \$1,000 at birth, with additional deposits of up to \$2,000 each year, depending on household income. The funds will sit in an interest-bearing account, which can be accessed by account holders at age 18 for allowable uses like buying a home, paying for educational expenses or starting a business.” (Booker and Pressley 2021). This proposal is modeled somewhat on the British experience with its “children’s trust” which aimed at reducing poverty and establishing patterns of savings among low-income persons;
- Such a policy would also lend itself to reparations for the descendants of former slaves and the land confiscations suffered by Native Americans;
- Across the U.S. there is a vast array of worker-owned businesses, land trusts – which facilitate environmental protection and reduce real estate speculation – and various commons, farmers markets, car-free zones and other non profit organizations and socially or environmentally-oriented trusts (Barnes 2006:109 and 137 for a list and brief descriptions).

These all constitute the initial phases of a possible social democratic society that would be one step closer to a true ecosocialism that in any case is likely to require some time to develop. It should also be noted that the recently proposed “Green New Deal” offers a platform for implementing and expanding many social-democratic ideas.

## 5. The Democratic (Eco-) Socialists of America

According to its Wikipedia entry, “The Democratic Socialists of America is a socialist and labor-oriented nonprofit organization in the United States, whose members' ideological views range from social democracy to democratic socialism.

The 90,000+ DSA members, by their own acknowledgement, are not a separate party but an organized group of activists who support the most progressive currents inside the Democratic Party.

We are not a separate party. Like our friends and allies in the feminist, labor, civil rights, religious, and community organizing movements, many of us have been active in the Democratic Party. We work with those movements to strengthen the party's left wing, represented by the Congressional Progressive Caucus. (<https://www.dsaua.org/about-us/what-is-democratic-socialism/>)

The U.S.-based DSA currently emphasizes six basic priorities:

1. Medicare for all
2. Labor solidarity
3. Electing progressive Democrats
4. Green New Deal
5. Working groups on anti-war, debt and finances, immigrant rights, housing justice, media, racial justice, socialist feminism, religious socialism, technology, socialists of color, ecosocialism,
6. Youth organizing

And these principles inform the organization's understanding of the Green New Deal, one of its primary areas of interest and action. Here is an edited version of the DSA list:

- 1. Decarbonize the economy fully by 2030** – a more ambitious timeframe than the Intergovernmental Panel on Climate Change (IPCC) 1.5 degrees temperature limitation goal;
- 2. Democratize control over major energy systems and resources** – nationalize fossil fuel producers to phase them out – expand public banks, community land trusts, end water privatization;
- 3. Center the working class in a just transition** – create millions of public sector jobs at union wages, promote worker-owned and worker-controlled cooperatives;
- 4. Decommodify survival** – guarantee living wages, healthcare, childcare, housing, and other necessities for all;
- 5. Reinvent our communities to serve people and planet, not profit** – create neighborhood transition councils, redress injustices and racial, colonial, and gender-based oppression;
- 6. Demilitarize, decolonize, and strive for a future of international solidarity**

**and cooperation** – end the doomed strategy of global military domination, welcome refugees, recognize the sovereignty of indigenous peoples;

**7. Redistribute resources from the worst polluters** – implement progressive taxes on the rich and on the big corporations, divert funds away from policing, prisons, and the bloated military budget.<sup>9</sup>

<https://ecosocialists.dsaua.org/2019/02/28/gnd-principles/><sup>10</sup>

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An ecosocialist vision has already been drafted, even if the term ecosocialism does not appear in its pages...

## **6. Imagining Ecotopia – A Science Fiction Ecosocialism**

In 1975 a tiny company called Banyan Tree Books in Berkeley, California, published [\*Ecotopia: The Notebooks and Reports of William Weston\*](#). Twenty publishers had previously rejected the manuscript. This slim science fiction volume of 167 pages eventually sold nearly a million copies in nine languages. More recent editions advertise it as “The first dramatic portrait of an ecologically sustainable society!” The author, [Ernest Callenbach](#) (1929–2012) claimed he got his ideas from reading *Scientific American* and *Science* magazines. Here’s the plot.

*Ecotopia* is organized around the fictional news dispatches and the personal diary entries of fictional correspondent William Weston who travels to the new nation of Ecotopia in 1999. In 1979 Northern California, Oregon and Washington had seceded from the U.S. and created an environmentally based new order. (How they managed to break away and stay separate is explained in the book.) As the first ever regular U.S. reporter to visit Ecotopia, Weston describes the new society they have built – and falls in love with a sexy and open-minded Ecotopian beauty.<sup>11</sup>

Weston finds a decentralized, eco-friendly, relaxed culture with no cars, lots of high-speed trains, and local small-scale hospitals carrying out cradle-to-grave health coverage with less high-tech equipment and more preventive medical practices than in the rest of the U.S. Ecotopia is divided into five metropolitan and four rural sectors. Local governments have extensive powers. People live in groups of five to twenty; workers own the main productive institutions. The elderly live in these groups and provide child care and early education. Homes are built of wood or of corn-based plastic tubing and all are centered around rail stations. People cannot inherit land or fortunes, only personal articles. Education focuses on systems thinking and on project-based experiential learning



All plastic is derived from plants; none from hydrocarbons. Plastics are thus biodegradable. Refrigerators run on household septic tank methane. Microwaves are illegal: you eat fresh food. People use the metric system and recycling containers are found everywhere (remember that this book was written in 1975 when hardly anyone recycled anything in the U.S.). Synthetic chemical fertilizers were totally abandoned and replaced with compost from food waste and sewage. Agriculture has been nationalized. Ecotopian scientists were working on strains of plants that could produce electricity from photosynthesis. “Your garden could recycle your sewage and garbage, provide your food and also light your house.” (1975:106) Books are accessible electronically via computer stations linked to a giant national library in Berkeley.

Taxes are levied only on enterprises (no payroll taxes); train cars are filled with hanging ferns and small plants. Streets are quiet (no cars, remember?) with only occasional electric taxis – even in the nation’s capital of San Francisco. Bus service is free and public bikes are found everywhere available for temporary use. The general work week is 20 hours and schedules and work discipline are much more lax than in the U.S. overall. A minimum income has become law.

Wood is not exported from Ecotopia. Technicians are working on alternatives to the diesel log trucks that remain a stubborn reminder of the previous way of doing things. To build a house of wood you first have to work for a few months in a forest labor camp planting trees to replace the wood your house might use. However, “They cut trees and trim them with a strange, almost religious respect: showing the emotional intensity and care we might use in preparing a ballet.” (1975:56).

The GNP of Ecotopia is very low:

...mankind, the Ecotopians assumed, was not meant for production....Instead, humans were meant to take their modest place in a seamless, stable-state web of living organisms.” (1975:43)

## **7. Conclusions**

Callenbach’s vision of Ecotopia suggests how ecosocialism might eventually look. At present, most ecosocialist activity centers around fighting the most abusive aspects of current capitalism. This means first, identifying the cause of ecological damage in the competitive, ever expansionist nature of capitalism as we have seen in the various manifestos and examples above. Ecosocialism, on the other hand, fits with the most widely used definition of sustainability, as drafted by *The World Commission on Environment and Development*<sup>12</sup> (1987:8): meeting “the needs of the present without compromising the ability of future generations to meet their own needs.” And further (p. 45): sustainable development “must not endanger the natural systems that support life on Earth – the

waters, the soils, and the living beings” (1987:45). Capitalism’s damage and destruction needs to be ended – a sustainable world will have to be an ecosocialist world.

## **8. Why Do We Need Ecosocialism? Crossing Boundaries and a Nitrogen Case Study**

On September 24, 2009, *Nature* magazine published a 4-page article authored by Johan Rockström of the Stockholm Resilience Centre and co-authored by 28 internationally known scientists. The article was entitled “A Safe Operating Space for Humanity.”<sup>13</sup> The Big Idea behind the article: modern human civilization developed within a certain range of variation in the values of certain elements of the earth’s life support system. These ranges are inside of boundaries that in principle we can discover. The authors identified nine such life support systems. For (1) atmospheric aerosol loading and (2) chemical pollution, the boundaries have not yet been specified. For (3) ocean acidification, (4) stratospheric ozone depletion, (5) fresh water use, and (6) land system changes, human activities appear still within the likely boundaries. But for three of the components: (7) biodiversity, (8) climate change, and (9) reactive nitrogen, we have crossed the boundaries into unknown, probably dangerous, territory.

For biodiversity, for example, the proposed boundary is an extinction rate of 10 per million species while the estimated “current status” (September, 2009) is “greater than one hundred.” For climate change, the proposed boundary is 350 parts per million of CO<sub>2</sub> while the number at the time of their study was 387 (Rockström et al 2009:473). This increased by late March, 2021 to 417 (<https://www.co2.earth/daily-co2>). Climate change is the boundary breaker most visible. Substantial public action is now underway to combat it. But the case of reactive nitrogen remains somewhat below the public radar and is worth considering here.<sup>14</sup>

### **8.1 Reactive Nitrogen – A Hidden Capitalist Threat**

Nitrogen is critical to plant growth. Plants can get most of their nutrients from the soil, but nitrogen has proven to be a major limiting factor in ecosystem productivity worldwide.

The problem with nitrogen at first seems surprising: after all, it makes up 78% of the earth’s atmosphere in the zone up to 11 miles from the surface. As an atmospheric gas, nitrogen may be performing a sort of “calming” effect, keeping in check possible side effects of too much oxygen, which makes up about 21% of the atmosphere. According to physicist Fritjof Capra, oxygen had to stabilize in earth’s atmosphere at about the 21% level to prevent two disasters. If oxygen levels go below about 15%, every life form

dependent on oxygen could asphyxiate. If oxygen levels go above 25% “everything would burn.” (Capra 1995:241 – 242)

The nitrogen in the atmosphere poses a problem of its own, however. Plants cannot directly absorb and utilize large amounts of nitrogen because to “fix” it to the plants requires the work of various microbes and the limit on the numbers and processing capacities of these microbes has in turn limited nitrogen’s potential to grow more biomass. For food crops this means that nitrogen limits harvests.

Getting more nitrogen into food plants was a major scientific challenge until 1909 when the German chemist Fritz Haber developed a process using high heat and pressure to turn atmospheric nitrogen into ammonia, which can be made into a liquid or a solid. By 1913, fellow German chemist and engineer Carl Bosch had figured out a practical means to apply Haber’s discovery. This Haber-Bosch technique created the modern fertilizer industry, generating about 100 million tons annually of artificial nitrogen, thereby vastly increasing the world’s food supply. Some experts estimate that 1/3 or more of the current world population would not be alive without the Haber-Bosch process. ([https://en.wikipedia.org/wiki/Carl\\_Bosch#cite\\_note-7](https://en.wikipedia.org/wiki/Carl_Bosch#cite_note-7)) As succinctly noted by *New Yorker* writer Elizabeth Kolbert (2013), Haber and Bosch “turned air into bread.”<sup>15</sup>

The powerful benefits of fixable, reactive nitrogen brought on its rapid expansion in fertilizer factory production. In recent decades, accumulated “anthropogenic reactive nitrogen” has surpassed the total fixed fertilizer from natural processes. Over half of the synthetic nitrogen has been made since 1985. Vast commercial expansion of nitrogen-fixing legumes such as soybeans adds to Haber-Bosch. Furthermore, farmers tend to overfertilize when in doubt about optimal amounts. (Braun 2007:13) Add to this human and animal waste – especially livestock dung – and the result is that there is now a lot of nitrogen in our planet’s soil and water. This new nitrogen is not inert, like the nitrogen in the atmosphere – instead, it reacts easily with other chemicals, hence the name “reactive nitrogen.”

But reactive nitrogen causes problems. Reactive nitrogen in large amounts moves around effortlessly in air, water and soils, a process called the “nitrogen cascade.” (Braun 2007:15) As it moves around, it contributes to a lot of problems. These include

- Raising ozone levels in the lower atmosphere (troposphere – the part of the atmosphere where we don’t want too much ozone)
- Causing or magnifying respiratory problems
- Damaging vegetation
- Causing corrosion in buildings and bridges
- Rendering some water sources unfit for humans

- Causing the “blue baby syndrome”
- May contribute to colon cancer and some other cancers (Braun 2007:15–16)

Most dramatically, however, in recent decades excess reactive nitrogen has become associated with water body *dead zones*. These dead zones are typically areas of the ocean, coastal enclaves and even lakes and streams — where oxygen levels drop for part or all of a year from their normal level of about 10 parts per million to 5 parts, or even below 2 parts in some cases. Fish swim away from the zone or die while bottom dwelling creatures mostly die.

Dead zones have proliferated in parallel with the spread of reactive nitrogen – they are almost certainly connected to the increase in nitrogen cascades around the world. Up to 90% of the known dead zones appear to have developed since 1950. (Breitburg *et al* 2018:1)

During this period, fertilizer usage – that is, reactive nitrogen – increased by ten times. Since 1970, reactive nitrogen discharges from rivers into coastal waters have gone up by 43%. (Breitburg *et al* 2018: 2)

How does a dead zone occur? As reactive nitrogen levels build up in a body of water, phytoplankton – microscopic plant life – proliferate into gigantic blooms. Some of these blooms contain cyanobacteria, many of which may be toxic and which are not yet well understood scientifically. When the plankton die, they fall to the bottom and are digested by microorganisms – a process that removes oxygen from the lowest levels of the water body and sometimes even the bottom muds (Dybus 2005: 554; Breitburg *et al* 2018:2 and 6).

Although dead zones can develop in any water body fed by streams that carry excess reactive nitrogen runoff – even in the Finger Lakes – the biggest concerns have centered on ocean dead zones. The world’s second largest lies at the mouth of the Mississippi River, in the coastal areas of the Gulf of Mexico. It is about the size of New Jersey. (The largest is in the Baltic Sea.) Recent studies indicate that 43 of the more than 500 coastal dead zones are in U.S. waters. (Biello 2008a and 2008b; Dybus 2005: 554; Harvey 2019).

And – the entire process of creating dead zones is reinforced by global warming – as phytoplankton and algal blooms reproduce faster in warmer temperatures (Breitburg *et al* 2018:1 and 2).

Can anything be done about dead zones? Currently available scientific data suggest a slowing of the nitrogen cascade and a slowing of global warming are likely to be the most effective means to reduce dead zones. Unfortunately, this pits the evidence directly against the enormous infrastructure of international large-scale agriculture.

As noted in Section I of this essay, capitalism’s inherently competitive and expansionist character ensures that it will collide with the biophysical limits of the planet. Even one of

its greatest achievements – the Haber-Bosch fertilizer discovery – threatens to alter the carefully evolved relationships among atmospheric chemicals such as nitrogen in ways that bring death and destruction.

The nitrogen case study – and the many other scientific warnings – indicate that capitalism cannot be the production system for the long term. A rationally planned economy with equal benefits and responsibilities for all humans and with a long-term cooperative relationship to nature – is the alternative that offers the best hope for human civilization to prosper and endure. That alternative is ecosocialism.

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## Notes

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<sup>1</sup> Canadian ecosocialist Ian Angus claims to have solved the mystery of the source of this famous quote that comes from Rosa Luxemburg but which she cited while in prison and without access to her books. It was apparently first said by the socialist leader Karl Kautsky in his 1892 pamphlet on the Erfurt Program.

<https://climateandcapitalism.com/2014/10/22/origin-rosa-luxemburgs-slogan-socialism-barbarism/>

<sup>2</sup> Many of these movements were critiqued by Friedrich Engels in his famous book: *Socialism – Utopian and Scientific* that is commonly read and discussed in Marxist study circles.

<sup>3</sup> Margaret Overton gives an overview and details of the history and content of ecosocialist manifestos in her 2018 essay: *Marx and Monkeywrenching: What Ecosocialism Means for the Environmental Movement in America*. Her essay contains a lengthy literature list.

[https://sites.duke.edu/culanth290s\\_02\\_s2018\\_actingenvironmentally/2018/05/17/marx-and-monkeywrenching-what-eco-socialism-means-for-the-environmental-movement-in-america/](https://sites.duke.edu/culanth290s_02_s2018_actingenvironmentally/2018/05/17/marx-and-monkeywrenching-what-eco-socialism-means-for-the-environmental-movement-in-america/)

<sup>4</sup> Foster (1999:400 – 401) also makes a few observations towards a sociological appreciation of the ecological thought of Durkheim and of Weber.

<sup>5</sup> See Part 7 – for a discussion of the case study of nitrogen in the current worldwide environmental crisis. The 1913 development of synthetic nitrogen changed everything – and maybe too much. Liebig is also

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famous for his “law of the minimum,” which states that plant growth is dependent primarily on the scarcest nutrient, rather than on the total amount.

<sup>6</sup> Kovel (2002:208) suggests “sufficiency” is a more appropriate term than “sustainability,” but surely by this point the latter is THE buzzword, for better or for worse.

<sup>7</sup> A description of a participatory planning process with much detail appears in Hahnel 2005, especially chapter 8.

<sup>8</sup> About \$143,438 as of March 2021.

<sup>9</sup> Each of these seven principles includes substantial additional detail in the complete document than shown here.

<sup>10</sup> An additional, similar overview of ecosocialist principles appears in Klein 2021.

<sup>11</sup> In 1981 Callenbach came out with *Ecotopia Emerging*, which offers details on how Ecotopia emerged. In 1976 poet and novelist Marge Piercy published *Woman on the Edge of Time*, a utopian science fiction book that may be partly influenced by the experiments at the New Alchemy Institute in Massachusetts and that somewhat parallels Ecotopia but with some different emphases. <https://newalchemists.net/>

<sup>12</sup> Also known as “The Brundtland Report,” after the name of the principle author, Gro Harlem Brundtland.

<sup>13</sup> It also appeared in a longer and more detailed form in the journal *Ecology and Society* Vol. 14, Number 2.

<sup>14</sup> This section is adapted from Franke, 2020.

<sup>15</sup> Kolbert cites Alan Weisman, author of *The World Without Us* who suggests that everyone above 2 billion persons owes their existence to the Haber-Bosch process. A United Nations Environmental Program document [Braun 2007: 11] offers the figure of “nearly 40 percent of the current world population.” At the time of publication in 2007 the world’s population was estimated at 6.7 billion.

**This presentation can be accessed online at:**

**<https://msuweb.montclair.edu/~franker/FrankeWhatIsEcosocialism.pdf>**