Youth Ecological Revolution

A handbook for leaders

3rd edition

Frank Rotering

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For my grandchildren
Eliott, Sam, Owen, and Duncan,
and young people everywhere.

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Preface

As this is being written in the late summer of 2022, unprecedented storms, wildfires, and floods are tormenting the planet. Pakistan, India, China, New Zealand, the U.S., Russia, Italy, Turkey … the list of extreme weather victims is long and growing at a terrifying pace. As a result we now viscerally KNOW: a temperature anomaly of only 1.2°C is sufficient to rampantly destroy human lives and infrastructure, and to massively damage the natural world. For rational minds the truth has become inescapable: ***global cooling must begin as soon as humanly and technically feasible***. Prioritizing any other response is a crime against humankind and nature.

This crime is now in progress. Despite the objective absurdity of emissions reductions as the climate solution, this story is still being peddled by scientists, journalists, educators, and politicians. The people we trust still insist that we can address only the *increments* to the fatal heat, and that we must ignore both the removal of cooling aerosols as emissions decline and the duration of unsafe temperatures. Even more ethically repugnant is their rejection of the only approach that can significantly lower the deadly temperatures: blocking the Sun's rays through solar radiation management (SRM).

What explains this ecocidal insanity? The short answer is that the wrong people control the planet. Political power is currently held by ruthlessly expansionary forces that falsify the ecological crisis and its solutions, and that compel strict compliance with their environmental, economic, and political falsehoods. The intellectuals who should long ago have refuted these lies have utterly failed to do so.

Who are the primary victims? Clearly the global young. Today's under-thirties have been grotesquely betrayed (see chapter one) and now face decades of mounting environmental catastrophes. To maximize their survival chances they must fundamentally transform today's social order. Specifically, they must call bullshit on their do-nothing elders, form revolutionary movements, cry out for military support, replace social leaders, and implement the rational crisis response. Too extreme, you say? But this is the **only** path an amoral world has left them, and existentially desperate times call for existentially desperate measures.

This book primarily addresses the leaders of these prospective movements. They will require an unflinching analysis of the crisis and an audacious strategy for ecological survival. In the following chapters I submit my proposals for their critical examination and potential guidance.

Given this orientation, the book is structured as a handbook: a succinct analytical and strategic guide. It thus provides clear explanations while avoiding unnecessary details. For deeper understanding, most chapters end with suggestions for further reading. Also included are several appendixes that might be useful to youth leaders. The most important of these is a proposed manifesto that outlines a militant program for youth ecological survival.

Who am I? A Dutch-born Canadian male in his mid-70s who has been both cursed and gifted with a highly autonomous, Aspie-like mind. This means that, to an uncommon degree, I ignore conventional thought and reach independent conclusions. I have also avoided institutional and organizational affiliations that might distort or constrain my work. Because I

have a profound ethical commitment to humankind and nature, I have studied the ecological crisis intensely for over thirty years.

My sincere hope is that this book will help the young survive the horrific crisis to which they have been viciously condemned.

Frank Rotering
Gabriola, Canada
September, 2022
ecologicalsurvival.org

Chapter 1:
Ecological betrayal and its implications

A. THE BETRAYAL

Betrayal is the violation of a trust or confidence. Young people - those under about thirty years of age - have until recently trusted social leaders to protect the environment from serious damage and thus preserve their future. This confidence was justified for two reasons.

The first is **ethical**: just as past humankind was responsible for passing a safe environment to the present, present humankind is responsible for passing a safe environment to the future. Given this inviolable standard of intergenerational equity, social leaders have a moral duty to preserve the natural world for the civilized survival of the young and their descendants.

The second reason is **political**: an international climate agreement that was ratified by 197 countries in 1994 committed world leaders to maintaining greenhouse gas (GHG) concentrations at safe levels in order to protect "future generations of humankind". Specifically, the UNFCCC agreement stipulated that concentrations must be restricted to levels that would, "… *prevent dangerous anthropogenic interference with the climate system*."

Given today's catastrophic land, ocean, and climate degradation, it is beyond dispute that this commitment has been grossly violated. Because the resulting environmental threats are existential, this violation is potentially ***genocidal*** for the global young. This group comprises roughly four billion people, 90% of whom live precariously in the poor countries of the Global South.

Briefly stated, today's young people have been cruelly betrayed, both ethically and politically. If they want to survive, their strategic thinking must begin with this sobering realization.

> **NOTE:** The term "social leaders", as used above, refers broadly to the holders of political power. In chapter five this group is accurately identified and a new term is introduced.

The violation of the UNFCCC agreement was of immense significance because it established the core falsehoods that underpin today's GHG-based disasters. The main falsehoods are discussed in the next two chapters. Here I provide a brief account of the violation itself.

In its second assessment report (1995) the Intergovernmental Panel on Climate Change (IPCC) took the position that determining "dangerous anthropogenic interference with the climate system" is a task for government policymakers, not scientists. The organization defended this stance in its third report (2001) with the following argument:

1. Danger is not objective because it varies with global location and social coping capacity;
2. Dangerous interference is therefore a "value judgment" and can't be scientifically defined;
3. Because dangerous interference determines unsafe GHG concentrations, these can't be scientifically specified.

The IPCC therefore concluded that the world's governments must independently establish unsafe concentration levels based on local conditions, and that the IPCC's limited role was to propose emissions scenarios to remain below them.

This argument and its conclusion are fraught with illogic and rich-world bias:

- Unsafe GHG concentrations are clearly a global problem that must be addressed at the global level. The IPCC's regional approach is blatantly irrational.
- If the policymakers of a poor country conclude that GHG concentrations are already unsafe and must therefore decline, the IPCC offers them no guidance. The organization provides only emissions scenarios, which lead to higher and even more dangerous levels.
- Although most GHGs are released in the Global North, they become uniformly distributed in the atmosphere. The rich countries will therefore impose their relatively high-concentration decisions on the poor countries, which need far lower levels to survive.
- Most fundamentally, objectivity in this context is irrelevant. ***GHG concentrations are unsafe when they cause harm to the world's most vulnerable populations*.** This is the only position that is consistent with the IPCC's repeated claims to social justice and global equity. The organization was therefore profoundly hypocritical when it knowingly permitted concentrations to soar far above these levels.

Today's widely accepted target of net-zero emissions by 2050, which will result in decades of additional warming and virtually guarantees youth genocide, is a direct result of the IPCC's 1995 decision. In effect, the organization reversed the international community's commitment to safe concentrations. The IPCC and its supporters were therefore core contributors to the betrayal of "future generations of humankind".

B. STRATEGIC IMPLICATIONS

The first responsibility of youth leaders is to produce a strategy, or plan of action, for ecological survival. This will determine how their movements will be organized and directed. The betrayal of the young is a critical event with major strategic implications. The most significant of these are outlined below.

1. **The young have been ecologically abandoned.** The reversal of the commitment to safe GHG concentrations means that business as usual will be pursued until catastrophic collapse occurs. *The young must therefore accept full responsibility for their ecological survival.* Others will likely support them once this responsibility is embraced, but the initial impetus must come from the young themselves.
2. **Because the young have been deceived, they must independently rethink the crisis and its solutions.** Until 2016 I made a serious mistake by uncritically accepting the assertions of

the IPCC and climate scientists. I then discovered that basic facts about emissions, concentrations, geoengineering, etc. had been either ignored or flagrantly distorted. One of this book's main aims is to use this unsettling experience to help the young gain an accurate understanding of the crisis they face.

3. **The environmental falsehoods are easily refuted, so powerful forces must be at work to maintain the genocidal pretense**. To cite the most prominent example, intelligent and informed people could readily grasp that the IPCC's 1995 reversal was based on a false argument. They nevertheless chose to support it, and have now defended this unconscionable act for more than twenty-five years. Without powerful forces acting to degrade their moral judgment, such behavior would be impossible. The most significant of these forces are humankind's material interests, which have biological roots, and the thought control imposed by social leaders to preserve their power and privileges.
4. **Because climate science has been intellectually corrupted, "trust the science" is a dangerously misleading slogan.** Although some trust in science is necessary, this must be restricted to empirical research that has been honestly conducted and accurately reported. Anything beyond this - framing, interpretations, conclusions, strategies, solutions, etc. - must by default be rejected.
5. **Older generations have largely acquiesced in the betrayal, indicating their broad support**. This means that, as with climate scientists, the older must by default be distrusted with respect to the crisis. However, many possess indispensable knowledge and experience, and some - particularly after the extreme weather events - will be eager to assist the young in their quest for a sustainable world. Distinguishing friend from foe among the older will therefore be a critical leadership task.
6. **Reformist youth movements must be replaced by militant youth movements**. Current movements are pressuring today's governments, under growth-dependent capitalism, to effectively address the crisis. Recent history has conclusively demonstrated the futility of this approach. Youth survival entails revolutionary change through militant movements, not incremental change through reformist movements.

To recap the betrayal's primary strategic implications, the young must:

- Accept full responsibility for their ecological survival;
- Independently rethink the crisis and the rational response;
- Acknowledge that material interests and political power support business as usual;
- Strictly limit their trust in climate science;
- By default distrust older generations;
- Shift from reformist to militant movements.

C. LEADERSHIP CONSIDERATIONS

NOTE: My task as a theorist is to develop the concepts required for a solution to the crisis and the transition to a sustainable world. The tasks of youth leaders are to modify these concepts as they deem necessary and then apply them to their concrete situations. Although the roles are distinct, a theorist inevitably has insights about the leadership function. In most chapters I therefore offer general advice to those who will assume this role. In these sections I address youth leaders directly.

1. The main error you must avoid is *fighting the last war:* applying the ideas, strategies, and tactics used in previous struggles on the false assumption that conditions are essentially unchanged. ***There has NEVER been a struggle like the one for youth ecological survival.*** This is not a fight for civil rights or economic equity. It is not the Depression, World War II, or the 2008 financial crisis. Today's leadership must be grounded in today's utterly unique conditions.
2. Based on these conditions, your first priority is to instigate SRM and other measures for short-term human survival. Your second priority is revolutionary change to implement the rest of the rational crisis response. As noted in chapter six and appendixes A and C, there is a promising relationship between the two: emergency SRM implementation could spur the required revolutionary shifts.
3. The young are entitled to feel intense anger at social leaders for their failure to effectively address the crisis, and at the older for their contemptible silence. This rage can and should be used to motivate movement members. As leaders, however, you must not allow emotions to distort your analytical and strategic thought. Given the situation's complexity and the strength of opposing forces, your leadership challenge is among the most imposing in history. Let the anger spur you, but then push it aside and think as dispassionately as you can. In a similar vein, blaming and shaming the guilty generations can be useful as motivators, but don't let vitriol displace effective action.
4. Be aware that there are two reasons for focusing on the young. The first, as noted above, is that prior generations ethically and politically owe them civilized survival. The second is strategic: the young have the most to lose from ecological collapse, therefore have the most compelling reasons to overcome the crisis, and are therefore the logical instigators of fundamental change. In recent years they have underscored this potential by loudly protesting the environmental destruction.
5. One of your biggest challenges will be to maintain a disciplined ambivalence towards climate scientists, other academics, and intellectuals generally. Collectively they are causing your demise, but many individuals will likely assist you in your survival struggle. My suggestion is to think of the supporters as your employees: competent workers who can carry out assigned tasks such as climate research and developing a sustainable economic theory, but who by default have no place in the boardrooms where you frame the issues and make your strategic decisions.
6. Distinguishing friend from foe among the older is crucial because very few young people have the knowledge and experience required to produce a workable strategy. I suggest you

apply at least the following criteria for allowing older thinkers to engage in your strategy development. They must:

a. **Firmly reject the standard environmental falsehoods.** For example, if someone accepts net-zero emissions as the GHG goal, dismiss them immediately because they are not on your side.

b. **Adopt a militant posture.** Because today's ecocidal social order is ultimately maintained by violence, the commitment to nonviolence is a white flag that negates any chance of avoiding ecological collapse. Whether they realize it or not, those who wave this flag represent the forces of expansion and youth genocide.

c. **Demonstrate genuine concern for the ecological well-being of the young.** This implies wholehearted support for the revolutionary shift from capitalism to a sustainable economy.

7. In the strategic realm, progressivism will likely be an impediment to your movement. This is because its goal is justice within the existing social order rather than sustainability within a new order. Its thinking and activism are therefore reformist rather than revolutionary. Keep in mind, however, that social justice will be a major issue in the painful and protracted transition to a sustainable society.

D. KEY POINTS

- The young have been ecologically betrayed and abandoned. They must therefore assume full responsibility for their ecological survival.
- The environmental deceptions are numerous, and derive from two strong and deeply entrenched forces: the material interests of all and the social control of the powerful.
- Climate science has been intellectually corrupted and should be trusted only to the extent that it honestly conducts climate and Earth-system research.
- Older people have largely acquiesced in the environment's destruction. They should therefore be strategically trusted only to the extent that they unambiguously demonstrate their support for the young's ecological survival.
- Because progressivism arose to fight for social justice within the prevailing order, it is reformist rather than revolutionary. However, the struggle for equity will loom large in an ecologically constrained world, so progressives will continue to play a significant role.

E. FURTHER READING

WEBSITE POSTS

The Young Desperately Need an Ecological Advocate - Criticism of an Australian climate conference in early 2020 that clearly demonstrated the youth betrayal.

The IPCC's Disastrous Refusal to Specify Unsafe GHG Concentrations - Some details on the organization's betrayal of the young.

The Scientific Misconduct of Climate Scientists - An argument that climate science, through its intellectual corruption, is violating its own codes of ethics and conduct.

EXTERNAL DOCUMENTS

UNFCCC agreement (1992, ratified in 1994) - A highlighted copy to identify key statements. The original document is here.

The IPCC's Interpretation of UNFCCC Article 2 - Extracts from the IPCC's second, third, fourth, and fifth assessment reports (ARs) that address the organization's interpretation of "dangerous anthropogenic interference with the climate system." The full reports are here. (Note that "SAR" means "Second Assessment Report", and "TAR" means "Third Assessment Report". The report abbreviations then switch to AR4 and AR5.)

Chapter 2:
The environmental calamity you face

A. THE ECOLOGICAL CRISIS

In chapter one I focused on the climate system as the primary example of youth betrayal. This accusation, however, applies to the ecological crisis as a whole. As shown in figure 2-1, this far broader crisis is rooted in the over-expansion of the global economy.

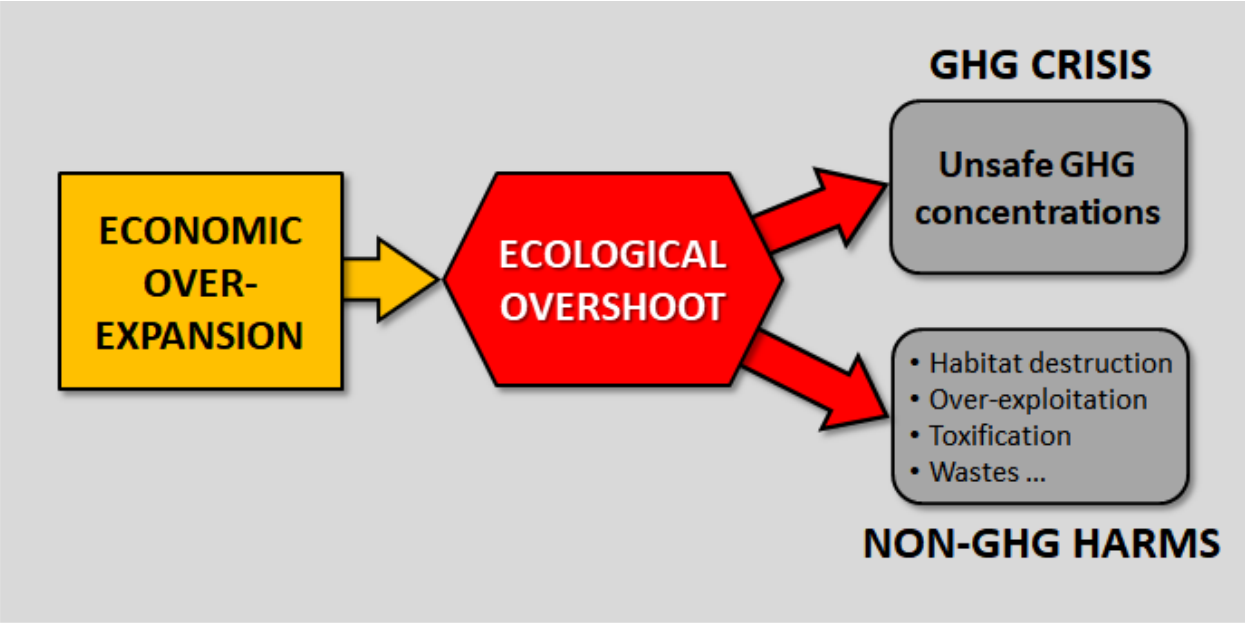

Figure 2-1. The ecological crisis

Centuries of rapid economic growth under capitalism placed increasing pressures on the environment, and around 1950 critical limits were violated. Most significantly, the atmosphere's CO2 concentration shot past its long-term maximum of 300 parts per million (ppm). Collectively these violations are called *ecological overshoot* or simply *overshoot*.

The environmental damage associated with overshoot can be divided into the *GHG crisis* and *non-GHG harms*. The GHG crisis, which is typically called climate change or the climate crisis, is the full set of damaging environmental effects from unsafe GHG concentrations. It poses an immediate existential threat and is therefore discussed further below. Non-GHG harms include habitat destruction, the over-exploitation of renewable resources, chemical and radiological toxification, and various forms of pollution and waste. These contribute to human health degradation, biodiversity loss, and species population declines, and could soon become existential threats themselves.

Given the extreme and destructive weather events of recent years, it is now clear that ecological collapse has already begun and that civilizational collapse could soon follow. This chapter and the next therefore address an acute planetary emergency.

B. THE GHG CRISIS

The key concept for understanding this crisis is *energy balance*. In the pre-Industrial period, the rate of energy flowing from the Sun to the Earth was equal to the rate flowing from the Earth to space. The planet was therefore in energy balance, which means there was no global warming. As emissions piled up and GHG concentrations rose, the heat escaping the Earth was increasingly blocked. This resulted in today's disastrous energy imbalance and its associated temperature anomaly.

The environmental impacts caused by this anomaly are depicted by the orange rectangles in figure 2-2. Another impact, which is depicted by the blue rectangle, is a chemical rather than a warming effect: the ocean acidification caused by CO2 specifically.

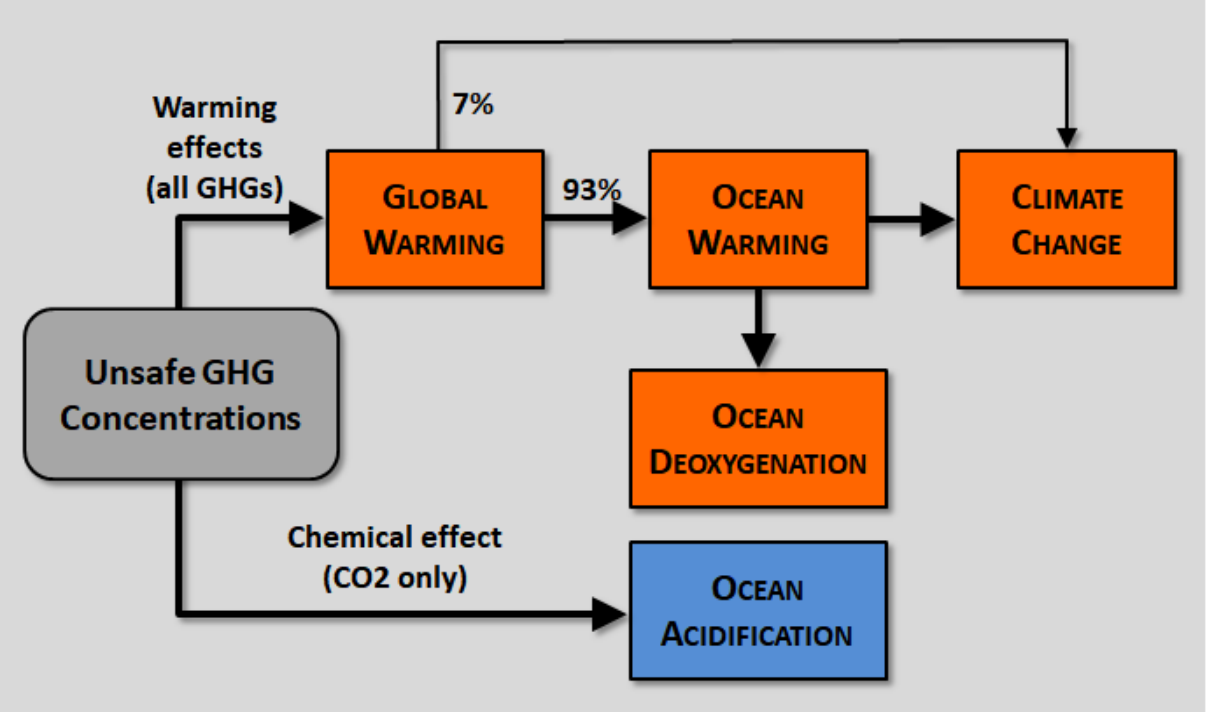

Figure 2-2. The GHG crisis

The initial warming effect is an increase in the Earth's average surface temperature. This is global warming. As shown above, about 93% of the excess heat is absorbed by the ocean. This causes ocean warming, which in turn causes ocean deoxygenation. All three ocean effects - warming, deoxygenation, and acidification - can severely harm marine life. After a delay of several decades due to the ocean's immense mass (thermal inertia), this heat enters the

atmosphere and drives the bulk of climate change. This term refers to a prolonged change in the mean and variability of key weather components.

The remaining 7% of the incremental heat immediately warms the land and atmosphere. This contributes to climate change, which is rapidly reducing the scope of safe human habitat. Our global living space is shrinking through sea-level rise, heat extremes, and an intensified hydrological cycle. The latter has already had devastating impacts: deep floods far beyond previous floodplains, destructive storms, and heightened land instability. Humankind will find it increasingly difficult to find secure home locations for its still-growing population.

An accurate understanding of the GHG crisis is important for two reasons. First, the rising global temperature can cause Earth systems to reach tipping points and points of no return. These are extremely dangerous and are therefore discussed in section D. Second, because this crisis is at the heart of the betrayal discussed in chapter one, most mainstream discussions on the topic are false or misleading - including the terminology employed. These deceptions are summarized in section E.

I must make two important points about "emissions" before I proceed. First, this term is inappropriate for most analytical purposes because emissions contain both GHGs, which warm the atmosphere, and aerosols, which have a cooling effect. (For a useful overview see this article in *Science* magazine.) Reducing emissions thus reduces both the warming and the cooling, with temperature results that depend on concrete conditions.

To mentally clarify this, we should always picture **two** smokestacks or tailpipes when thinking about emissions: one for GHGs and the other for aerosols. This will compel us to carefully consider their discrete effects. In this book I use "emissions" only when referring broadly to industrial effluents. The terms "GHG releases" and "aerosol releases" are used when discussing temperature effects.

The second point is that the mainstream frequently uses "GHG emissions", "CO2 emissions", "carbon emissions", etc. to establish the falsehood that emissions contain GHGs or CO2 alone. In this book such misleading terms are carefully avoided.

These clarifications will be particularly significant in the next chapter, where solutions are formulated and both terminological and conceptual accuracy will be critical.

C. THE ECOLOGICAL DAMAGE FUNCTION

A remarkable fact about climate science is that it has never formalized the relationship between global warming and the resulting ecological damage. This formalization, here called the *ecological damage function*, relates the various warming factors to the environmental damage they cause. In its absence an analyst cannot know, for example, if stabilizing the global temperature anomaly at 1.5°C or 2°C suffices to solve the GHG crisis.

In its 2018 report, Global Warming of 1.5°C, the IPCC correctly states that, "Future climate-related risks depend on the rate, peak *and duration* of warming." (Summary for Policymakers, p. 8, emphasis added) Unfortunately this is an isolated assertion that is ignored in the rest of the report and that remains virtually unacknowledged by climate scientists.

My proposed ecological damage function is a minor restatement of the above: the environmental damage from global warming is a function of the speed, magnitude, and duration of the unsafe temperature. See figure 2-3.

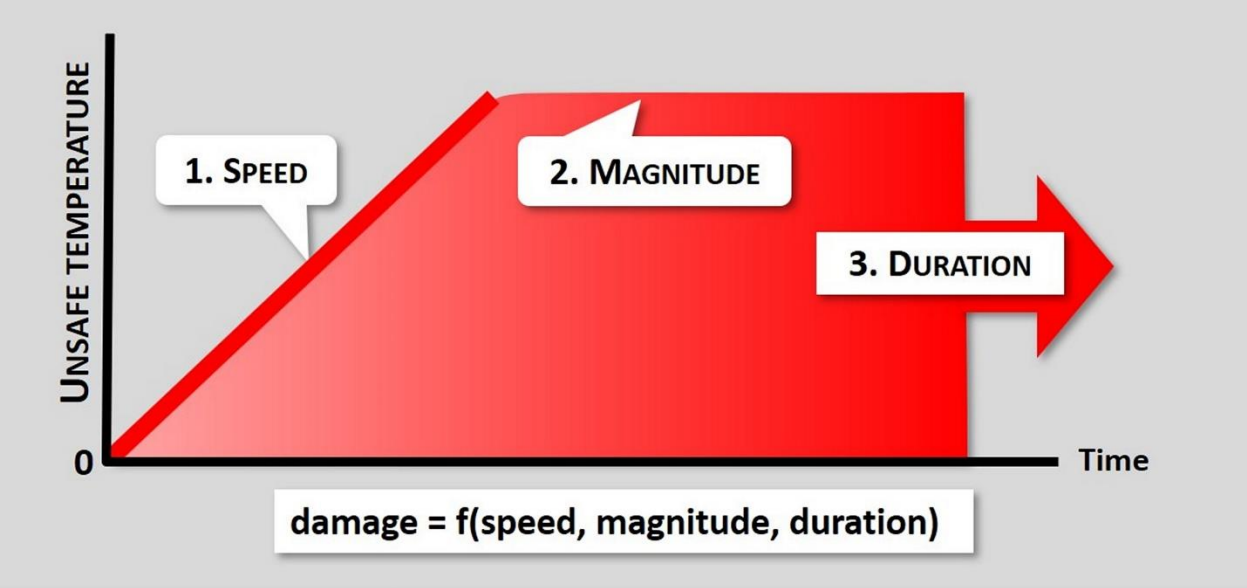

Figure 2-3. The ecological damage function

Warming speed is a damage factor because many species and ecosystems cannot adjust quickly to rising temperatures, and will therefore be adversely affected. Magnitude is important because people and non-human organisms can be severely damaged when they are thermally stressed. The duration of warming is critical because it determines the total heat absorbed by polar ice, the global ocean, and other Earth systems.

The first two damage factors - speed and magnitude - are recognized by climate science (although speed is typically downplayed), but duration is rarely mentioned. This is why the field can credibly propose a temperature target such as 1.5°C or 2°C as the crisis solution. If duration were considered, climate scientists would be forced to acknowledge that heat will continue to accumulate in Earth systems for as long as the temperature anomaly exists. This would invalidate the current focus on emissions reductions, which cannot eliminate the anomaly and its associated damage.

Note what the above implies: the world's heat problem is not just global **warming**, which refers to the increase in global temperature. It is also global **warmth** - the temperature anomaly that currently threatens our world.

D. TIPPING POINTS AND POINTS OF NO RETURN

The ecological damage function implies that environmental harms from global warming increase over time, even if the temperature anomaly remains constant. This means that, until the anomaly is eliminated, the risk of ecosystem collapse will continue to escalate. Two concepts that pertain to this risk are *tipping point* and *point of no return* (PONR). See figure 2-4.

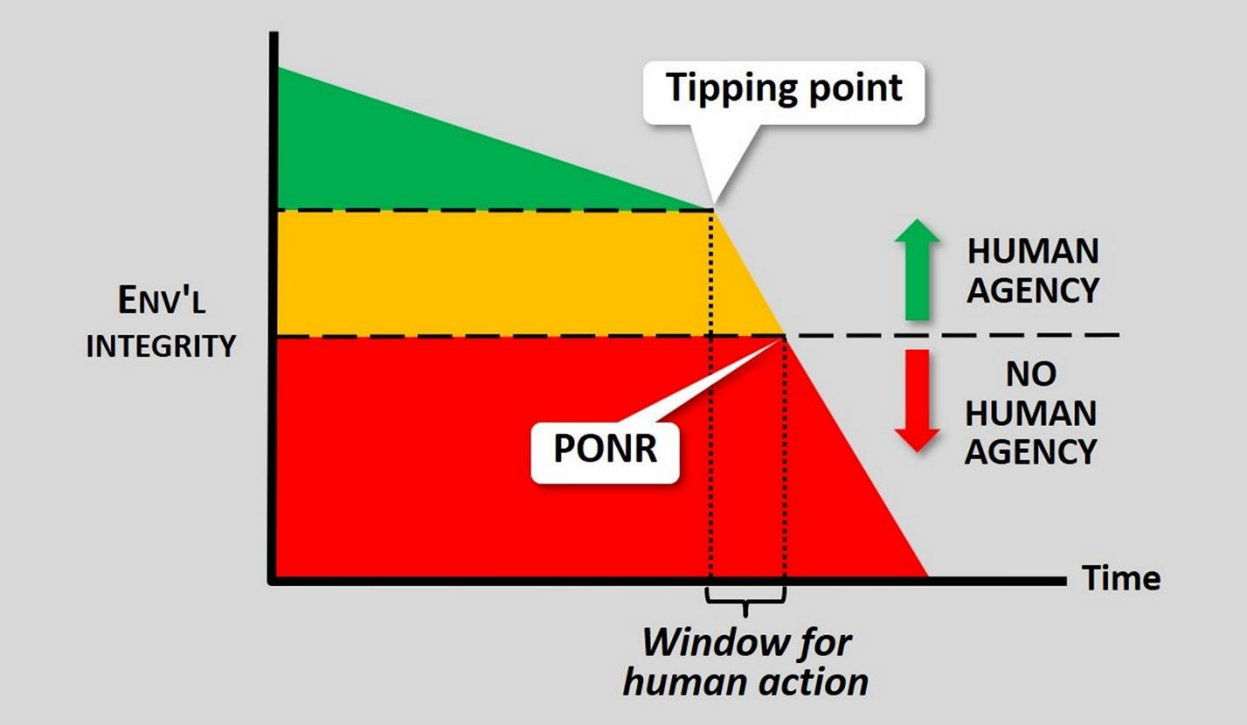

Figure 2-4. Tipping point and Point Of No Return (PONR)

The above graph traces the environmental integrity of an ecosystem over time. Integrity initially declines due to economic activities, but at a moderate rate. At a critical point, positive feedbacks are activated and the ecosystem's internal dynamics strongly accentuate the human influence. This is a *tipping point*. Although such an event is dangerous, it does not necessarily result in ecosystem collapse. If humankind acts quickly and effectively, the damage can be arrested and collapse averted.

In many cases, however, there is only a small window for action once a tipping point has been reached. If this window is missed, natural forces will overwhelm even our best efforts, and collapse will ensue. This is a *point of no return*, or *PONR*. There may also be situations where this window is non-existent because the tipping point and PONR coincide. It is also possible that a PONR can be reached without a tipping point. This would occur if a continuous decline leads to inevitable collapse. A final point is that tipping points can cascade: one may trigger another, which may trigger further tipping points in an extremely dangerous sequence.

As with emissions and concentrations, climate scientists address tipping points and PONRs in a confused and misleading manner. In most cases the distinction between the two is ignored: a tipping point is treated as a sudden *and* irreversible ecosystem shift. Another approach, which is

frequently used by the IPCC, is to acknowledge tipping points (never PONRs) when describing GHG problems, but to disregard them when proposing solutions. In other cases, the concepts are ignored altogether. This is the *linear fallacy*: the unscientific assumption that an increased impact always results in a proportional increase in environmental harms.

E. DECEPTIONS: THE GHG CRISIS

The GHG crisis has been wildly distorted with respect to both terminology and concepts. Below I summarize the main deceptions relating to the problem side - the crisis itself. In chapter three I address the falsehoods relating to its solutions.

MISLEADING TERMINOLOGY

a. The GHG crisis is officially called "climate change" despite the fact that this is only one of several disasters caused by unsafe GHG concentrations. Ocean acidification makes it particularly obvious that the standard term is a misnomer. Acidification is a purely chemical effect that is distinct from global warming and changing climates, but that is nevertheless included in the standard term. The mainstream prefers "climate change" in part because it masks the underlying cause of the crisis: unsafe GHG concentrations.

b. "Climate change" and "global warming" are frequently used interchangeably, even though climate change is a prolonged change in weather patterns whereas global warming is a rise in the average global temperature. Conflating the two erases both this distinction and the cause-effect relationship.

c. As noted in section B, terms such as "GHG emissions", "CO2 emissions", and "carbon emissions" are used interchangeably with "emissions", thereby ignoring the cooling aerosols and misrepresenting the temperature effects when emissions are reduced.

NO ECOLOGICAL DAMAGE FUNCTION: The absence of this function allows climate scientists to disregard the duration factor, which would invalidate temperature targets and the goal of net-zero emissions. It would also expose the fact that GHG concentrations should have been stabilized *at safe levels*, as stipulated in the UNFCCC agreement. Stabilizing them at today's unsafe levels is completely irrational.

LINEAR FALLACY: If tipping points and PONRs are ignored, the possibility of sudden and rapid increases in environmental damage is swept under the rug. The actual risks facing the young are thereby massively understated.

CONTINUITY FALLACY: Because of the chaos that characterizes the current breakdown of Earth systems, many environmental events are now inherently unpredictable. Accurate long-term forecasts have therefore become virtually impossible. For details see the Quanta Magazine article cited in section H.

CLAIMS OF A POSITIVE CARBON BUDGET: A carbon budget refers to the CO2 that can still be safely released into the atmosphere. However, as climate scientists themselves

acknowledge, the GHG crisis is now a planetary emergency. Any releases must therefore be unsafe, which means that carbon budgets are zero.

F. LEADERSHIP CONSIDERATIONS

1. On the environmental front you face three critical problems: the ecological crisis itself, the genocidal inaction of social leaders, and the deceptions implanted by these leaders to prevent rational action by others. When forming a militant youth movement you must begin by renouncing the falsehoods. As in my proposed manifesto (appendix A), I suggest you immediately replace the mainstream's misleading terminology and refute its most blatant lies. Unless these steps are taken, rational thought and meaningful dialogue with your supporters will be impossible, and your movement will founder before it begins.
2. Be aware that *speaking the scientific truth about the ecological crisis is a revolutionary act*. Due to its ecocidal economic logic (see chapter seven), capitalism would founder if the crisis were seriously addressed. Expect extreme reactions when you speak the truth, and be prepared for decisive action to back it up.
3. It is impossible to overstate the urgency of revolutionary change if the young are to survive the crisis. There is absolutely no doubt that, in its absence, PONRs will be reached and your civilized existence will brutally end. When people talk about "bold climate action", insist that this refers to the fundamental transformation of the prevailing social order, not to government policies that offer cosmetic reforms.
4. ALWAYS frame the ecological crisis as the result of economic over-expansion driven by global capitalism. NEVER accept the framing that the crisis is the result of unspecified "human activities". Aside from historical accuracy, this is strategically necessary to identify the economic system and social leadership that must be replaced with their sustainable counterparts.

G. KEY POINTS

- The ecological crisis was caused by the over-expansion of the global capitalist economy, resulting in ecological overshoot around 1950. Its two components are the GHG crisis and a set of non-GHG harms.
- The GHG crisis comprises global warming and its harmful effects, which are caused by all GHGs, and ocean acidification, which is a chemical effect of CO2 alone. This crisis is existentially dangerous and must be immediately and effectively addressed.
- Non-GHG harms include habitat destruction, the over-exploitation of renewable resources, chemical and radiological toxification, pollution, and wastes. Their combined adverse effect is rapidly increasing and could soon rival the GHG crisis for existential significance.
- The mainstream uses "emissions" and terms like "GHG emissions" interchangeably. This is grossly misleading because industrial emissions contain both warming GHGs and cooling aerosols, whereas these terms refer to the GHGs alone. To accurately reflect physical reality,

this book uses "GHG releases" and "aerosol releases" when analyzing temperature effects: two smokestacks or tailpipes, not one.

- The ecological damage function formalizes the environmental damage from global warming. It states that this damage is a function of the speed, magnitude, and duration of the unsafe temperature. The omission of the duration factor by climate science underpins several of its core deceptions.
- Tipping points and PONRs sharply increase the likelihood of ecosystem and ecological collapse. The IPCC and mainstream climate scientists typically obfuscate these concepts and downplay the horrific realities they represent.
- We have entered the age of ecological discontinuity, where future climate events and other environmental developments are increasingly unpredictable and long-term forecasts are increasingly unreliable.

H. FURTHER READING

WEBSITE POSTS

Ecological Discontinuity and Climate Science - Examines the remaining usefulness of climate science given today's inherent environmental unpredictability. The latter stems from two factors: the unprecedented nature of the current collapse, which means that the Earth's history cannot provide reliable data, and the overwhelming complexity of predicting future events based on physical principles. I conclude that climate science will remain useful only if it can shift from predictions to scenario planning.

Reject the Falsehoods: Split Climate Science! - A sharp critique of climate science based on its propagation of four objective falsehoods, which are intended to maintain public confidence in ecocidal capitalism. Because these falsehoods are devastating for youth survival, I propose a split in climate science between the mendacious mainstream and an ethical breakaway group. For my proposed statement by this group, see appendix D.

EXTERNAL DOCUMENTS

The Discovery of Global Warming - Spencer R. Weart (2003)
Weart's book provides three important insights. First, scientists have long known that the climate system is acutely sensitive to small perturbations that can trigger massive changes - particularly in the polar regions. Second, anything to do with the GHG crisis was suppressed and distorted when conservative forces began their ascent in the 1970s. Third, ***the IPCC was established in 1988 not to solve the GHG crisis, but to seize control of the issue from the independent scientists who were frantically raising the alarm.*** As stated by geoscientist Michael Oppenheimer, "[The Reagan administration] saw the creation of the IPCC as a way to prevent the activism stimulated by my colleagues and me from controlling the policy agenda."

A History of the Science and Politics of Climate Change: The Role of the Intergovernmental Panel on Climate Change - Bert Bolin (2007)
Bolin was the IPCC's first chair and held this post for almost a decade. In this book he recounts the organization's history and the opposition it encountered. Despite his vaunted reputation in scientific circles, Bolin was a central figure in establishing the IPCC's emissions fallacy: the claim that the GHG crisis can be solved through reduced emissions.

Storms of my Grandchildren: The Truth About the Coming Climate Catastrophe and Our Last Chance to Save Humanity - James Hansen (2009)
Hansen provides a solid scientific explanation of the GHG crisis, but his naivety on social issues is extreme. He reduces political power to special interests and money, seeks "healthy economic growth", and claims that the solutions are enlightened government policies and political will. None of this is tenable. The lesson is this: even the best climate scientists are economically and politically mystified, and cannot be trusted beyond their scientific competencies.

A Farewell to Ice: A report from the Arctic - Peter Wadhams (2017)
The author's main technical assertion is that a tipping point occurred in the Arctic around 2005 when ice disappeared from shallow Siberian seas. As a result, the area's air temperature rose rapidly and its reflectivity (albedo) declined sharply, thereby threatening a devastating methane pulse from melting permafrost and seabed hydrates. Wadhams is virtually alone among climate scientists in condemning the IPCC for its multiple failures on the Arctic's disintegration, and for the "collective failure of nerve" (p. 128) by his fellow scientists to recognize the post-2005 reality. Because Wadhams often speaks the painful truth, he has been ostracized by mainstream climate science and is largely ignored by the capitalist media.

Trajectories of the Earth System in the Anthropocene ("Hothouse Earth" report) - Will Steffen, Johan Rockstöm, et al. (2018)
This is a highlighted copy of an important paper that appeared in a journal sponsored by the U.S. National Academy of Sciences (NAS). The original document is here. The authors state that 2°C of global warming could irreversibly send the Earth on a pathway to catastrophic temperature increases. Their conclusion: "The challenge that humanity faces is to create a 'Stabilized Earth' pathway that steers the Earth System away from its current trajectory. ... Incremental linear changes [reforms] to the present socioeconomic system [capitalism] are not enough to stabilize the Earth System. Widespread, rapid, and fundamental transformations [revolutionary change] will likely be required ..." (Underlining added; my "translations" in square brackets.)

Climate Dominoes: Tipping Point Risks for Critical Climate Systems - David Spratt and Ian Dunlop (2022)
Despite its delusional faith in government action, Australia's Breakthrough group continues to produce useful climate reports. "Climate Dominoes" addresses the dire threat of "irreversible tipping points", which the authors identify as a "blind spot" in the IPCC's AR6 report. They correctly state that the Earth is already far too warm, and therefore question the purported safety of the Paris Agreement's 1.5°C aspirational target.

Hidden Chaos Found to Lurk in Ecosystems - Quanta Magazine (2022)
A chaotic system is one ruled by nonlinear responses to events, which means that its evolution,

especially over the long term, is virtually impossible to predict. Scientists have recently discovered that chaotic behavior is far more prevalent in ecosystem behavior than previously suspected. This article's conclusion: "… as climate change progresses, most real-world ecosystems are becoming increasingly unstable even in the short term."

Global warming in the pipeline - James E. Hansen et al. (2022)
This report by James Hansen, Makiko Sato, and thirteen co-authors offers a long-term perspective on today's warming crisis. For several millennia, as civilization developed, global warming was negated by aerosols. This changed in 1970 when GHG warming first exceeded aerosol cooling, leading to a warming of 0.18°C per decade. Another shift took place in 2010, when warming increased to about 0.3°C per decade. Given today's GHG levels, the expected temperature anomaly is 2.2°C, whereas the observed anomaly is only 1.2°C. This implies that a full degree of warming is being masked by aerosols. The authors state that, to save young people and future generations, the global temperature must return to its Holocene level.

Chapter 3:
The measures you desperately need

A. THE RATIONAL GOAL

Given the advanced stage of environmental degradation, the rational goal for the young is tragically modest: *ecological survival*. This refers to the non-extinction of our species and, if possible, the preservation of organized human life. To achieve this goal humankind must aggressively pursue three objectives:

1. Maximize our short-term survival chances;
2. Minimize our current environmental impact;
3. Repair our past environmental damage to the maximum feasible extent.

The measures required to achieve these objectives constitute the *rational response* to the ecological crisis.

The environmental goal that is typically promoted by conventional sources, especially with respect to the GHG crisis, is to "avoid the worst consequences". This formulation achieves two important aims for social leaders. First, it implies that the future will get worse, so all humankind can do is prevent the most extreme calamities. It thus establishes the "fact" that, as a species, we have no agency to reverse ecological damage and improve global conditions. This claim is consistent with the mainstream's commitment to emissions reductions, which can't achieve global cooling. Second, the formulation implies that any mitigating action will suffice. For example, if one ounce of plastic is prevented from entering the oceans and one marine organism is thereby saved, the "worst consequences" will have been avoided. Goal achieved!

Given that the conventional goal is untenable, it is not a serious objective. It is instead a core deception, aggressively disseminated by the capitalist media, which underpins a host of other falsehoods.

B. OBJECTIVE #1: SHORT-TERM SURVIVAL

The extreme weather events of recent years have definitively proved that a temperature anomaly of 1.2°C is far too high. For humankind's short-term survival, the Earth must be cooled by about 1°C as quickly as possible. There are two broad approaches for achieving this global cooling. The first is to address the heat indirectly by reducing GHG concentrations to increase the energy outflow. The second is to address the heat directly through SRM and low-level aerosols to decrease the energy inflow.

Unfortunately, the indirect approach cannot be effective for survival purposes. The work of Dr. Ye Tao, of the Rowland Institute at Harvard, has shown that GHG removal (GGR) through direct air capture (DAC) - which would be required to remove GHGs at the scale required - is

infeasible. This is primarily because the energy required for this massive operation far exceeds the energy that humankind is capable of producing. In addition, the fossil fuels required for alternative solutions would be wasted, and there are also severe material constraints. (See section I for relevant videos.) The various natural GGR methods - expanded forests, enhanced weathering, ocean fertilization, etc. - are much too slow to achieve rapid cooling.

Reducing emissions is also futile for this purpose, for two reasons. The first is that the GHG component of emissions will increase concentrations that are already causing a perilous energy imbalance today. The second is the aerosol effect: the cooling that is lost when short-lived aerosols are removed from the atmosphere as emissions decline. Due to these two factors, emissions reductions can - at best - slightly decrease the rate of global warming. They emphatically cannot achieve the required global cooling.

It should also be noted that, if aerosols are rapidly reduced through aggressive clean-air policies, human health will improve, but global warming will increase. Both health and temperature effects must be considered, but given its immense global impact, the warming will likely be far more dangerous to humankind and nature.

Given these brutal facts, it appears that rapid global cooling can be achieved only through the combination depicted in figure 3-1.

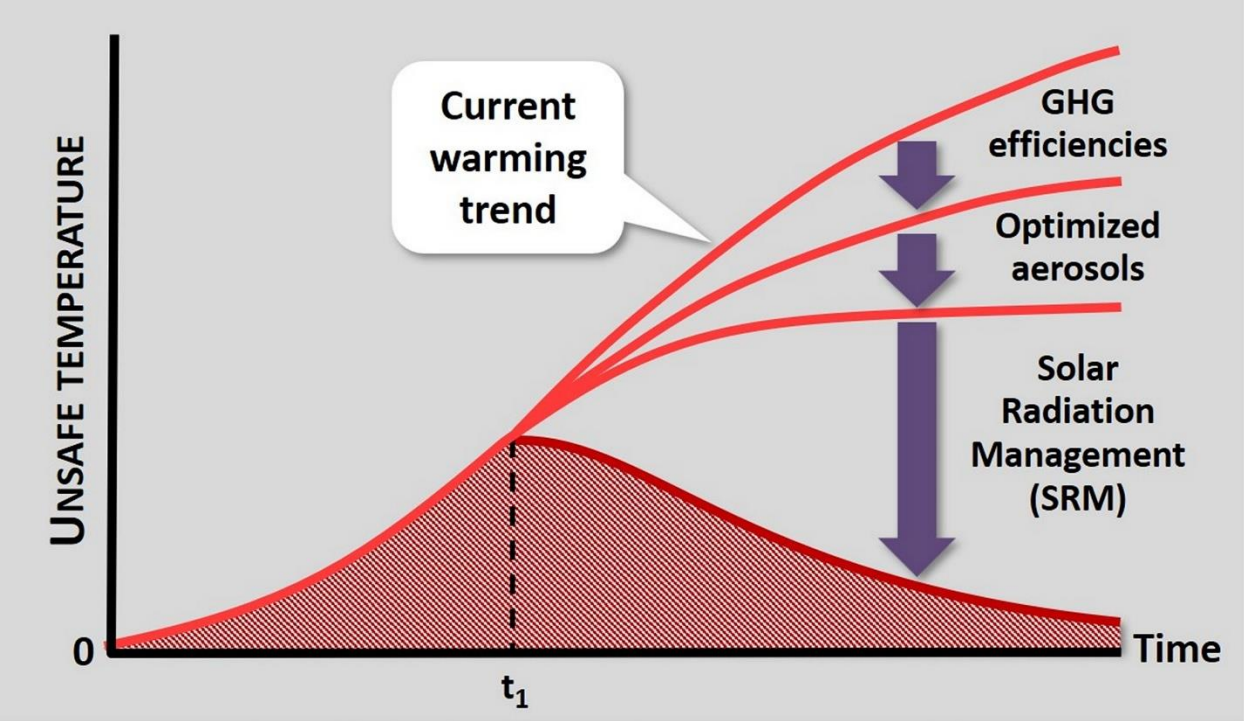

Figure 3-1. Maximizing our short-term survival chances

The top curve represents the current warming trend. Like the other curves, this one is notional (non-empirical) and simply depicts a starting point. The area under each of the four curves represents the ecological damage from the magnitude and duration of the temperature anomaly. Time t1 is when the cooling measures are initiated. The catastrophic warming

depicted can, at least in theory, be reduced and eventually reversed by implementing the three measures shown:

1. **Improve the GHG efficiencies of economic processes.** That is, reduce the quantities of GHGs released per unit of economic output. One possible measure is carbon capture and storage (CCS), which removes CO2 from industrial emissions before they enter the atmosphere.
2. **Optimize the releases of cooling aerosols.** Low-level aerosols harm human health and contribute to several million premature deaths per year. They also provide a strong cooling effect by masking as much as 1°C of GHG-based warming, thereby saving numerous lives. Their releases must therefore be ethically and scientifically optimized by balancing the health gains and cooling losses as levels decline. Because aerosols are largely a local phenomenon, their optimization should be a local decision.
3. **Implement massive SRM projects to significantly increase the Earth's reflectivity.** The details of SRM implementation must be formulated by trustworthy scientists. Possible technologies include the ground-based mirrors developed by MEER (Mirrors for Earth's Energy Rebalancing), space-based mirrors, the "space bubbles" recently proposed by MIT scientists, the stratospheric aerosol injection (SAI) favored by David Keith, marine cloud brightening (MCB), and polar ice brightening.

The first measure, improved GHG efficiencies, will increase the rate of energy flowing from the Earth to space. However, because it exclusively addresses incremental warming, it can only reduce the warming speed. Aerosols and SRM will instead decrease the rate of energy flowing from the Sun to the Earth. These two measures, particularly SRM, can potentially achieve global cooling.

Recall that ecological damage from global warming depends on the speed, magnitude, and duration of global warming. The above measures will decrease both the warming speed and magnitude, and if fully successful will also limit its duration. Although further ecological damage is unavoidable (see the shaded area in figure 3-1), this could be survivable if the three measures are initiated quickly and aggressively, and if adequate adaptation measures are rapidly implemented. (For a useful overview of the adaptation challenge, see Jem Bendell's "Deep Adaptation: A Map for Navigating Climate Tragedy")

A deeply disquieting fact is that there is no available solution for ocean acidification. Even if the temperature anomaly is effectively addressed, the chemical damage from CO2 will increase so long as the CO2 concentration continues to rise.

To summarize, humankind's short-term survival chances can be maximized by reducing GHG releases through greatly improved GHG efficiencies, optimizing aerosol releases by locally considering both cooling gains and health losses, and massively implementing SRM measures. Reversing ocean acidification must unfortunately wait until CO2 concentrations can be significantly reduced.

C. OBJECTIVE #2: MINIMIZE CURRENT IMPACT

While the above survival measures are being urgently implemented, humankind must minimize its ongoing environmental impact. The IPAT formula addresses this issue. The formula is a mathematical identity (two equivalent expressions) that disaggregates impact into three components: population (P), affluence (A) and technology (T). Affluence here refers to average per-capita consumption, and technology to ecological efficiencies.

The IPAT formula is important because two of the three factors, consumption and population, are sensitive topics that are frequently avoided in environmental discussions. One reason for this avoidance is that economic growth requires increases in both factors, so decreasing them would violate the logic of capitalism and other expansionary economies. A second reason applies specifically to population. Some people fear that population reductions will be ruthlessly aimed at the global poor, and are thus a form of "ecofascism". (See chapter five.) The IPAT formula helps us look beyond these issues and to objectively consider population as an impact factor.

Figure 3-2 provides a visual image of the roles played by the three IPAT factors in driving humankind's current environmental impact.

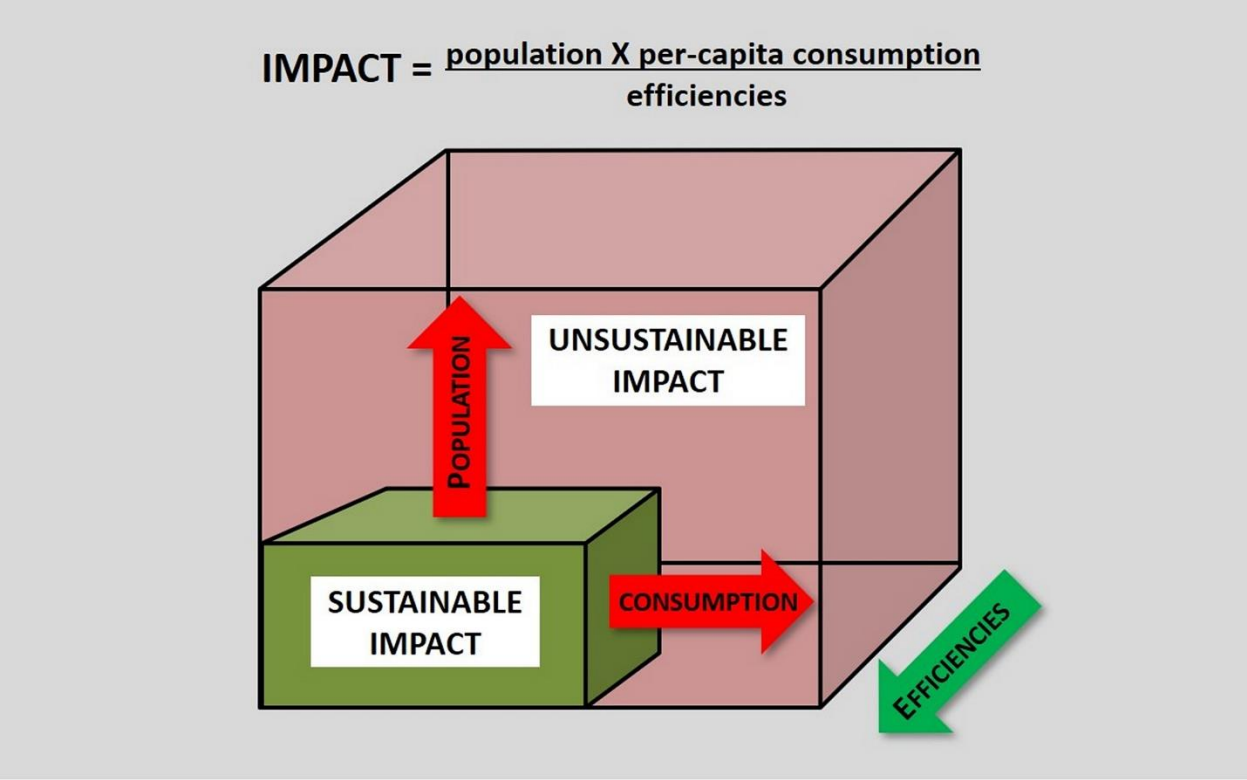

Figure 3-2. The IPAT formula

In this diagram the two boxes represent sustainable and unsustainable impact levels. The three IPAT factors are represented by the three dimensions of each box. Their overall environmental impacts are represented by the boxes' volumes.

Starting with the box representing sustainable impact, an increase in per-capita consumption will increase its width, hence its volume and total impact. Increasing population will increase the box's height, thus again volume and impact. Increasing ecological efficiencies, however, will reduce the box's depth, which means that both volume and impact will decrease. Briefly stated, humankind's environmental impact increases when either per-capita consumption or population increases, and decreases when ecological efficiencies increase.

With the IPAT formula in hand, let me address the measures for reducing our current impact, first for the GHG crisis and then for non-GHG harms.

A. MINIMIZE CURRENT IMPACT: GHG CRISIS

Two of the three IPAT factors - population and consumption - are largely irrelevant for reducing humankind's GHG impact. Although lowering them will reduce economic activities and thus emissions, global warming will continue due to the aerosol effect discussed above.

The remaining IPAT factor is ecological efficiencies, and this does apply. Remember, however, that the efficiency improvements must be directed at GHG releases specifically, not at the emissions that contain both GHGs and aerosols.

One approach for achieving these efficiencies is carbon capture and storage (CCS), which has unfortunately been disparaged by many environmentalists. Although the storage aspect is challenging, CCS is ideal for moderating global warming because it removes the warming CO2 from emissions while allowing the cooling aerosols to escape.

Note that GGR is not an efficiency measure: it removes GHGs *after* they have escaped the production process and entered the atmosphere, and is therefore part of GHG damage repair. Also be aware that many sources confuse CCS with GGR. This is particularly true for the Guardian, which consistently states or implies that the "capture" in CCS refers to removal of atmospheric GHGs.

B. MINIMIZE CURRENT IMPACT: NON-GHG HARMS

In this case all three IPAT measures apply. Reduced consumption and population in the rich world will cause bloated economies to sharply contract. This will quickly reduce pressures on ecosystems and hopefully allow threatened species to recover. Increasing ecological efficiencies will lower resource use and waste expulsion. Examples include reduced land and water inputs for the same food outputs, and less environmental degradation for the same forest, fishing, or mining outputs.

To summarize this section, humankind's current GHG impacts can be minimized by increasing efficiencies for GHG releases. For non-GHG harms the impacts can be minimized by

applying all three IPAT factors: reduced consumption and population in the rich world, plus greatly improved non-GHG efficiencies everywhere.

D. OBJECTIVE #3: REPAIR PAST DAMAGE

A. REPAIR PAST DAMAGE: GHG CRISIS

The third objective for the rational goal is to repair humankind's past environmental damage. I begin with the GHGs that have accumulated in the atmosphere since the Industrial Revolution.

The two relevant measures are SRM and GGR, which for many years were collectively called *geoengineering*. Because this topic has been massively distorted, I must first present the basic science. See figure 3-3.

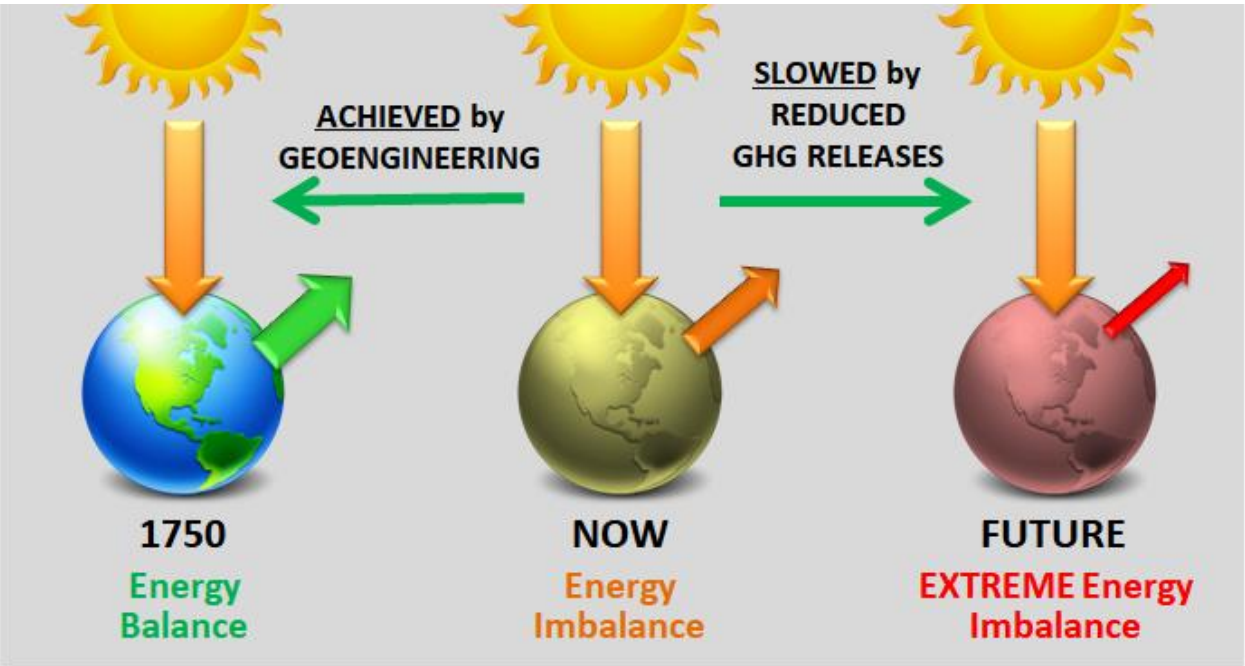

Figure 3-3. Energy balance and geoengineering

In the pre-Industrial period, as shown at left, the Earth was in a state of *energy balance* (see chapter two). Due to rising GHG concentrations over the past few centuries, the Earth has developed a substantial energy imbalance, as shown at center. Further increases to this imbalance, as shown at right, would be calamitous.

The two green arrows at top are critical for developing rational measures. The arrow at left shows what geoengineering accomplishes: *it restores the energy balance that was lost as concentrations rose*. The arrow at right shows what is achieved by reduced GHG releases: *they slow the increase in the energy imbalance*. To restate these critical facts:

1. Geoengineering restores the Earth's energy balance and thus *reverses* global warming;

2. Reductions in GHG releases *slow the rate* of global warming, but can't reverse it.

Given these physical facts, geoengineering is the only available solution for the accumulated GHGs. SRM will first be required to reflect the incoming solar radiation. Non-industrial and possibly industrial methods of GGR will then be needed to remove as much of the unsafe GHGs as is rationally justified.

Numerous objections to geoengineering have been raised. Some of these are discussed in my post, "Geoengineering: the Arguments" (see section I). Be aware, however, that this approach is seldom addressed in an honest and objective manner. This is particularly true for SRM, which is typically demonized as a crazy "techno-fix" by mainstream climate science. The plight of the young as they move unprotected into a perilous future is never seriously considered. The fact that most of them live in the vulnerable Global South, which would greatly benefit from prudent SRM implementation, is widely ignored.

B. REPAIR PAST DAMAGE: NON-GHG HARMS

Non-GHG harms include habitat destruction, soil destruction, ocean degradation, chemical toxification, and atmospheric pollution, all of which are now undermining the fabric of life on Earth. Repairing such damage, to the degree this is feasible, is called *ecological restoration*.

One urgently required approach is to abandon capitalism's destructive modes of resource extraction and agricultural production, thereby permitting battered ecosystems to recover. Another is the Earth's extensive *rewilding*: the return to nature of the land and ocean spaces that have been so destructively colonized by humankind. It will also be necessary to remove plastics and other wastes from the ocean, pollutants from lakes and rivers, and industrial chemicals from landfills and dumps.

In brief, humankind can to some degree repair its past environmental damage by using GGR to remove unsafe GHGs from the atmosphere, and by implementing ecological restoration for non-GHG harms. Throughout this period, SRM must be continuously employed to return the Earth to a livable temperature.

E. SUMMARY: THE RATIONAL CRISIS RESPONSE

The above measures, which together constitute the rational response to the ecological crisis, are summarized in figure 3-4 below. Recall that the measures are intended to achieve the modest goal of ecological survival by meeting three objectives: short-term survival, current impact minimization, and the repair of past environmental damage.

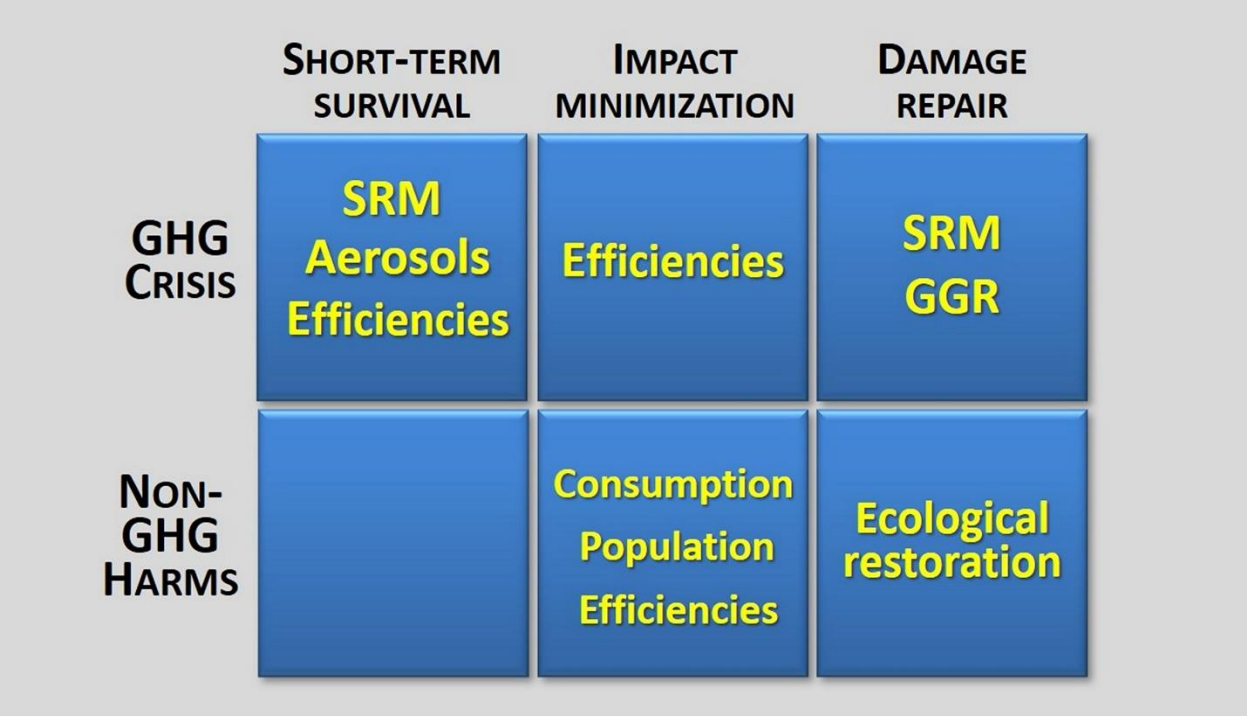

Figure 3-4. Summary of the rational crisis response

At the present time, (late summer, 2022) it appears that the GHG crisis is the primary threat to humankind's short-term survival. The diagram thus shows the relevant GHG measures, but omits measures for non-GHG harms. However, with plastics and toxins now permeating the planet, and with habitat destruction still rampant, these harms may soon pose an immediate existential threat as well.

To minimize humankind's current environmental impact, measures are required in both categories. For the GHG crisis, higher efficiencies for GHG releases will help slow the rise in concentrations. For non-GHG harms the full range of IPAT measures apply: reduced consumption and population in the rich countries, plus higher ecological efficiencies for all economic processes.

To repair humankind's past environmental damage, measures will again be needed in both categories. SRM and GGR will be required to restore the Earth's energy balance. For non-GHG harms the solution is ecological restoration to return the planet as much as possible to pre-industrial conditions.

I must emphasize that the rational response to the ecological crisis is based on two assumptions: its components are treated as a coherent solutions set and not as isolated measures, and capitalism has been replaced by a sustainable economic system.

These assumptions imply that measures such as SRM and CCS cannot be treated as standalone solutions, and they cannot be evaluated within the capitalist context. As an example of the latter, the standard objection to CCS is that fossil-fuel companies will use increased efficiencies as an excuse to continue fossil-fuel extraction. Under capitalism this is likely true, but it is irrelevant to the rational response. Like SRM, CCS makes sense only in the context of the response as a whole, and only under post-capitalist economic conditions.

F. DECEPTIONS: SOLUTIONS TO THE GHG CRISIS

In chapter two I summarized the deceptions relating to the problem side of the GHG crisis. Here I outline those relating to its solutions. As before, I begin with terminology because this establishes how we communicate and understand.

MISLEADING TERMINOLOGY

a. The IPCC defines "mitigation" as a human intervention to reduce emissions or enhance their sinks by natural or technical means. Despite this, many scientists and journalists use the word to mean emissions reductions alone. The bizarre result is that, when scientists tell society to "mitigate and adapt", it has no way of knowing what they actually mean, or even if they have a consistent understanding among themselves.

b. "Geoengineering" originally referred to the combination of GGR and SRM. These measures were demonized because they clashed with the mainstream's emissions-reduction story, so "geoengineering" became a dirty word. However, the IPCC found that GGR was necessary to meet the 1.5°C target, so this measure was reluctantly accepted. GGR was therefore removed from the "geoengineering" term, and today this still-dirty word is increasingly applied to SRM alone.

c. Aside from the recent use of "geoengineering" to mean SRM exclusively (above), there are many other terms for this approach. The acronym originally meant "solar radiation management", but the IPCC changed this to "solar radiation modification". Other terms include "climate engineering", "solar geoengineering", "solar reflective methods", "albedo modification", and "sunlight reflection". The resulting confusion is an important factor in keeping the young from rationally considering this approach.

EMISSIONS FALLACY: This is the nonsensical idea, implanted decades ago, that the GHG crisis can be solved by reducing emissions rather than maintaining concentrations at safe levels. Today this fallacy is expressed through the goal of net-zero emissions (decarbonization).

IGNORING THE AEROSOL EFFECT: The mainstream conceals the loss of aerosol cooling during emissions reductions by equating "emissions" with "GHG emissions", "CO2 emissions", etc. The aerosol effect is kept out of sight because it would undermine the mainstream claim that emissions reductions are the rational solution to the GHG crisis.

FALSIFYING SRM: This critical measure was for decades subject to a strict taboo, and is still derided as a techno-fix and climate hack. It is in fact a clear necessity for humankind's ecological survival.

THE GOAL OF STABLE CONCENTRATIONS: The UNFCCC agreement committed the world to stabilizing GHG concentrations "***at a level*** that would prevent dangerous ... interference with the climate system." (Emphasis added.) Today many climate scientists omit "at a level" and treat stabilization itself as the goal. This is highly deceptive because, as noted next, it falsely assumes that an elevated but stabilized temperature is safe.

TEMPERATURE TARGETS: Temperature targets such as 1.5°C and 2°C are invalid because they ignore the duration factor in ecological damage. There are three damage factors: speed, magnitude, and duration. Dismissing the last of these is like a physicist dismissing the third dimension of space.

G. THE TIMELINE OF ECOLOGICAL COLLAPSE

Thus far I have described the betrayal of the young, the ecological crisis, and my proposed response to this crisis. In the rest of the book I will discuss the social factors relating to youth survival. Figure 3-5 will be used to integrate the two worlds and to place the events that preceded collapse in their deep historical context.

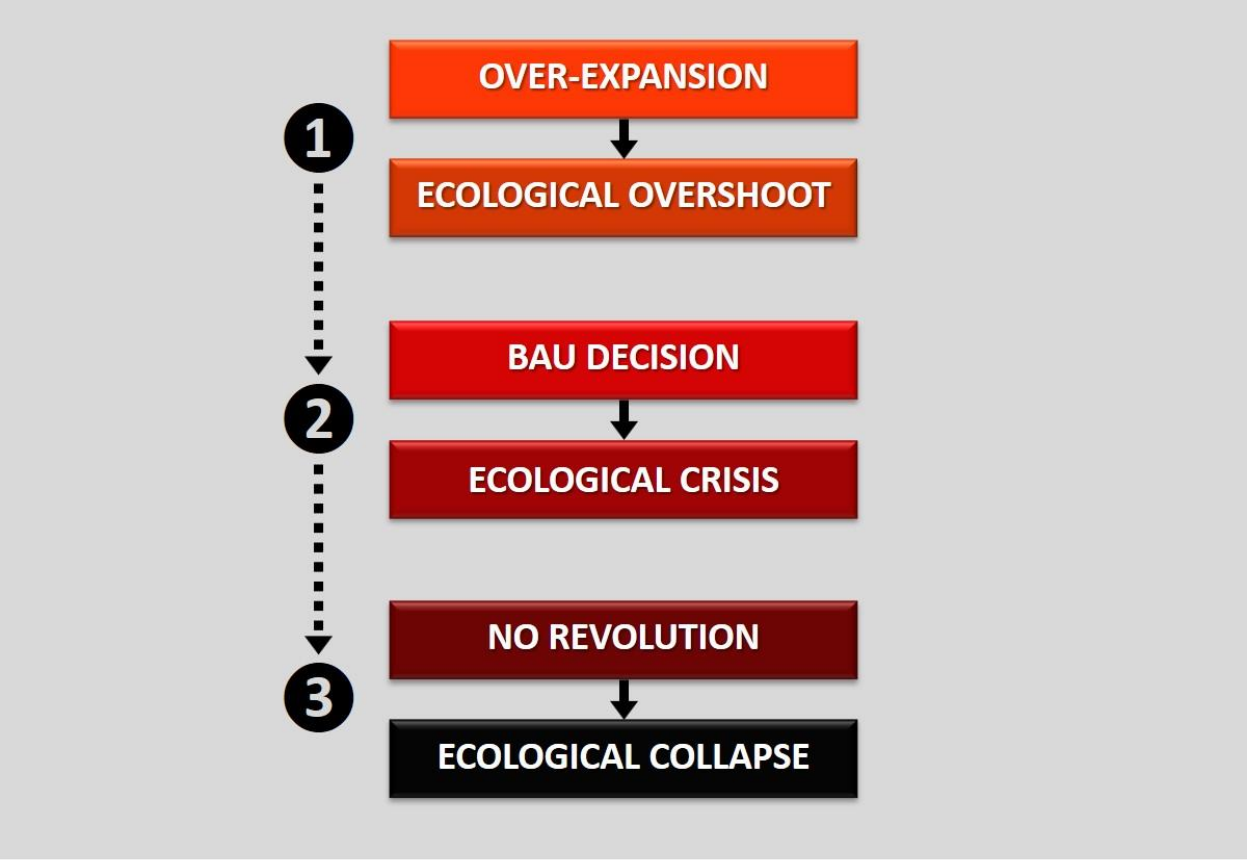

Figure 3-5. Timeline of ecological collapse

There are three stages: the overshoot that caused the crisis, the crisis itself, and the collapse that followed. Each stage consists of a human action followed by its environmental result.

The first stage is the over-expansion of the global economy. Specifically, capitalism's accumulated wastes violated the environmental limits for Holocene conditions. Rationally considered, this overshoot event should have induced our species to develop a sustainable economy while restoring damaged ecosystems.

The timeline's second stage shows that this didn't happen. Why? Because a sustainable economy constrains its growth and rationally manages its wastes, whereas a capitalist economy must grow and heedlessly expels its wastes. Given these fundamental contradictions, the powerful people who control global capitalism (see chapter five) made the fateful decision to continue with business as usual (BAU). Wastes therefore continued to accumulate, leading around 1970 to a serious ecological crisis.

The last stage of the timeline is both incontrovertible and, for most people, extremely difficult to accept. *If those in power refuse to act rationally in the face of an existential threat, the only recourse is to replace them with those who will.* Because this revolution failed to occur, the crisis sharply worsened and within a few decades became the current collapse.

This sequence of events reveals that ecological collapse has three human causes. The *initial* cause is economic over-expansion. The *intermediate* cause is the BAU decision. The *proximate* cause is the absence of revolution. Because the young can change only the proximate cause, this will be my focus in future chapters.

H. LEADERSHIP CONSIDERATIONS

1. Recall from chapter one that climate science can be trusted only for its honestly conducted empirical research. Because the rational response also entails detailed economic and political analysis, its formulation is beyond scientific purview. Science is necessary to develop and implement the technical solutions, but you and your carefully vetted supporters must decide what those solutions will be.
2. SRM is now critical for youth survival. Tragically, many progressives and climate-justice activists remain adamantly opposed. You should understand that, based on their expressed values, this stance makes no sense. The global poor, who live on the environmental edge, will be the primary beneficiaries of any temperature reductions that SRM will achieve.
3. The diagrams in this chapter are simple but useful conceptual tools. As with the ecological damage function in chapter two, such diagrams would be widely employed if sustainability were the true goal. Because it is not the true goal they are typically ignored, which means you must introduce them yourself. If you fail to do so, you and your movement will be conceptually handicapped.
4. Don't be fooled by scientists who tout solutions that may be technically feasible under ideal conditions, but that cannot be implemented either in the time available or in the capitalist context. Such claims are common because they maintain public confidence in the prevailing social order. A related ploy is to insist that more research is needed to predict precisely how

environmental degradation will proceed. Although this could be useful for adaptation purposes, it can lead to passive observation as the disasters unfold.

I. KEY POINTS

- The rational goal for the ecological crisis is survival: non-extinction and hopefully the retention of organized human life. Achieving this goal will require the aggressive pursuit of three objectives: short-term survival, minimizing current environmental impact, and repairing past damage.
- Short-term survival will entail sharply improved GHG efficiencies, optimized aerosol releases, and a rational set of SRM measures. Emissions reductions are ineffective because the rate of global warming will remain roughly unchanged, and could in some cases increase.
- Humankind's current GHG impact can be reduced through higher GHG efficiencies. For non-GHG harms all three IPAT factors apply: reduced consumption and population in the rich world, plus increased ecological efficiencies globally.
- Humankind can to some degree repair its past GHG damage through GGR and large-scale SRM. Non-GHG damage must be addressed through ecological restoration.
- As with the GHG crisis itself (see chapter two), its solutions have been mystified through numerous deceptions. Among these are misleading terms, setting false goals, the emissions fallacy, ignoring the aerosol effect, and rejecting SRM.
- Briefly stated, the rational response to the ecological crisis (besides adaptation) is to ***survive, minimize, and repair***. Humankind must first survive the rapidly escalating global heat, then minimize our overall impact, and finally repair the widespread damage we have already inflicted on our fragile planet.
- Ecological collapse has three causes: initial, intermediate, and proximate cause. The latter is the only cause that is accessible to youth agency, and is therefore critical to youth survival.

J. FURTHER READING

WEBSITE POSTS

Geoengineering: The Facts - Uses several official documents to explain the basic facts about geoengineering (GGR and SRM).

Geoengineering: The Arguments - Examines the valid and invalid arguments surrounding this controversial approach.

Black is White: Climate Deception becomes Orwellian - Exposes the outright lie told by several mainstream sources, including the New York Times and the Guardian, about the critical UNFCCC agreement: that its objective (Article 2) refers to emissions rather than concentrations.

EXTERNAL DOCUMENTS

Albedo Enhancement by Stratospheric Aerosol Injections - Paul Crutzen (2006)
Crutzen laments that efforts to reduce GHG releases have been "grossly unsuccessful", but that stratospheric aerosol injection (SAI) could quickly cool the Earth. If sulfates are used, this would require only 2-4% of the sulfur released annually from economic activities. Critically for humankind's short-term survival, SAI could initiate cooling within six months of deployment. He rejects the "termination shock" idea and warns that SAI research "should not be tabooed".

Green Illusions: The Dirty Secrets of Clean Energy and the Future of Environmentalism - Ozzie Zehner (2012)
The first half of this book is an excellent critique of "green" energy. The second half, which discusses the future of environmentalism, is far weaker. For a synopsis of Zehner's views on "green" energy see the documentary film, "Planet of the Humans".

A Case for Climate Engineering - David Keith (2013)
Keith is a leading voice on climate engineering (SRM). Here he discusses the most controversial method, stratospheric aerosol injection (SAI). This blocks a small fraction of the sun's radiation by spreading sulfate aerosols high in the atmosphere. This New York Times article offers his evaluation of SAI. Keith notes that, according to a study in Nature Communications, "… the harms of warming and benefits of cooling both accrue disproportionately to warmer, poor, more populous countries. As such, climate-econometric models indicate that solar geoengineering [SAI] would reduce intercountry income inequality."

Climate Reality Check 2021 - Breakthrough: National Centre for Climate Restoration.
This is a succinct and candid synopsis of the GHG crisis. A key statement: "Declining coal use and clean-air policies reduce the aerosol impact. This is our 'Faustian bargain': as fossil-fuel use declines, so does the aerosol cooling, so that ***for the next two decades lower emissions will have little impact on the warming trend***." (Emphasis added.)

VIDEOS

Dr. Ye Tao ~ COP26 Glasgow ~ MEER:ReflEction
This video reveals that large-scale industrial GGR is physically impossible. Tao explains that the current focus on GHGs guarantees a temperature rise that will exceed the thermal tolerance of life on Earth. We must instead turn the "direct knob" by managing the heat from solar radiation. According to Dr. Tao, ground-based mirrors are the cheapest, simplest, and most effective form of SRM.

Shocking Facts About Climate Change & A Possible Solution – Dr. Ye Tao
This brief video (7 minutes) encapsulates the above presentation.

Emergency medicine for our climate fever - Kelly Wanser
Wanser is the Executive Director of SilverLining, a U.S. organization devoted to addressing near-term climate risks. In this TED talk she explains that the aerosol loss from reduced

shipping pollution has measurably increased global warming. A diagram at 2:05 shows that aerosols mask between 0.5 and 1.1°C of warming - roughly "as much as all the warming we've experienced up until now." She notes that reflecting only 1-2% of sunlight would offset 2°C of warming.

Chapter 4:
Aspects of human nature you must consider

Human nature refers to our deeply embedded attributes, both mental and physical, that have resulted from millions of years of evolution. This topic is addressed here for three reasons:

1. These attributes are highly relevant to the quest for sustainability. They must therefore be carefully considered by youth leaders in developing and implementing a survival strategy. This topic is addressed in the present chapter.
2. Humankind's innate tendencies have been systematically exploited by social leaders to shape the populace's thinking and behavior. These methods are examined in chapter five in the context of political power and social control.
3. Assuming their survival, the young will have to transform today's dysfunctional world into ecologically and socially viable societies. This fundamental restructuring can succeed only if the core realities of our species are fully acknowledged. I briefly consider this aspect of human nature in chapter eight when discussing the post-capitalist world.

As with the ecological crisis, human nature can be divided into its core components to facilitate analysis. In my view these are the biological, ecological, and moral dimensions of our species.

A. HUMANKIND AS A BIOLOGICAL SPECIES

Modern humankind has a biological heritage that goes back several million years. For over 99% of this time we lived as hunter-gatherers, starting in East Africa. Only in the last 10,000 years, as a globally dispersed species, have we adopted an agricultural and civilized (city-based) mode of life. Karl Marx made an egregious error when he ignored these realities and defined human nature purely in terms of social relations.

This blunder was adopted by progressive thinkers and now infects many of the young as well. Peter Singer is therefore correct in saying that, "It is time for the left to take seriously the fact that we are evolved animals, and that we bear the evidence of our inheritance, not only in our anatomy and DNA, but in our behavior too." (*A Darwinian Left*, p. 6 - see section I.)

Joel Kovel, a prominent ecosocialist, echoes this view in *The Enemy of Nature*: "... the notion of human nature is necessary for any in-depth appreciation of the ecological crisis, and its lack is a sign of the crisis itself. In the absence of such a view, humanity is severed from the remainder of nature, and a genuinely ecological view is replaced by mere environmentalism." (p. 107)

In brief, all organisms are biological creatures with inborn tendencies, including strong self-interest with respect to survival, consumption, shelter, etc. Human beings are no exception, so our self-interest is both necessary and inherent. It can be shaped, but it can't be significantly diminished.

A critical factor is that human nature has a wide range of expression, and that some people are far more self-interested than others. To quote Singer again, "... many people will act competitively in order to enhance their own status, gain a position of power, and/or advance their interests and those of their kin." (p. 61) Under an expansionary system like capitalism such tendencies are often dangerously intensified.

B. BIOLOGICAL HUMANKIND: STRATEGIC IMPLICATIONS

1. Given their material interests, the global poor seek economic growth to achieve adequate consumption, and the global rich seek growth to maintain or increase their overconsumption. Economic expansion is thus universally desired, which means that the contraction required for sustainability will meet widespread opposition. A survival strategy must therefore exploit humankind's *non-material* motivations. Among these are the anger and defiance of the young, the ethical commitments of the older, and the military's professional duty to protect the populace from existential threats.
2. Because economic expansion is driven by human nature, ecological overshoot was virtually impossible to avoid. This implies that today's social leaders must be removed from power not because they caused overshoot, but because they failed to respond rationally once it had occurred.
3. Authoritarian measures will initially be required in the rich world to reduce consumption to sustainable levels. Eventually, population levels can be reduced and various social and personal activities can replace overconsumption as sources of human satisfaction. In the short-to-medium term, however, strict regulation of consumption will be unavoidable. This will likely spawn strong and perhaps violent opposition that must be anticipated and humanely but firmly subdued.

C. HUMANKIND AS AN ECOLOGICAL SPECIES

The longstanding story about modern humankind's gestation in East Africa is called the savannah hypothesis. This claims that, as the regional climate became cooler and dryer millions of years ago, several ape species left the dwindling forests, shifted from knuckle-walking to bipedalism, and started new lives on the sparsely-treed plains. Their struggle to survive among the dangerous creatures that shared this habitat sharpened their wits and produced the language, culture, and tool-making that characterize our species, Homo sapiens.

This hypothesis has been strongly challenged in recent decades, most notably by paleoanthropologist Rick Potts, who directs the Human Origins Program at the Smithsonian Institution. His conclusion, based on decades of field research in East Africa, is that the decisive factor in our development was not adaptation to a specific environment like the African savannah, but rather adaptation to the region's rapid environmental changes.

According to this *variability hypothesis* of human evolution, we developed a highly flexible, general-purpose brain that could extensively modify our surroundings to maintain survivable

conditions in the face of extreme environmental instability. This instability is depicted in figure 4-1, which is taken from Potts' book (see section I).

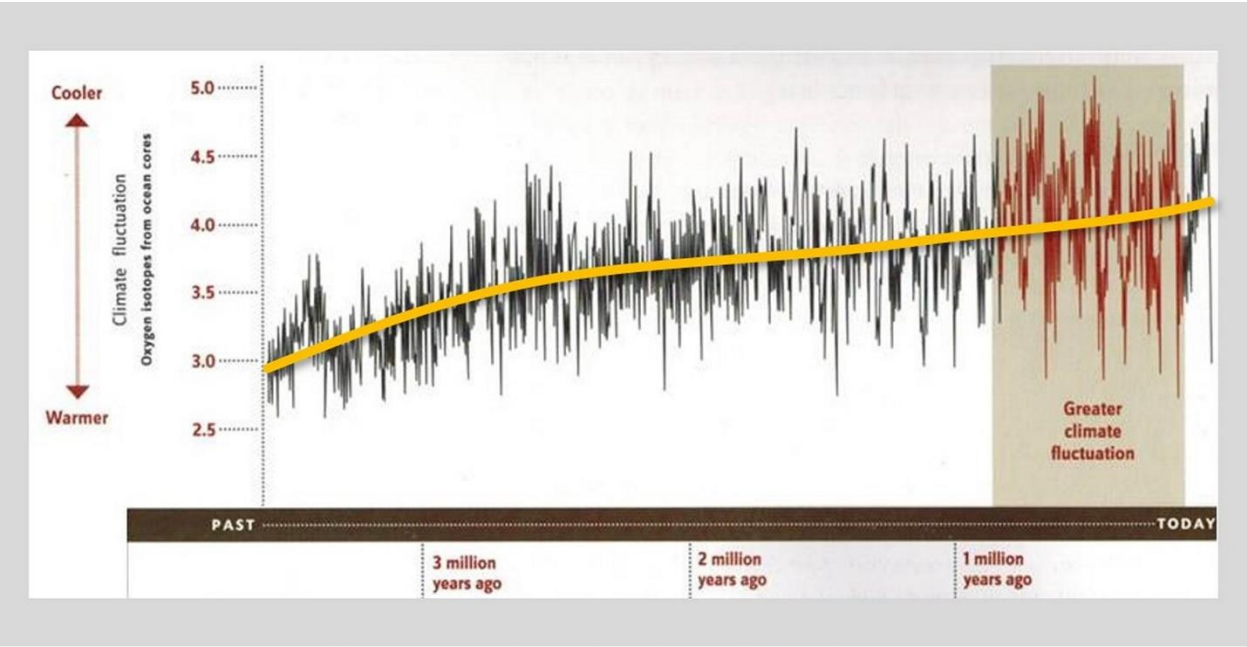

Figure 4-1. Humankind's ecological nature

The graph depicts the major environmental changes in East Africa over the last 3.5 million years. Two distinct patterns are visible: a long-term trend towards cooler and wetter conditions (yellow curve), and sharp variations around this trend. The savannah hypothesis assumes that the long-term trend is the only evolutionary force, and that the variations are inconsequential noise. The variability hypothesis instead considers both signals, with the sharp variations playing the dominant role in humankind's early development.

This fairly recent proposal helps us identify the evolutionary roots of ecological overshoot. Humankind's flexible and powerful brain permitted our adaptation to a wide range of conditions, and our biological drives impelled us to colonize the entire planet. Because there are no evolutionary pressures to restrict our impact to the Earth's environmental limits, our expansion was unimpeded and overshoot was largely inevitable. (For a research update, see this article in ScienceDaily.)

D. ECOLOGICAL HUMANKIND: STRATEGIC IMPLICATIONS

1. The variability hypothesis counters the frequent assertion that humankind evolved to deal effectively with immediate threats - the proverbial tiger in the bush - but that we are incapable of dealing with slow-moving, long-term perils such as environmental degradation. The new hypothesis by contrast indicates that our brains evolved not only to evade dangerous animals, but also to carefully consider the future, produce detailed plans, and act judiciously.

This implies that, at least with respect to our mental abilities, we have the capacity to both cause *and solve* the crisis we face.

2. The new hypothesis accurately locates humankind within the natural realm. We are deeply embedded in the natural world, but in a manner that differs decisively from all other species. Ours is the only general-purpose, highly intelligent brain that can rapidly transform the global environment. We are therefore a unique, and uniquely dangerous, species within the animal kingdom.
3. The variability hypothesis is also significant because it suggests that our adaptive flexibility is not boundless. Humankind evolved to deal with natural environmental variations, not with those that have been amplified by our own actions. It is thus likely that the speed and scale of these changes will soon overwhelm our evolved capabilities. The clear implication is that we must do everything possible to prevent or moderate these changes by quickly implementing the rational crisis response.

E. HUMANKIND AS A MORAL SPECIES

In *The Descent of Man* ("the origin of humankind") Charles Darwin states that a key difference between our species and "the lower animals" is that we have a "moral sense or conscience". He approvingly quotes an authority who asserts that this attribute, "… has a rightful supremacy over every other principle of human action." (p. 100)

Darwin goes on to say that, "… after the power of language had been acquired, and the wishes of the community could be expressed, the common opinion [regarding] how each member ought to act for the common good would naturally become in a paramount degree the guide to action." (p. 101) Earlier in the book he had emphasized that there is no fundamental difference between the mental powers of humankind and non-human species (p. 66f), so it is significant that he underscored their moral divergence.

Humankind's "moral sense" adds a third dimension to our nature. We are not only a biological species with material interests and an ecological species with a powerful brain, but also an ethical species that is capable of cooperation, compassion, and even heroism to protect the well-being of our human companions. A caveat is that this morality appears to be limited to "the community", and for most people does not extend to the species and the globe.

Succinctly stated, our species is self-interested, intelligent, and moral. Our actions are therefore driven by what is satisfying, what is logical, and what is right.

I should add that these three components of human nature correspond closely to Sigmund Freud's division of human personality into id, ego, and superego. The id is the unconscious driving force: humankind as a biological species. The ego is the conscious regulator of our deepest impulses: humankind as an ecological species. The superego is our conscience: humankind as a moral species. Depending on one's view of Freud, this could be seen as support for the idea that our evolved nature has three basic dimensions.

F. MORAL HUMANKIND: STRATEGIC IMPLICATIONS

1. The broad strategic implication is that human nature extends beyond the material interests and high intelligence that capitalism has long exploited. Humankind's natural tendencies also include a wellspring of moral action: a deep proclivity to consider the well-being of others.
2. Our innate moral sense can potentially help in splitting dangerous mainstream groups. As the crisis deepens and human suffering escalates, conscientious scientists, journalists, educators, and politicians could abandon their mainstream colleagues and throw their support behind the militant young. Even if active support is withheld, ethical considerations could neutralize some supporters of business as usual. This inborn sense of morality - our strong but suppressed compulsion to "do the right thing" - underpins my Youth Survival Manifesto (appendix A).
3. Humankind's moral sense could also help the young in shifting the military's support from social leaders to the populace. As discussed in chapter six, this shift is a core feature of my proposed revolutionary strategy. Many people join the military to "serve their country". This ethical commitment provides significant leverage for persuading its members to serve both citizens and the environment.

G. LEADERSHIP CONSIDERATIONS

1. Don't be swayed by progressive arguments that human nature doesn't exist or is irrelevant, and that only social factors matter. Progressives typically ignore human nature because it restricts the social improvements they seek. You, on the other hand, must carefully consider our inborn tendencies because they will severely constrain the fundamental social shifts required for ecological survival and a sustainable future.
2. Avoid the error I made in my 2013 book, *Contractionary Revolution*. At that point I still had a progressive mindset and thus envisaged a bottom-up revolution similar to the working-class revolutions of the past. Soon after completing the book I realized that workers were spurred by the poverty and squalor of early capitalism. They revolted to take control of the capitalist growth machine in order to channel the material benefits to themselves. Because such pro-growth motivations are disastrous in the environmental realm, a different mode of revolutionary change is now required.
3. Reject the conclusions of conservative academics if these are inconsistent with the scientific evidence, as they frequently are. For example, both E.O. Wilson and Steven Pinker (see section I) make a logical error about human nature that reflects their political bias. They correctly state that social choices are biologically constrained, but then claim that, given these constraints, contemporary societies cannot be radically altered. This is a non sequitur. The human lineage spent almost its entire history as hunter-gatherers, so this is the past that is most indelibly imprinted on our genes and brains. If Wilson and Pinker were consistent, they would acknowledge that capitalist civilization is an extreme departure from our ancient heritage, and that revolutionary change might allow us to reconnect with our deepest biological traits.

4. As just indicated, human nature is a vexed topic that is strongly tied to personal views. Be aware of this debate, but don't become ensnared by its subtleties. Whatever the complex truth about our evolved tendencies, your practical task is clear: gain rational control over our economies and societies so that overshoot can be reversed for youth survival.

H. KEY POINTS

- Humankind is a biological species with a long history as hunter-gatherers: "carnivorous primates of the African plains". (Wilson, p. 97) This past is imprinted on our genes and brains, and interacts in numerous ways with the social and cultural influences we daily experience.
- Given their material interests, both the global poor and global rich seek to increase their consumption. This strong tendency runs directly counter to the economic contraction required for sustainability. A youth survival strategy must therefore exploit our non-material motivations. Based on Darwin's observations about our moral sense, such motivations are an intrinsic part of human nature.
- Humankind's material interests strongly imply that the initial phase of the transition to sustainability will be authoritarian. Before our species can adjust socially and culturally, reduced consumption must be strictly but humanely enforced by social leaders.
- The human brain evolved in part to deal with rapid climatic changes in East Africa during our hunter-gatherer stage. This resulted in a powerful, general-purpose organ that is capable of both destroying the environment and formulating a rational survival plan. It also means that, although humankind is part of the natural world, it is a dominant and ecologically dangerous part.
- Just as natural limits constrain our ecological freedom, human nature constrains our social freedom. To be workable, a survival strategy must carefully consider both sets of restrictions.
- To summarize: humankind is a self-interested, intelligent, and moral species.

I. FURTHER READING

WEBSITE POST

The Material Interests Driving IPCC Support - Explains that the global rich continue to support the IPCC despite its objective failure because the organization safeguards their affluent lifestyles.

EXTERNAL DOCUMENTS

On Human Nature - Edward O. Wilson (1978)
Wilson rejects the dominant assumption of the social sciences: that our social behavior is purely

cultural rather than resting on a biological foundation. Like Pinker (below), he uses his valid biological conclusions to defend the ecocidal status quo.

Humanity's Descent: The Consequences of Ecological Instability - Rick Potts (1996)
As described above, Potts outlines his research in East Africa, which leads him to conclude that humankind's unique brain is largely a consequence of the region's rapid environmental shifts.

A Darwinian Left: Politics, Evolution, and Cooperation - Peter Singer (1999)
This slim but significant book offers a clear explanation of human nature by a progressive thinker. A key statement: "Belief in the malleability of human nature has been important to the left because it provided grounds for hoping that a very different kind of human society is possible. Here, I suspect, is the ultimate reason why the left rejected Darwinian thought. It dashed the left's Great Dream: The Perfectibility of Man". (p. 24)

The Blank Slate: The modern denial of human nature - Steven Pinker (2002)
Although Pinker is highly conservative and strongly opposes environmentalism, his book is a lucid companion to Wilson's *On Human Nature* (above).

A Short History of Progress - Ronald Wright (2004)
Wright fully accepts humankind's biological nature, but emphasizes that culture has become a powerful force leading our species to ecological destruction. Citing the Mayan collapse as a precedent, he warns that social leaders will respond to the ecological crisis by digging in their heels and doing what they have always done, only more so.

Chapter 5:
The political realities you must confront

This chapter marks a turning point. We are leaving the socially acceptable topics of environmental decline and human nature, and entering the impermissible realms of political power and social control. Although these topics will make many readers uncomfortable, they are unavoidable given the unprecedented depth and gravity of our ecological predicament.

My aim in this chapter is to establish the core political principles required to formulate a workable strategy for revolutionary change. This strategy will be presented in chapter six.

A. THE STRUCTURE OF CAPITALIST POWER

Up to now I have referred to the holders of political power as "social leaders". Although this term was adequate for previous discussions, it is unsuitable for strategic purposes. Figure 5-1, which depicts the structure of power in a capitalist society, identifies these leaders with greater precision.

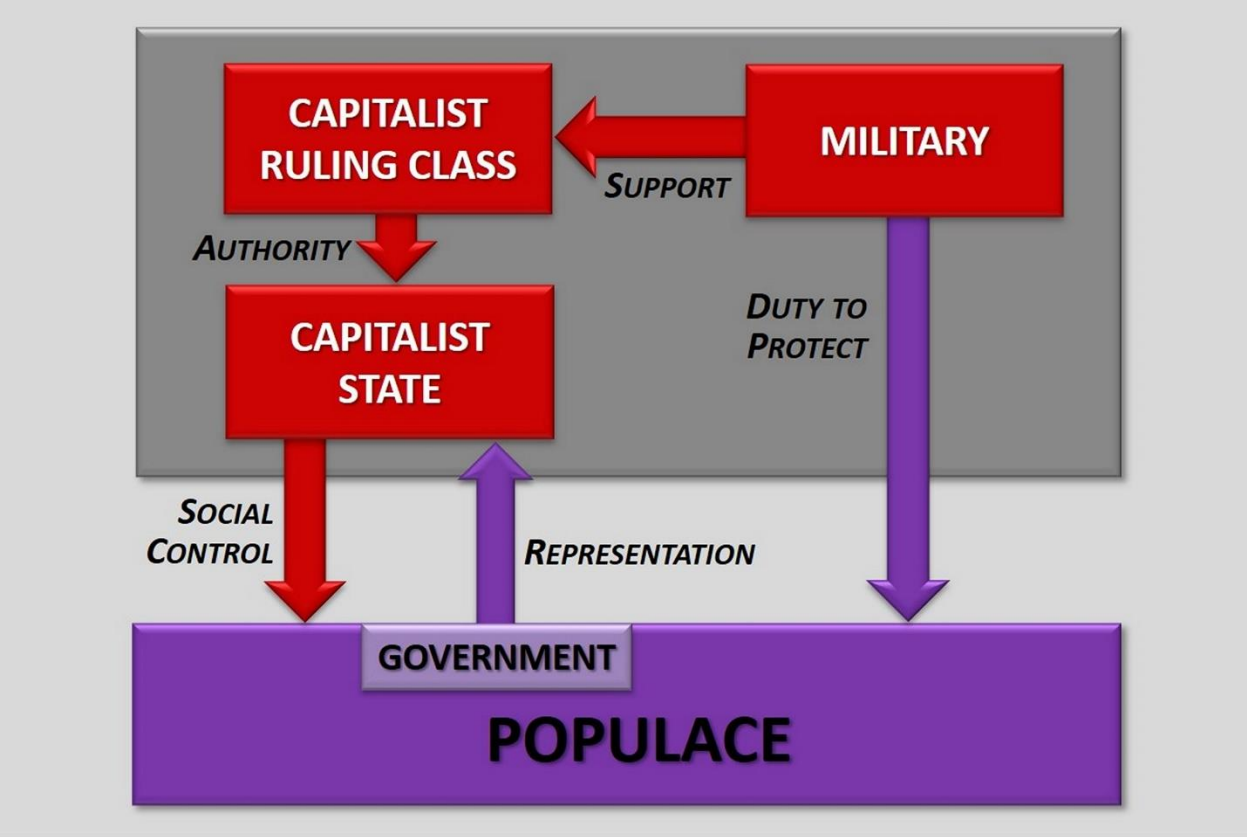

Figure 5-1. Political power under capitalism

At the bottom of this diagram is the world of electoral politics. This is the realm of the standard story: government holds political power, the populace elects government, so the populace indirectly rules society. If people are dissatisfied, they can elect a new government with more acceptable policies. The ecological crisis can therefore be solved through electoral politics and "political will".

This story is categorically false, and probably the most significant impediment to the young's ecological survival. History makes it abundantly clear that, although governments have significant influence, they lack true political power. Whenever a government has seriously thwarted dominant social groups it has been replaced by a more compliant version. If the young fail to see where power actually lies, they will be unable to identify both the social elements driving their genocide and those that might help prevent it.

The top part of figure 5-1 depicts the reality of political power in a capitalist society. This is the world of *deep politics* as opposed to electoral politics. I will first present the overall structure by identifying its components, and then add some clarifying comments. For further information see my document, A Political Primer.

CAPITALIST RULING CLASS

The core element is the *capitalist ruling class*: society's major capitalists and their close allies organized as a political force to protect and advance their shared interests. This group rules in the sense that it has military support to impose its worldview, economic logic, social structure, social relations, and chosen path of historical development on the rest of society. When the members of a ruling class have strong hereditary ties, it is also a *caste*. Its members are those previously referred to as "social leaders".

MILITARY

The *military* has both a crucial role and a core responsibility. Its crucial role is to provide the physical force that underpins the political power of the ruling class. Its core responsibility is to safeguard the populace from existential threats. As will be explained in the next chapter, the relationship between the military's role and responsibility is now of immense strategic significance.

CAPITALIST STATE

The ruling class does not assert its power directly, but instead delegates the required authority to the *state*. This term refers to the economic and political institutions, administrative structures, and instruments of coercion that implement social control and regulate social functioning in accordance with capitalist interests. The military is part of the state, but is separated here to highlight its unique political and strategic roles.

SOCIAL CONTROL

Social control refers to the state's management of the populace's emotions, thoughts, and behaviors for capitalist ends. Because revolutionary change is impossible unless movement leaders overcome this control, the topic is discussed in more detail in section C.

GOVERNMENT

This institution serves both the populace and the ruling class. It serves the populace by allowing people to express their views, concerns, and demands, thereby pressuring the state to make the desired changes. Government serves ruling-class interests primarily by facilitating the

democratic illusion: the deeply entrenched but mistaken belief that the populace holds political power. Government is discussed further in section F, which addresses electoral politics in the context of deep politics.

The following are important points of clarification:

- The young are not threatened by the above political *structure.* A ruling class or group is unavoidable in a complex society, a state is necessary for social regulation and stability, a military must support the rulers and protect society, and a government must represent the populace. ***The political problem for the young is the social force that currently dominates this structure: an ecocidal ruling class instead of a sustainable ruling group.***
- Various terms are applied to society's dominant figures, including the 1%, the oligarchy, the elite or elites, the establishment, and the ruling class. The first two are imprecise: 1% refers to economic wealth rather than political power, and oligarchy means rule by the few but without specifying who those few are. Elite, elites, and establishment have broad meanings and are therefore not strategically appropriate. "Ruling class" is clearly the most accurate and useful term, and thus replaces the previous "social leaders".
- The capitalist ruling class gained political power not by popular choice, but through a protracted and often violent struggle against the former rulers - Europe's feudal landowners. Because capitalists were not elected, they cannot be replaced by electoral means.
- Although the two are clearly distinct, "government" and "state" are typically conflated. This massively mystifies political reality by merging the instrument of popular representation with the delegated power of the ruling class. To support this conflation, the state is frequently misrepresented as government agencies, the civil service, the federal bureaucracy, or - as in the U.S. - the executive branch of government.
- Four key terms can now be defined:

  A ***coup*** is the replacement of a government, usually through military force, when it threatens the power or privileges of the current ruling class. As Trump and his followers have demonstrated, an electoral coup is also possible given sufficient popular support.

  A ***rebellion*** is the replacement of a government through an uprising by the populace. The various "color revolutions", such as Ukraine's Orange Revolution in 2004, were actually rebellions.

  A ***revolution*** is the replacement of a society's current ruling class with another ruling class. With rare exceptions this is achieved through military force.

  To recap, a coup is the replacement of a government by the rulers, a rebellion is the replacement of a government by the populace, and a revolution is the replacement of the ruling class.

  Revolutionary change, as used in this book, refers to the proposed social transformation as a whole: revolution, implementation of the rational crisis response, and the establishment of a sustainable economy and society.

B. CAPITALIST POWER: STRATEGIC IMPLICATIONS

Given the above power structure, the young must carefully consider the following when developing a survival strategy.

1. Many social elements support the ruling class, but military support is decisive. ***The primary strategic requirement is therefore to shift the military's allegiance from the ruling class to the populace.*** As discussed below, this shift is also necessary to prevent or postpone fascism.
2. A government cannot implement the rational response to the ecological crisis. The capitalist state will initially ignore or resist the fundamental changes it proposes. If the government persists, it will be neutralized. Past methods include discrediting it through economic sabotage to ensure its electoral defeat, fomenting a rebellion against it, and replacing it through a coup.
3. Corporations are not the holders of political power. They are economic entities that compete with each other on this basis. A revolutionary strategy must instead focus on the ruling class - the *political representation* of these economic interests.
4. The state, especially its senior members, strongly supports the ruling class. Replacing the latter through revolution is therefore insufficient - the state must be transformed as well.
5. Legal challenges (suing governments, adding ecocide to international law, enshrining rights for nature, etc.) can be useful for raising awareness and pushing minor reforms, but they cannot achieve fundamental change. The capitalist state, which controls a society's legal system, will never oppose or undermine its ruling class. The international order, which is based on the global capitalist economy, will never favor sustainability over growth. (For an overview of the legal strategy by two proponents, see the Guardian articles cited in section H.)
6. The rational response to the ecological crisis will require the replacement of the capitalist ruling class with a sustainable alternative. My proposed strategy for achieving this is presented in the next chapter.

C. METHODS OF SOCIAL CONTROL

Recall from section A that the ruling class authorizes the state to control the populace for capitalist ends. Because this control underpins ruling-class power, its methods have been perfected by the best minds that capitalist money can buy. It is therefore ingenious, virtually invisible to the populace, and devastatingly effective. Unless some light is shed on this dark realm, the young will stumble ineffectually instead of striding with some confidence to their survival goal.

A key point about social control is that its methods, especially in the rich world, are largely psychological rather than coercive. The populace is generally controlled not through physical or mental compulsion, but through the careful exploitation of human nature. Our inherent drives and tendencies provide the psychic energy that is cleverly redirected for social-control purposes.

For some fascinating and disturbing details, see the books by Rushkoff, Macknik and Martinez-Conde, and Richardson in section H.

Figure 5-2 depicts the major social-control methods employed in the capitalist world. It is intended to explicate the arrow marked "social control" in figure 5-1 above.

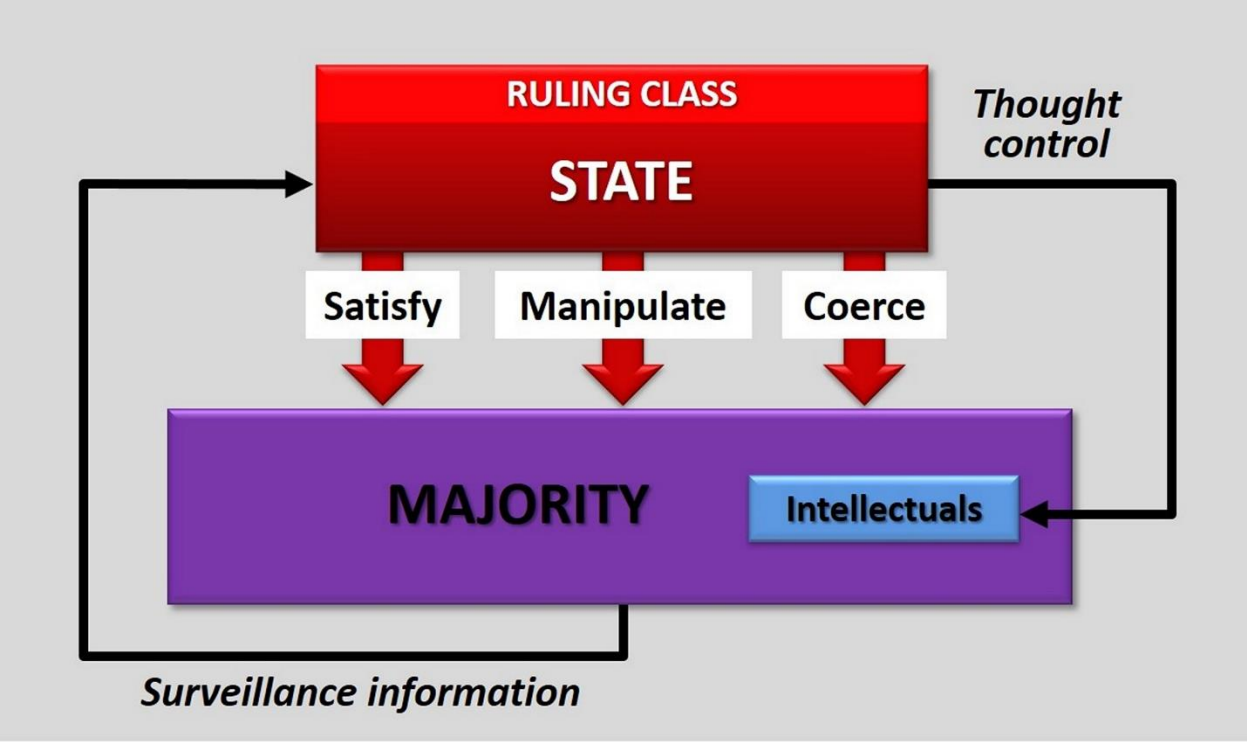

Figure 5-2. Methods of social control

As before, capitalist power is represented by the rectangle at top, and the populace - here divided into intellectuals and the majority - by the rectangle at bottom. The populace as a whole is controlled through four methods: satisfaction, manipulation, coercion, and surveillance. Intellectuals are additionally managed through thought control. The following are brief descriptions of these five components. Because coercion is a special case, it is addressed last.

SATISFACTION

The populace's most basic desires are to satisfy its core material interests: consumption and life enjoyment. This is sometimes expressed as giving people "bread and circuses": sustenance and entertainment. Satisfying these desires is therefore the most fundamental method of social control. People with full bellies and diverted minds rarely revolt, and they will be strongly predisposed to following ruling-class guidance.

MANIPULATION

The satisfaction of basic desires provides a solid foundation for social control, but much more is required to pacify the populace and make it fully useful to the capitalist class. People are therefore extensively manipulated, first to stifle any remaining revolutionary threats and second

to shape their minds for effective participation in a capitalist economy. The following are the main forms of manipulation:

- **The pyramid of privileges:** If you serve the capitalist class you will be rewarded, if you serve it well you will be amply rewarded, and if you serve it extremely well you will be munificently rewarded. These incentives lead to a pyramid of privileges that keeps people chasing the next carrot dangled before them, and that deepens their loyalty as they approach the peak.
- **Social division:** A longstanding and highly effective method of social control is divide and rule: pitting segments of the populace against each other on the basis of race, gender, mode of life, political orientation, etc. so they don't unite against the rulers. Racism is an instructive example because it derives from the fear of strangers that is rooted in human nature. This fear can be largely negated by a secure and beneficent ruling class, or it can be sharply intensified by one that perceives threats to its power or wealth.
- **Propaganda:** As used in this book, "propaganda" refers without prejudice to an organized effort to disseminate a belief or doctrine. The capitalist state uses propaganda profusely in education, the media, popular culture, etc. to disseminate the ideas, views, and perspectives that are favorable to capitalism and its ruling class. As explained in chapter eight, a sustainable state will also use propaganda, but with a radically different set of aims.
- **Deception:** This refers to propaganda falsehoods that are intended to disorient and misdirect the populace. For the young the most significant of these are the democratic illusion and the environmental lies previously discussed. Other deceptions include false-flag operations and various medical falsehoods that serve power and profits instead of health and well-being.
- **Fear:** Dread and anxiety impair rational thought and make people psychologically dependent on the rulers for protection. These powerful emotions can be manufactured through inflated threats from foreign enemies, internal saboteurs, etc., and they can be deeply implanted through dramatic events. Machiavelli (see section H) provides a piquant example of the latter. After describing how the powerful Borgia family disposed of a rival by cutting his body in two and placing it in a public square, the author noted that, "The brutality of this spectacle kept the people of Romagna for a long time appeased and stupefied."

THOUGHT CONTROL

In addition to the control methods that shape the populace as a whole, intellectuals are managed through selection, reward, and punishment. They are carefully selected for their cleverness and compliance, which together determine their potential for serving capitalist ends. They are then rewarded with professional applause and advancement for their ongoing contributions to the cause, and punished in various ways if they stray from the approved path. This combination establishes a distinct boundary between *permissible thought*, which has ruling-class approval and can be safely expressed, and *impermissible thought*, which lacks such approval and is socially and professionally perilous.

SURVEILLANCE

The state scrupulously monitors the thought and behavior of the populace for two reasons: to respond quickly to disruptive or revolutionary threats, and to strengthen its control methods. Given today's computer and communication technologies, surveillance is highly intrusive and shockingly comprehensive.

The four social-control methods described above are intended to produce *legitimacy*: the populace's willing support for the ruling class. When this relatively benign approach fails and support is withheld, coercion is used instead.

COERCION

This can be psychological, material, or physical. Examples of psychological coercion are professional shunning and reduced social status in response to impermissible statements. Material coercion refers to the loss of income, wealth, security, etc. Physical coercion, which in the rich world is generally a last resort, involves physical compulsion or violence. Examples are prison, torture, and death.

If coercion becomes extreme and democratic rights are routinely violated, capitalist democracy has transmuted into *fascism*. Fascism is therefore not a standalone ideology, as it is usually portrayed, but rather an alternative mode of capitalist rule. *The capitalist class employs the velvet gloves of legitimacy and democracy when possible, but resorts to the iron fists of coercion and fascism when necessary.*

In addition to the above, social control is exercised by corporations through their employment practices and their ownership of media and technologies. Social control is also facilitated by family influences (Orwell made this point in *1984*), and by peer pressures based on the widespread desire to "go along to get along".

D. SOCIAL CONTROL: STRATEGIC IMPLICATIONS

1. The populace is profoundly influenced by the capitalist class and its state. This influence will cease only when a new ruling class is in power and a new mode of social control is applied. This leads to an important conclusion: *any strategy that relies on a fundamental pre-revolutionary shift in the populace's attitudes, values, or worldview cannot succeed*. Such profound transformations can occur only under post-revolutionary conditions.
2. Social division exploits deep-seated aspects of human nature, so it is highly effective in keeping the populace fixated on superficial conflicts. The young must learn to look beyond electoral rivalries, race-based conflicts, differences in social attitudes and lifestyles, etc. to focus on the underlying class realities and power relations. Recent events in the U.S. and elsewhere indicate that social division has become a core method of social control.
3. Because thought control has an iron grip on the minds of intellectuals, few can contribute significantly to the young's strategic development. This underscores my suggested attitude towards them: by default distrust intellectuals for strategic purposes, but treat the supporters as educated employees who can competently perform well-defined tasks. See chapter six for a preliminary task list.
4. The young must urgently shift the military's allegiance from the ruling class to the populace in order to reduce the risk of fascism. Democratic norms must be preserved as long as possible to permit the formation of revolutionary movements and to minimize the brutality that invariably characterizes a fascist regime.

5. In order to maintain its power, the ruling class regularly employs violence even under democracy, and it will use extreme violence under fascism. It is therefore in no position to condemn the violence that will likely be required for its overthrow. Any such denunciations should be dismissed as rank hypocrisy.
6. The young should assume that surveillance is pervasive and that their deliberations are carefully monitored by state actors. This means that revolutionary change must be based on an open declaration of principles (see my proposed manifesto in appendix A) and a massive uprising by the young and their older supporters.

E. CASE STUDY IN SOCIAL CONTROL: THE IPCC

As noted above, two widely used methods of social control are propaganda and deception. For young people facing ecological collapse the most significant purveyor of both is the IPCC. Recall from chapter one that this organization effectively reversed an international commitment to avoid unsafe GHG concentrations. Today it provides pseudo-scientific justification for the genocidal target of net-zero emissions by 2050. The young should therefore understand the specific control methods it regularly employs.

1. **Misrepresenting its mandate (DECEPTION)**
   When the World Meteorological Organization (WMO) and the United Nations Environmental Programme (UNEP) jointly created the IPCC in 1988, the organization was given two mandates: assess the scientific information related to climate change and ***formulate "realistic response strategies"***. Today the IPCC acknowledges the first, but largely repudiates the second. The likely reason can be inferred from its assertion that it is "policy-relevant but not policy-prescriptive". This principle minimizes its connection to government climate actions, even though these are blindly based on the IPCC's guidance. The capitalist state has thereby shifted responsibility for climate disaster from the ruling class to the populace. This is how social control is typically done: through subtle deceptions and strategically directed mental nudges.
2. **Implicitly excluding SRM (DECEPTION)**
   As can be seen in this IPCC fact sheet, what the organization offers policymakers are "options for adaptation and mitigation". But "mitigation" refers exclusively to GHG sources and sinks, so SRM is by definition excluded. This permits the IPCC's solutions document, "Mitigation of Climate Change" (Working Group III), to ignore this core survival option. Not surprisingly, the Summary for Policymakers of the AR6 Synthesis Report fails to mention SRM even once.
3. **Claiming the mantle of scientific authority (PROPAGANDA)**
   The IPCC asserted in 1990 that its first Assessment Report was, "... the most authoritative and strongly supported statement on climate change that has ever been made by the international scientific community." Such self-aggrandizing claims escalated over the years as more scientists became involved. Capitalist media such as the Guardian have uncritically gone along, repeatedly stating that the IPCC is, "the world's leading authority on the

climate". The message to the young is clear: don't even think about questioning this bastion of scientific knowledge and expertise.

4. **Using spurious arguments (DECEPTION)**
   The IPCC's 1995 reversal of the UNFCCC objective (see chapter one) was achieved by telling the world that unsafe concentrations can't be objectively determined, hence only emissions reductions can be scientifically addressed. This is a ludicrous argument, and it takes only a moment of honest thought to expose it as a hideous lie.
5. **Sowing confusion: relative improvement vs. absolute solution (DECEPTION)**
   This urges the young to choose the better of two disastrous results while the rational response is ignored. For example, sea-level rise of one meter is better than two meters, but both will devastate coastal communities. The ignored response is aggressive measures for a safe global temperature to slow and hopefully stop the rise. This method is closely related to "good cop/bad cop", which is discussed in my critique of Michael Mann's *The New Climate War* (see appendix E).
6. **Endlessly repeating "emissions" (PROPAGANDA)**
   This is embarrassingly simple, but it works. In the key documents arising from the UNFCCC-based climate negotiations (CoP meetings) the word “emissions” appears numerous times, but “concentrations” is seldom used. Specifically, the combined ratio for the original UNFCCC Agreement (1992), the Kyoto Protocol (1997), and the Paris Agreement (2015) is an overwhelming 104-2 in favor of "emissions". The same disparity holds for most books and media articles that discuss the GHG crisis.
7. **Avoiding basic realities (DECEPTION)**
   This is again simple but highly effective. The IPCC doesn't want you to think about the collapsing Arctic, so its assessment reports virtually ignore the issue. The organization doesn't want you to rationally examine geoengineering, so the indispensable energy-balance concept is carefully avoided. The IPCC desperately wants you to disregard GHG concentrations, so these are rarely mentioned.

In chapter one I used the term "social leaders" when discussing the IPCC. That term is now obsolete, so let me briefly restate the organization's role with reference to the above power structure. Although many ruling classes and states were involved, I simplify by treating them as a single entity.

By the 1970s the capitalist class was fully aware that the atmospheric build-up of GHGs would devastate the biosphere. However, because its power and privileges were tied to the economic system that caused the accumulation, it chose to continue with business as usual. To conceal this horrific act it needed a credible organization to distort the science and mystify the populace. It therefore directed its state to form the IPCC: the Intergovernmental Panel on Climate Change.

The word "government" was used in the name to make it appear that the organization serves the populace rather than the ruling class. The term "climate change" was used because this reduces the problem's scope and responds to the populace's concerns about changing weather

patterns. Despite these deceptions and the rulers' business-as-usual decision, both of which existentially threaten the populace, the military's support for the rulers remains strong.

F. ELECTORAL POLITICS AND DEEP POLITICS

To this point I have discussed the deep politics of power and control. It is now time to relate these hidden features of a capitalist society to the visible world of electoral politics. See figure 5-3.

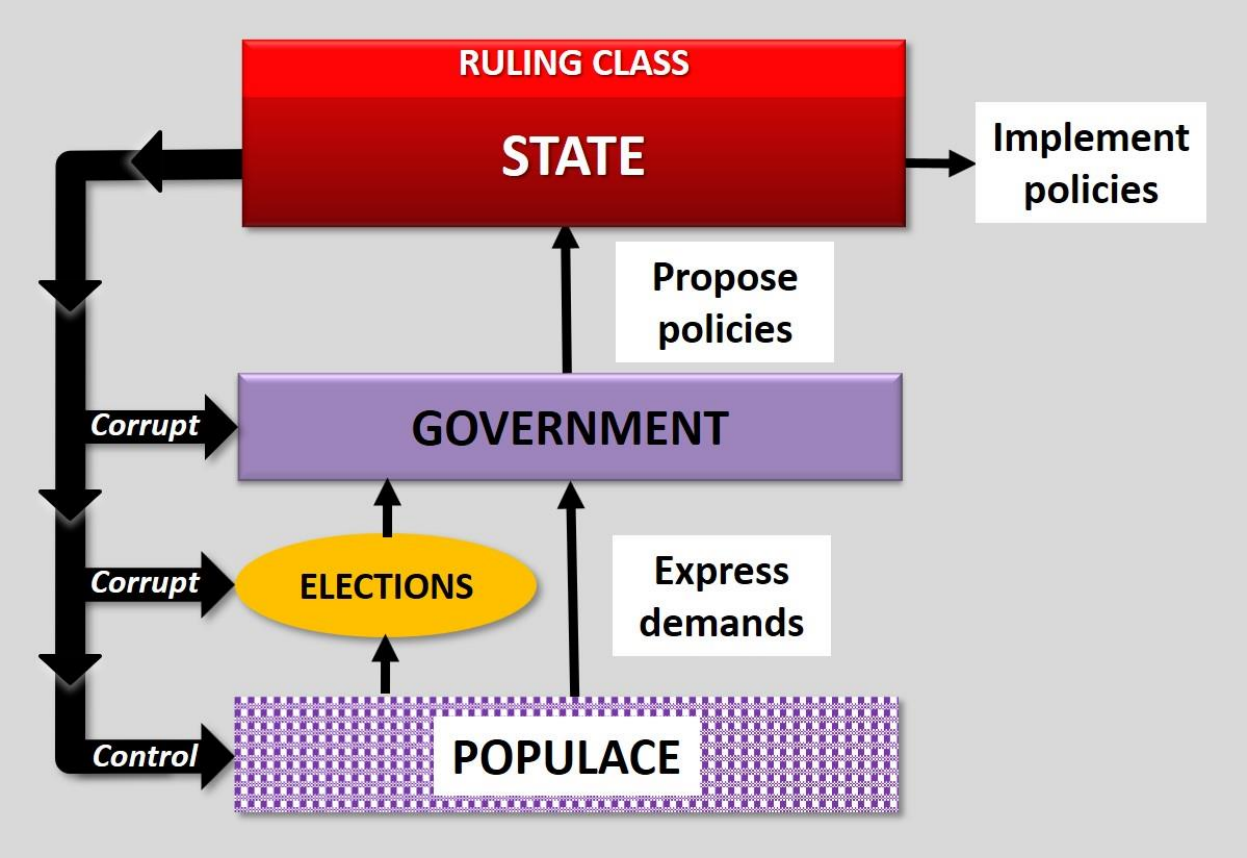

Figure 5-3. Electoral politics and deep politics

Electoral politics comprises the populace, the electoral process, the governments that result from this process, and the relationship between government and state. The populace first chooses its political representation by electing a government. It then expresses its demands to this government, which formulates laws and policies for implementation by the capitalist state.

This arrangement serves the populace by giving some expression to its political will. It serves the capitalist class by fostering the democratic illusion, controlling policy implementation, deepening social divisions, and diverting the populace through noisy and emotion-laden electoral battles.

A highly significant factor is that an inflamed populace could use electoral politics to threaten the stability of the capitalist status quo. Given this threat, the state extensively corrupts both the electoral process and government. Standard methods include voter suppression, targeted propaganda, gerrymandering, corporate lobbying, financial payoffs, and infiltrating government itself through the election of ruling-class members or subservient stand-ins. Because the threat to capitalist stability will likely intensify as the crisis escalates and public panic grows, these methods have recently become far more extreme.

Besides corrupting the electoral process, the capitalist state also shapes the popular mind through the social control methods described in section C. Given this combination - pervasive corruption and effective control - the ruling class dominates electoral politics. *This realm should therefore be seen primarily as an instrument of capitalist power rather than a source of the populace's autonomous will.*

G. ELECTORAL POLITICS: STRATEGIC IMPLICATIONS

- Because electoral politics is primarily a capitalist tool, it cannot be used to achieve the revolutionary goal. The electoral world can help achieve social reforms, but not the profound transformations required for ecological survival.
- A realistic depiction of electoral politics clearly demonstrates that it cannot respond rationally to the ecological crisis: a fragmented and controlled populace, through a corrupted process, elects a corrupted government, which proposes changes to a state that serves capitalist interests. Despite their best intentions, environmentally-friendly politicians can do little more than moderate ecological damage as collapse proceeds.
- Social division is an extremely effective means of social control, and the electoral process offers ample scope for splintering the populace. Due to the worsening ecological crisis and rising global tensions, rulers have increasingly exploited this approach. The most prominent example is Trumpism, which is essentially the sharp intensification of social divisions for ruling-class ends. One of its main aims is to shift the populace's attention away from environmental destruction and the BAU decision that triggered it. Youth strategists must avoid being duped by this cynical diversion.
- Trumpism is also an electoral means for preparing the shift to fascism. Various social factors, including lost economic security, manufactured culture wars, and progressive insensitivities ("Racists!", "Rednecks!"), have generated mass support and prepared the shock troops for violent action. The equivalent of Hitler's takeover in 1930s Germany, which was achieved under electoral cover, seems possible in 2020s United States. Also possible is a repeat of the coup attempt against President Roosevelt in 1933. This was the plutocratic version of the assault on the U.S. Capitol in 2021. For details see *The Plot to Seize the White House*.

H. LEADERSHIP CONSIDERATIONS

1. The most serious obstacle to youth ecological survival is the *democratic illusion*: the false belief that government holds political power and therefore has both the responsibility and the

capacity to rationally address the crisis. This illusion is deeply ingrained and extremely tenacious, so you must constantly enlighten your members about the true nature of power and control. When referring to politicians, emphasize that they hold office, represent the populace, and can influence the state, but they are not society's dominant force and do not wield power.

2. Other political errors you must avoid are the following:

- **Ascribing political power to the populace.** It is a humbling but undeniable fact that the vast majority of people are members of a subordinate class. We are the ruled, not the rulers. The well-connected among us may have social *influence*, but unless we hold high-ranking positions within the state we have no meaningful political *authority*, and we completely lack political *power*.
- **Treating the state as an impartial body.** The state is currently a capitalist state that serves capitalist ends. In performing this function it must ensure social stability and smooth social functioning, so it is easily perceived as supporting the populace. This is the basis for progressivism's commitment to "government" action over market-based results. Although the state can be more humane than chaotic and competitive markets, the underlying power relations must always be kept firmly in mind.
- **Perceiving the military exclusively as a supporter of ruling-class power.** One of the military's professional responsibilities is to safeguard the populace. When the ruling class threatens the populace's survival, as it clearly does today, the military is duty-bound to replace it with a more rational group. This is one of the few points of strategic leverage you have, so you must earnestly appeal to the military's honor by vehemently insisting that it fulfill this core obligation.
- **Referring to the *corporate* media instead of the *capitalist* media.** It is true that media companies are commercial entities that are driven by profits and influenced by advertisers. However, they play an indispensable role in social control by buttressing the democratic illusion and deeply instilling capitalism's worldview and economic logic. Under today's revolutionary conditions they should therefore be seen primarily as political rather than economic forces.
- **Confusing a society's elites with its ruling class.** This confusion stems in part from an influential book: *The Power Elite* (1956) by American sociologist C. Wright Mills. The author falsely locates political power in the groups that control government, corporations, and the military. He flippantly dismisses the idea of a ruling class as a "conspiracy" (p. 18) and mocks it as "an omnipotent elite" that can "shape all historical events" (p. 20). Such intellectual cheap shots are typical in academia when impermissible topics like power and control are discussed. Mills' book was gratefully received by progressives and intellectuals who understood that the populace lacks power, but who were unwilling to accept the reality of a ruling class. Today this perspective is most prominently represented by progressive journalist Chris Hedges.

3. The following points may help you persuade your supporters that government does not hold political power:

- **History:** As previously noted, numerous governments have been forcibly removed from office when a society's ruling class felt threatened.

- **Ideological constancy:** Governments swing from left to right and back again, but the capitalist system, its economic logic, and its worldview are permanent social features.
- **Lack of continuity:** Governments come and go, and its members are often amateurs in public management. The capitalist state is by contrast a permanent presence, and its senior members are career-oriented professionals with strong ties to the ruling class. In disputes over policy and direction, the state can almost always assert its will.
- **The state's financial autonomy:** Central banks are typically independent from government to prevent "political" interference with core financial decisions. The main levers that control a capitalist economy are thus firmly in the state's hands and beyond government reach. For some details from a conventional source, see the Guardian article in section I.
- **Ministerial vetting:** In many countries, politicians who are being considered for cabinet posts are carefully vetted by the state to ensure their political reliability. Anyone with an unacceptable past is exposed and weeded out.
- **Black ops:** As explained by novelist Kim Stanley Robinson in *The Ministry for the Future*, a state organization can harbor a "black agency" about which the responsible politician knows nothing. This gives the politician plausible deniability and conceals the state's independent actions, which are often illegal and sometimes violent.
- **Anthropology:** This academic discipline routinely uses "ruling class" when referring to the true leaders of non-capitalist societies. One example is Joseph Tainter's *The Collapse of Complex Societies*, which refers to the leaders of Mayan society as its ruling class. (p. 162). It is only when academics address their own societies that the idea of a ruling class disappears.
- **Expendability of democracy:** It has long been evident that the ruling class considers all values, principles, and institutions to be purely instrumental - that is, to be honored only insofar as they serve capitalist interests. Among these dispensable entities is the democratic process. Trump supporter Stephen Moore has underscored this cynical posture by stating that, "capitalism is a lot more important than democracy".
- **Dark money:** This is the title of Jane Mayer's book, which reveals how deeply the financial machinations of the Koch brothers and other plutocrats have corrupted democratic institutions. The inevitable result was revealed by a Princeton University study which showed that, in stark contrast to the rich, the poor have no discernible influence on U.S. public policy. Thus, not only does government lack political power, in such cases it completely fails to represent the people's interests.

4. Unless the military's allegiance is quickly shifted from the ruling class to the people, fascism is inevitable. A rapidly degrading environment will cause unprecedented social turmoil and resistance, which the rulers will ruthlessly suppress using the state's coercive forces. Emphasize to your followers that *their grim choice is between youth genocide under the jackboot of fascism and possible survival through revolutionary change*.
5. Strictly avoid the term "ecofascism". This is used in at least three ways and is thus highly ambiguous. It can refer to an early German movement, to environmentalism as a movement (an example is this book by a climate denier), and to a regime that uses fascist means to enforce sustainability (like Gilead in The Handmaid's Tale).

6. Also avoid "deep state". This term originally referred to senior state members who remain staunchly loyal to the capitalist class and thus resist fundamental change. It was modestly useful for this purpose, but Trump then applied it to state actors who rejected his proto-fascist proposals. Because "ruling class" and "state" suffice for your strategic purposes, "deep state" should be left to Trump and his supporters.
7. The concept of legitimacy helps explain why capitalists have for decades treated geoengineering as a taboo subject, and why they continue to do so with SRM today. Permitting such massive interventions would be an open admission that their system has fundamentally failed, and would decisively repudiate the emissions-reductions story. The resulting cracks in capitalism's legitimacy could result in unacceptable revolutionary threats.

I. KEY POINTS

- In much of the world a capitalist class holds political power and is therefore society's ruling class.
- Under normal circumstances the military supports this class, but its ultimate responsibility is to safeguard the populace.
- The state controls the populace and regulates social functioning on behalf of the capitalist class.
- The populace expresses its will through government, which enacts laws and formulates policies for implementation by the state. The latter will cooperate with government to the extent that its proposals are consistent with capitalist power, privileges, worldview, and economic logic.
- The young are threatened by the current holders of political power rather than the structure of power itself. Given human and social realities, this structure will likely remain largely unchanged in the post-capitalist world.
- Social control is achieved by satisfying, manipulating, and coercing the populace, and by tightly restricting intellectual thought. Pervasive surveillance is used to quash embryonic revolutionary challenges and strengthen social-control methods.
- The democratic illusion is the main impediment to youth survival. Pressuring government and politicians to implement the rational crisis response through electoral politics is a fatal diversion from militant organization and revolutionary action.
- Electoral politics is used largely for social control. It supports the democratic illusion, placates the populace by giving it a political voice, offers numerous opportunities for social division, and permits the state to reject or selectively implement government policies.
- When the capitalist class determines that standard social control no longer suffices, it will seek to replace democracy with fascism. This refers to highly coercive state measures that violate democratic norms. To prevent or stall this development the young must shift the military's allegiance from the ruling class to the populace. As explained in chapter six, this shift is also necessary for revolutionary change.

J. FURTHER READING

WEBSITE POST

Confession of an Environmental Thought-Criminal - My mock confession that, as an independent environmental thinker, I have committed serious thoughtcrimes.

EXTERNAL DOCUMENTS

The Prince - Niccolo Machiavelli (1532)
This small book unflinchingly examines political power: "I have thought it proper to represent things as they are in real truth, rather than as they are imagined." The author thus openly discusses *deep politics* while avoiding the superficial electoral politics that dominates today's discussions. (The word "prince" in the title refers to a political ruler, and by extension a ruling class.)

Propaganda - Edward Bernays (1928)
If you are short of time and need a quick introduction to political power under capitalism, this book is your best bet. Bernays understood that the populace is easily led, and that an "invisible government" of powerful figures is society's actual ruling force.

1984 - George Orwell (1949)
This is not primarily a dystopian novel, but rather a treatise on political power and social control. Orwell's main message is that the populace is easily managed through heavy work, entertainment, lotteries, sports, etc., but that intellectuals require intense thought control to keep them in line. They are therefore taught to avoid thoughtcrimes by applying several self-deception techniques: doublethink (believing two contradictory ideas), blackwhite (asserting the truth of an obvious falsehood), and crimestop. The latter is the most significant, and refers to, "the faculty of stopping short, as though by instinct, at the threshold of any dangerous thought ... Crimestop ... means protective stupidity."

The Conservative Mind: From Burke to Eliot - Russell Kirk (1953)
This is a classic work on the traditional conservatism that is rooted in pre-capitalist feudalism. Its adherents fully understand that capitalist democracy is fraudulent and that "public opinion" is not formed autonomously, but is instead implanted by powerful forces through media control. The overlaps between traditional conservatism and the views of Edward Bernays (above) are striking.

Coercion: Why we listen to what "they" say - Douglas Rushkoff (1999)
Rushkoff is politically weak and his definition of "coercion" is dubious, but his insights about the manipulation of people for commercial gain are outstanding. He details the various methods used by capitalists to make shoppers buy more stuff: disorientation, redirection, capture, regression, etc. He notes that many of these methods exploit healthy psychological features or social behaviors, thereby producing distrust and eroding community spirit. Rushkoff's most recent book is *Survival of the Richest: Escape Fantasies of the Tech Billionaires*.

Sleights of Mind: What the neuroscience of magic reveals about our everyday deceptions - Stephen L. Macknik & Susana Martinez-Conde (2010)
The authors are academics who study the psychological aspects of magic. This is important work because magic is the source of several highly effective social-control techniques. The most prominent of these is the *diversion of attention*: fixate people's attention on emissions so they don't notice the concentrations and heat that are killing them. The authors found that, because most scientists are trusting souls, they are even more susceptible to magic-based deceptions than the general public. For an entertaining example see this video of James Randi performing a simple trick that fooled several physicists at Lawrence Livermore National Laboratory in the U.S.

The Righteous Mind: Why Good People are Divided by Politics and Religion - Jonathan Haidt (2012)
Haidt is a student of moral psychology, which explores the ethical aspects of human nature. He points out that, "… human nature is not just intrinsically moral, it's also intrinsically moralistic, critical, and judgmental." These attributes permit a ruling class to use "culture wars" to divide and control the populace. Another critical point is that all societies must balance the needs of individuals and groups. Most societies have chosen a socio-centric approach, which places groups and institutions first, but some have favored individuals instead. Haidt also notes that, because moral judgments typically precede rational thought, human intelligence is primarily used to justify these judgments rather than reach logical conclusions.

How the South Won the Civil War: Oligarchy, Democracy, and the Continuing Fight for the Soul of America - Heather Cox Richardson (2020)
The author describes how U.S. rulers have for centuries used various social divisions - white/black, slave/free, male/female, native/non-native, rich/poor, etc. - to manipulate the populace. The main aims were to fortify their political power, control government, and efficiently exploit labor. A key tactic was to avoid reasoned arguments and instead create powerful images that capture the popular imagination: the independent farmer in early colonial days and the self-reliant cowboy as settlements moved west. Richardson correctly refers to the U.S. ruling class as a caste: a group that is strongly connected by longstanding hereditary ties.

GUARDIAN ARTICLES

To stop climate disaster, make ecocide an international crime. It's the only way.
- Jojo Mehta and Julia Jackson
For updates see here and here.

The Big Idea: Do governments really control their economies?

Chapter 6:
A strategy for youth ecological revolution

A. PRELIMINARIES

The previous five chapters have set the stage for the burning topic presented here: my proposed strategy for youth ecological revolution. Below is a quick recap before I proceed.

Chapter one introduced the ecological betrayal of the young by social leaders, who have now been identified as the capitalist ruling class. Chapter two discussed the ecological crisis and the deceptions used to mystify it, and chapter three presented the rational crisis response and the lies used to avert it. In both cases the falsehoods served to prolong capitalist power and growth. I then addressed the key factors bearing on revolutionary change. Chapter four outlined the three aspects of human nature that youth leaders must carefully consider. In the last chapter I examined the structure of capitalist power and social control.

The task now is to draw strategic conclusions: how can the required revolution be accomplished? Given the factors cited, what is a logical plan of action? A few preliminary remarks will help me sharpen this crucial question.

- ***Now is the moment of conscience and truth:*** the time to acknowledge that the ecological crisis is unprecedented, existential, and exceedingly urgent; that mainstream thought is largely obsolete, corrupt, and compliant; and that the rational strategy lies outside the well-lit social tent in the dark realm of impermissible thought. *Summon all your moral courage now*.
- It is highly likely that tipping points have already been passed, particularly in the Arctic but also in the Amazon and Antarctica. PONRs, if not passed already, are only a few years away. In these calamitous circumstances the appropriate strategic goal is to find the *best* chance for youth survival that is still available at this late date.
- Some defeatists insist that human extinction is inevitable, and that a strategy for revolutionary action is therefore pointless. In my view this stance is morally obscene. Whatever the odds, an all-out attempt to rescue the young, future generations, and non-human species is a profound moral obligation, especially for the overconsuming rich. *Our personal assessment of the survival chance is relevant to the optimism or pessimism we feel, but not to the ethical responsibility we bear.*
- Others among the concerned seek a "just collapse": an equitable contraction of the human project. Although this commitment is admirable, it ignores the necessity of a revolutionary shift to maintain democratic norms under contractionary conditions. Unless this shift occurs, collapse will likely proceed in chaotic fashion under fascist rule.

Given these considerations, the fundamental strategic question is this:

In the brief time that may still be available, how can the capitalist ruling class be replaced with a sustainable ruling group that will implement the rational crisis response?

The first step in answering this question is to determine which aspects of humankind and society resist this replacement, and which potentially support it. Once these factors have been identified and their relative strengths assessed, reasonable conclusions can be drawn.

B. NEGATIVE AND POSITIVE FACTORS

The following are clearly *negative* factors with respect to revolutionary change:

1. **The biological side of human nature.** This refers to the self-interest that is necessary for human survival and conducive to life enjoyment, but that in many cases has been inflamed by capitalist pressures. Self-interest drives the global rich to maintain their unsustainable lifestyles, and the global poor to seek adequate consumption.
2. **The power and control of the capitalist class.** This class has reached a historical dead end: it cannot exist economically without growth, and it will collapse ecologically with growth. Facing its demise and desperately maximizing its wealth and remaining pleasures, it will ruthlessly cling to power. To keep an increasingly angry and disillusioned populace at bay, it will brutally intensify its social control.
3. **Military support for this class.** Because of its capacity for decisive physical force, the military is the ultimate arbiter of political power. Tragically, it remains under the deep influence of the capitalist class, which has carefully cultivated its unquestioning allegiance. Military support for this class therefore remains strong.

Below are some potentially *positive* factors:

1. **The ecological and moral sides of human nature.** Humankind has long possessed a uniquely intelligent and flexible brain that can readily formulate the rational crisis response. The real question is the strength of our "moral sense": do we have the will to do this thinking and then urgently apply our conclusions? Thus, ultimately: *does our species have sufficient ethical courage to summon this will?*
2. **Non-material motivations.** Among these are concern, anger, panic, fear (see "Terrified for my future"), defiance, love of nature, religious commitments, parental concerns, and professional ethics. The strongest motivations are likely the outrage of the young in response to the existential betrayal of their elders and the dread felt by concerned parents about the gruesome future their children now face.
3. **The military's professional responsibilities.** The military has two honor-bound duties: to support the ruling class so long as it serves the populace's interests, and to safeguard the populace from existential threats. Because the populace is now mortally threatened by ecological collapse, an honorable military should be motivated to replace the capitalist class with a sustainable alternative. It is therefore encouraging that, after the assault on the U.S. Capitol on January 6, 2021, the country's military publicly stated that it was loyal to the people and the Constitution, not corporations and the ruling class.

To summarize, the negative factors with respect to revolution are material interests, capitalist power, and continuing military support for this power. The positive factors are humankind's advanced brain and deep moral sense, our non-material motivations, and the military's professional responsibilities.

Four conclusions can reasonably be drawn:

1. The negative factors currently overwhelm the positive factors. Intelligence, morality, emotions, and duties are no match for interests, power, and loyalty. ***Thus, if the young are to survive, a fundamental social reorientation must occur to decisively alter this unfavorable balance***.
2. Because the extreme weather events of 2021 did little to spur this reorientation, it is likely that one or more exceptional events in the human realm will be required. Among the possibilities are an unexpected military takeover for ecological reasons, emergency SRM by a desperate country or group (appendix C), a split within climate science that exposes the mainstream's lies (appendix D), the appearance of militant youth movements, a split within the ruling class, and massive demonstrations by concerned parents. Other possibilities will likely appear as collapse transforms the human soul.
3. The most promising social group to instigate such an event is the young themselves. Because many now grasp the depth and extent of their ecological peril, they may soon seek to militantly defend their future. Sympathetic members of older generations will likely offer their support, but the young are unique in their visceral motivations to revolutionize a disintegrating world.
4. The military's professional responsibilities, its humanitarian missions, and its public statements all imply that it can be persuaded to intervene on the populace's behalf. However, massive pressure by the young and their supporters will be required to induce this long-delayed response.

These conclusions underpin my proposed revolutionary strategy for youth ecological survival.

C. THE YOUTH-MILITARY STRATEGY

The following strategy is based on global conditions in the late summer of 2022. Given the accelerating ecological crisis, the toxic politics of recent years, and the unanticipated events that will surely come, youth leaders must be prepared to replace or alter this strategy as required. See figure 6-1.

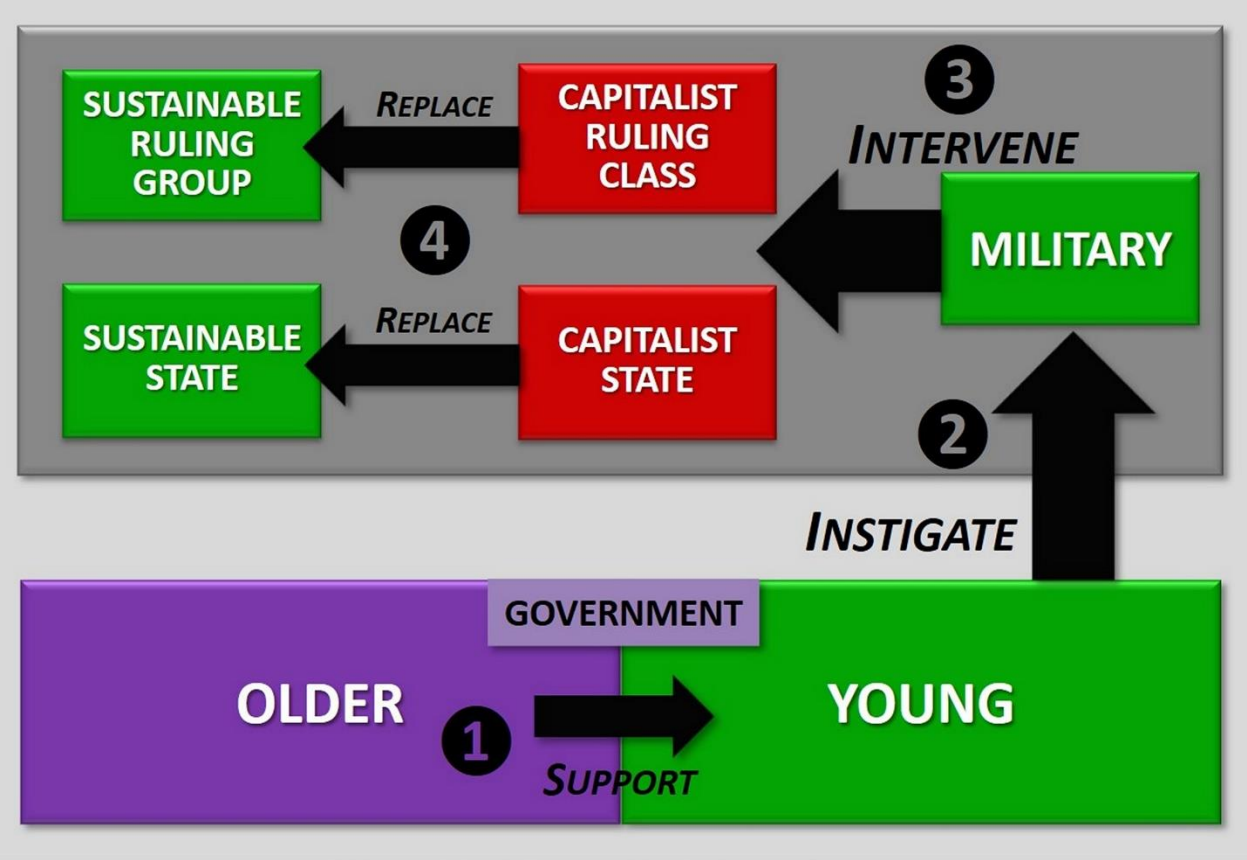

Figure 6-1. The youth-military strategy

This diagram is a modification of the capitalist power structure presented in chapter five. The strategy comprises four steps:

1. Galvanized by a fundamental social reorientation (above), ethical and committed members of older generations throw their political and practical support behind the militant young;
2. The young and their supporters instigate military intervention by persuading the military to honor its professional commitments;
3. The military responds by shifting its loyalty from the capitalist class to the populace and then intervening politically;
4. This intervention replaces the capitalist class with a sustainable ruling group and initiates the transformation of the capitalist state into a sustainable state.

Once their power and authority have been consolidated, the new ruling group and state will implement the rational crisis response outlined in chapter three. It will then initiate the economic shift to a sustainable economy as discussed in chapter seven. For my proposed public statement by the military shortly after such an intervention occurs, see appendix B.

The following are important points of clarification:

- Military intervention could be direct or indirect. Direct intervention means that the military initially serves as the ruling group because no qualified civilian group has yet appeared. Indirect intervention means that this role is played by a civilian group that has earned the military's confidence as sustainable social leaders.
- Given the corrupt state of civilian thought and the populace's political immaturity, direct military intervention appears more likely at present. If this occurs, the military should relinquish political power as soon as a qualified civilian group appears.
- Government plays little or no role in the revolutionary process itself. Once a sustainable state has been established, government will again play its crucial role of representing the views, concerns, and interests of the populace. Briefly stated, electoral politics subsides during the revolutionary shift, but revives when this is substantially complete.
- Recall from the definitions in chapter five that a coup and rebellion replace the current government, whereas a revolution replaces the current rulers. The military intervention proposed here is therefore a revolution, not a coup or rebellion.

D. OBJECTIONS AND RESPONSES

The following are my responses to the most likely objections to the above strategy:

- **Its chance of success is low.** This is true but irrelevant. At this late stage there is no strategy that offers a good chance of success, so the rational aim is to identify the one that offers the *best* chance. Based on my analysis, this is the approach described above.
- **There's no time; it's too late.** This currently applies to any survival strategy because fundamental change for a sustainable world should have been initiated decades ago. But we're here now, and the only alternative is defeatism, inaction, and certain disaster.
- **Revolutionary violence is morally unacceptable.** Nonsense. Massive violence against people and nature is occurring daily to maintain the capitalist status quo. Violence that is limited by humane considerations, as proposed here, is both necessary and ethically justified for the survival of humankind and the biosphere.
- **Revolutionary violence is counter-productive.** This is quite possible. Violence that is inhumane, strategically incorrect, or tactically misguided can easily lead to revolutionary setbacks. The effective management of revolutionary violence will therefore be a critical leadership task.
- **The military will never shift its loyalty.** Although this shift is unlikely at the present time, it must occur if fascism and complete collapse are to be averted. The young should therefore ignore the odds and rise up in their millions to demand military intervention for a survivable future.
- **The young will never revolt.** Currently the young *cannot* revolt because they lack revolutionary theory and leadership. If the theory proposed in this book is rapidly strengthened and effective leadership arises on this basis, the young might respond to their impending genocide with revolutionary zeal.

- **Revolutionary results frequently diverge disastrously from revolutionary intentions.** True - this is a major risk that leaders must carefully minimize. I propose four guardrails: restrain violence as stipulated above, strictly adhere to the principles of a sustainable constitution, scrupulously follow the logic of a post-capitalist economic theory, and adopt the social neutrality described in chapter seven.

E. TASKS FOR INTELLECTUALS

Although academics and other intellectuals are tightly constrained by capitalist thought control, they are indispensable for youth survival. I have therefore suggested that youth leaders think of intellectual supporters as their employees: people who can competently carry out assigned tasks, but who by default are excluded from strategic decisions. Among these useful tasks are the following:

- Objectively re-analyze the ecological crisis by ignoring the mainstream's deceptions and addressing the problem with independent minds. The main aim is to produce a reliable body of environmental understanding to guide a sustainable ruling group and state. Chapters two and three in this book are intended as starting points for this analysis.
- Write a constitution and formulate the basic laws for a sustainable society. Whether military intervention is direct or indirect, these will be needed soon after it occurs. Note that capitalist constitutions are typically restricted to the structure and roles of government - that is, electoral politics. A sustainable constitution must additionally address deep politics: the ruling group and its state.
- Develop a post-capitalist economic theory to guide a sustainable economy. This crucial requirement has been consistently overlooked by economic thinkers. My proposed starting point for this theory, the Economics of Needs and Limits (ENL), is introduced in chapter seven.
- Conceptualize the economic and political institutions that will be needed to regulate a sustainable society. For example, what new institutions will be required for a sustainable economy? Which institutions should be modified, and how? Which should be scrapped?
- Propose methods to acclimate the populace to the new constraints. The only way to achieve sustainability is to sharply reduce rich-world consumption. How can this be achieved while minimizing physical discomfort, mental distress, and social conflict?
- Propose a soft landing for the defeated capitalist class and its allies. What will happen to these formerly powerful and wealthy people? How can their likely efforts to restore capitalism be thwarted with minimal violence? What constructive roles might they play in a business-friendly but post-capitalist economy?
- Expand the response of psychologists to include the mental and emotional challenges associated with a revolutionary initiative. The profession is currently helping people cope with their anxieties about the ecological crisis. However, despite establishing the Climate Psychology Alliance and the Climate Psychiatry Alliance, it has not yet addressed the task of assisting the young and their older supporters with the survival project.

F. LEADERSHIP CONSIDERATIONS

1. The three core requirements for revolution are ideas, leaders and events. *Ideas* are the theoretical foundation - the analysis and broad strategy. *Leaders* transform the ideas into specific strategies and tactics based on concrete conditions, and organize movements to implement them. *Events* are social or environmental changes that alter the political landscape and create obstacles to, or opportunities for, revolution. This book is intended to provide the core ideas. The disruptive events are occurring on a daily basis. ***The crucial missing element is effective youth leadership***. If you have anything to contribute in this area, step forward now.

2. To repeat my advice from chapter one: ***don't be a bad general by fighting the last war*.** The youth struggle for ecological survival is historically unique. Avoid the temptation to simply transplant the strategies and tactics developed in the fight for social justice. Mahatma Gandhi and Martin Luther King were activist heroes, but they faced social injustice, not ecological collapse. If you have a progressive background you will likely have to struggle psychologically to transcend your reformist past.

3. Two approaches for instigating military intervention should be considered. The first is to praise any environmental awareness it demonstrates while correcting its misconceptions and directing it to the rational response. The second is to emphasize its responsibility not only to the people, but also to the national territory. You could point out that the homeland is now being "invaded" by rising seas and degraded by unsafe temperatures, and that the military is duty-bound to help prevent such destruction.

4. As much as humanly possible, avoid self-pity about concrete conditions, no matter how distressing these become. An effective movement leader accepts environmental and social conditions as givens: the gritty real world in which a carefully formulated strategy and effective tactics must be courageously applied.

5. Revolutionary change for ecological survival shares an important feature with the working-class revolutions of the past: it replaces the capitalist class with another social entity. Leaders should exploit this overlap by carefully studying these revolutions and absorbing the restricted but valid lessons they offer. A good example is John Reed's book about the Russian Revolution (see section G).

6. Adopt the *principle of distrust*: This is the idea that the capitalist class and its supporters - particularly educators and the media - cannot be relied on for the truth on any matter of social or environmental significance. All assertions from such sources should be treated as pro-capitalist deceptions until their objective validity has been independently established.

7. Learn from the mistakes made by activist groups such as Extinction Rebellion (XR). Such groups cannot be effective because they embrace both nonviolence and the democratic illusion. As previously discussed, the latter is the false belief that government (which in this view includes the state) holds political power. XR co-founder Roger Hallam thus claims in *Common Sense for the 21st Century* that, "Government is the institution that makes the rules of society and has the monopoly of coercion to enforce them." (p. 4) As shown in figure 5-1, this is a profound mystification of political reality. It ignores both the capitalist ruling class and its supporting military, and it incorrectly implies that the state serves the people rather than the rulers.

Based on its faulty political analysis and commitment to nonviolence, XR has adopted an unworkable strategy: to compel government to become more participatory through citizens' assemblies that will, "... take over the sovereign role from a corrupted parliamentary system." (p. 6). This is a fantasy scenario because pro-capitalist forces will immediately crush any attempt by such assemblies to assert meaningful control over society and the economy. In doing so they will liberally employ the violence that XR dogmatically and irrationally rejects.

8. Don't be confused by the environmental justice and climate justice movements, which frequently merge the sustainability and justice issues. There is a clear difference between (a) responding rationally to the ecological crisis and (b) equitable treatment of the global populace while the crisis unfolds. The progressive fixation on justice erases this distinction. This was one of the main effects of Naomi Klein's 2014 book, *This Changes Everything*, which urged progressives to *use the GHG crisis* as leverage to advance equity issues. (p. 7)

   Given the goal of youth ecological survival, I believe the following establishes the correct relationship between sustainability and justice:

   a. Until youth survival is ensured, sustainability takes strategic precedence because sustainability is required for survival, and survival is required for justice;

   b. Justice can be a valid objective during this period, but only insofar as it advances the survival cause;

   c. Once youth survival has been ensured, justice is subject to social neutrality (see chapter seven) and progressive pressures.

9. Two other claims by justice movements must be addressed. The first is the assertion that sustainability is impossible until justice has been achieved. This is false given the youth-military strategy, and the approach is far too slow to prevent catastrophic collapse. The second is the claim that SRM would exacerbate global inequalities. On the contrary, a study that tackled this neglected subject found that, "… the harms of warming and benefits of cooling both accrue disproportionately to warmer, poor, more populous countries. … climate-econometric models indicate that solar geoengineering would reduce intercountry income inequality."

10. Avoid shifting your strategic attention from capitalism to its global atrocities: colonialism, imperialism, and "extractivism". These derive from the system's economic logic and cannot be addressed as independent issues. More broadly, don't assume that activists from the Global South are correct in their theoretical assertions. Direct exposure to capitalism's brutal exploitation provides them with detailed personal knowledge, but this does not necessarily translate into sound analysis and strategy. For example, the People's Agreement of Cochabamba (2010) is a courageous statement of anti-capitalist demands, but based on my analysis it contains serious analytical and strategic errors.

11. A key reason for strategic confusion among the environmentally concerned is that social justice and sustainability have been theoretically and organizationally merged. (As noted above, this was greatly facilitated by Klein's pernicious book.) The distinction is clear: justice is about the structure and behavior of society, whereas sustainability is about the limits of nature. Social justice, if one's ambitions are restricted to capitalist relations, can be achieved while the current system still reigns. Sustainability, whatever one's ambitions,

cannot. I therefore suggest that youth leaders quickly return to the pre-Klein situation, where environmental and social justice movements sometimes cooperated, but remained analytically, strategically, and organizationally distinct.

12. To simplify the complexities associated with a revolutionary shift, you should initially focus on survival measures alone. If society can be sufficiently transformed to permit the global cooling discussed in chapter three, the political conditions will likely exist for implementing the rest of the rational crisis response.
13. To minimize the duration of military rule, you and your supporters should actively spur the formation of a sustainable ruling group. You could appeal to humankind's innate moral sense (see chapter four) to direct qualified individuals and groups towards this critical strategic aim. You could also expose today's absurd misallocation of intellectual resources in an effort to divert competent minds to the tasks listed above.

G. KEY POINTS

- The core strategic question is how the capitalist ruling class can be quickly replaced with a sustainable ruling group that will implement the rational crisis response.
- The negative factors for revolution are the biological side of human nature, the power and control of the capitalist class, and the military's continued support for this class.
- The positive factors are the ecological and moral sides of human nature, our non-material motivations, and the military's professional responsibilities.
- Four conclusions follow: the negative factors currently overwhelm the positive factors, exceptional human events must trigger the required social reorientation, the young are its logical instigators, and the decisive social force is the military.
- The resulting revolutionary strategy is this: ethical members of older generations will support the young in shifting the military's loyalty; the military will then replace the capitalist ruling class with a sustainable ruling group and transform the capitalist state into a sustainable state.
- Although academics and other thinkers are severely constrained by capitalist thought control, they can provide valuable assistance to the young by undertaking specific intellectual tasks. Among these are the formulation of the legal infrastructure for a sustainable society and the development of a post-capitalist economic theory. Only exceptional intellectuals, after passing your careful scrutiny, should be allowed to participate in your strategy development.
- To simplify the complexities associated with revolutionary change, leaders should initially focus on the social changes required for short-term survival through rapid global cooling.

H. FURTHER READING

WEBSITE POST

Book review: *Anthropocene or Capitalocene?* - Criticism of a group of Marxian academics who acknowledge capitalism's role in the ecological crisis but avoid the revolutionary implications. The post also suggests the positive roles academics can play in preparing humankind for the transition to a post-capitalist society.

EXTERNAL DOCUMENTS

Ten Days that Shook the World - John Reed (1920)
Youth leaders should learn as much as possible from working-class revolutions. Reed's book is an excellent first-hand account of the 1917 Russian Revolution and therefore a useful source for this guidance. Among the lessons: unreservedly represent the populace, use simple and pithy slogans ("Peace! Bread! Land!"), and initially expect vicious resistance from intellectuals, journalists, and senior members of the capitalist state.

How Nonviolence Protects the State - Peter Gelderloos (2007)
Gelderloos tackles a key topic: the irrationality and immorality of *nonviolence* when fundamental social change is required. The author notes that arguments for nonviolence are often based on "falsified histories of struggle" (p. 2), and that nonviolent movements frequently benefit from threats of violence by related movements - for example the Black Panthers and the civil rights movement in the U.S. (This is the *radical flank effect*.) My stance is that youth actions must be nonviolent or violent as required for their ecological survival; if violence is used, it must be strategically justified and as humane as the survival objective permits.

Chapter 7:
From capitalism to a sustainable economy

An economic system does not appear by historical accident, but is instead rooted in the motivations of specific social actors. For capitalism these actors were medieval business owners, and their main motivation was to overcome the restricted production of the feudal economy. Briefly stated, the medieval elite wanted more, and transformed low-output feudalism into high-output capitalism to get it.

Capitalist economies therefore express the deep-seated desire by wealthy people for the expanded availability of luxury goods and services, and more generally for rapid economic growth. This does not imply that the rest of society is excluded from the material gains, but rather that the system was established primarily to serve the consumption appetites of powerful merchants and other social leaders.

Note what this implies: capitalism is rooted in human nature, but specifically in its wide range of expression. As discussed in chapter four, our species is self-interested, intelligent, and moral. The medieval business elite was likely more self-interested, more intelligent, and less moral than the social average. These traits, at a time when technical developments presented an objective opportunity, were key factors in creating the expansionary system that must now be historically superseded. The present chapter addresses this transition.

A. FACILITATING THE TRANSITION

In the youth-military revolutionary strategy (see chapter six) the new ruling group quickly initiates the shift from capitalism to a sustainable economy. But even under ideal political conditions - the group's firm grasp on power and the state's full cooperation - this shift will be difficult to achieve. Capitalism caters to our material interests and is deeply embedded in our minds and societies. Hence, for the transition to succeed, it must be aggressively facilitated. I propose two principles for this purpose:

1. ***Minimum effective change***. This retains as much of capitalism as is consistent with sustainable well-being. As explained further below, a distinction must be made between capitalism's destructive *economic logic* and its various *institutions*: the markets, corporations, legal infrastructure, regulatory regime, etc. that help implement this logic. To the extent that the institutions are useful in a sustainable economy, they should be retained in suitable forms. The resulting familiarity will psychologically ease the transition.
2. ***Social neutrality***. For the global economic transition to succeed, many conservative countries, groups, and individuals must participate. The conservative view of society, which values individual freedom over social solidarity, must therefore be granted the same respect as the progressive view, which values solidarity over freedom. The principle of social neutrality is the commitment, particularly in a sustainable economic theory, to remain impartial in this regard.

In brief, social resistance to the post-capitalist transition can be significantly reduced by restricting economic changes to the minimum required for sustainable well-being, and by adopting the principle of social neutrality to maximize participation across the political spectrum.

B. CAPITALISM AND ITS ECONOMIC LOGIC

To successfully implement the above principles and shift to a sustainable economy, we must understand capitalism's underlying nature. This will help answer a key question: *which features of the system are compatible with a sustainable economy and should thus be retained, and which are ecocidal and must be discarded?*

Note first that capitalism is not defined by the private ownership of the means of production. During the 20th century this criterion served to distinguish the system from state-oriented socialism, but a distinction is not a definition. As well, private economic ownership was far more common during the preceding feudal period. Capitalism's historical appearance was marked by the widespread dispossession of independent farmers and artisans, resulting in the concentration of economic ownership in a few capitalist hands. For much of the populace the system was therefore the death knell of private ownership.

What then is capitalism? Like any economic system it is defined by its *economic logic*. This refers to the economy's goal, its core assumptions about humankind and nature, and the resulting forces that drive its activities. Capitalism's economic logic, in slightly simplified form, is depicted in figure 7-1.

Figure 7-1. Capitalism's economic logic

As shown at center, the system's goal is maximum profits, which is facilitated by maximizing economic growth. To permit rapid expansion, capitalism treats both natural sources (timber, oil, fish, etc.) and natural sinks (safe waste absorption capacity) as unlimited. As well, it treats workers not as human beings who provide labor, but as labor inputs only. Similarly, it treats the populace not as human beings who consume, but as output consumers only.

In brief, capitalism's economic logic uses narrow conceptions of humankind and nature to achieve the system's goal of maximum profits and growth. This logic is faithfully reflected in the assumptions, concepts, and analytical tools of standard economics.

Capitalist logic is not necessarily irrational. If natural sources are abundant, natural sinks are largely intact, and people are suffering in poverty, it is probably the most effective way to quickly improve their lives. The problem is not capitalist logic per se, but rather its continued application when these conditions no longer apply. This is unquestionably the situation today.

Let me now return to the key question above: in the transition to a sustainable economy, which capitalist features should be retained and which should be discarded? I have already stated that its institutions should be selectively retained, but what happens to its economic logic?

Three aspects of this logic relate directly to the environment: its goal and the two assumptions about nature. The goal is clearly ecocidal because continuous growth on a finite planet is physically impossible. The assumption of unlimited natural sinks is also fatal. The

obvious example is the GHG crisis, which existentially threatens the young because Earth systems cannot safely absorb capitalism's massive GHG releases. The assumption of unlimited natural sources is also disastrous because it drives capitalists to destroy ecosystems through their extraction of increasingly scarce resources and their substitutes.

The verdict on the environmental aspects of capitalism's economic logic is therefore unambiguous: under current environmental conditions all three are perilous for the young and the natural world, and must therefore be firmly rejected.

The logic's assumptions about workers and consumers are less clear-cut. Given the principle of social neutrality, there is no basis for dictating how these groups should be treated. However, reduced consumption in a sustainable society means that a minimum level of equity will be required for social stability. Unless workers and consumers are treated fairly, this stability will be severely threatened. It is thus likely that, whatever a society's political orientation, capitalism's assumptions about workers and consumers will have to be substantially modified.

To summarize my conclusions about capitalism and the post-capitalist transition:

1. The institutions used to implement the system's logic should be selectively retained and modified as required. New institutions will be necessary to implement a sustainable economic logic.
2. The three environmental aspects of capitalist logic must be rejected. These are the goal of maximum profits and growth, and the assumptions of unlimited natural sources and sinks.
3. The logic's assumptions about workers and consumers must be rejected insofar as they result in social instability. Beyond this, the economy's treatment of these groups is socially determined.

C. THE ECONOMICS OF NEEDS AND LIMITS (ENL)

ENL is my conceptual framework for economic analysis. It is intended as a starting point for the development of a robust economic theory to rationally guide a sustainable economy. I will briefly describe two major components to show how the framework's logic differs from that of capitalism. For a more extensive introduction see this synopsis, which includes links to a detailed overview and my book on the subject.

An important clarification is that ENL is a *guiding* framework only. That is, it permits analysts to establish rational objectives to direct the economy, but it does not address the economy's detailed operations. A second theory, which I call a *functional framework*, will be required for this purpose.

Instead of maximum profits and growth, the goal of ENL logic is *sustainable well-being*. "Sustainable" is the standard term, indicating that environmental limits are not violated. "Well-being", however, has a specific meaning within ENL. This is based on the crucial distinction between *needs* and *wants*. See figure 7-2.

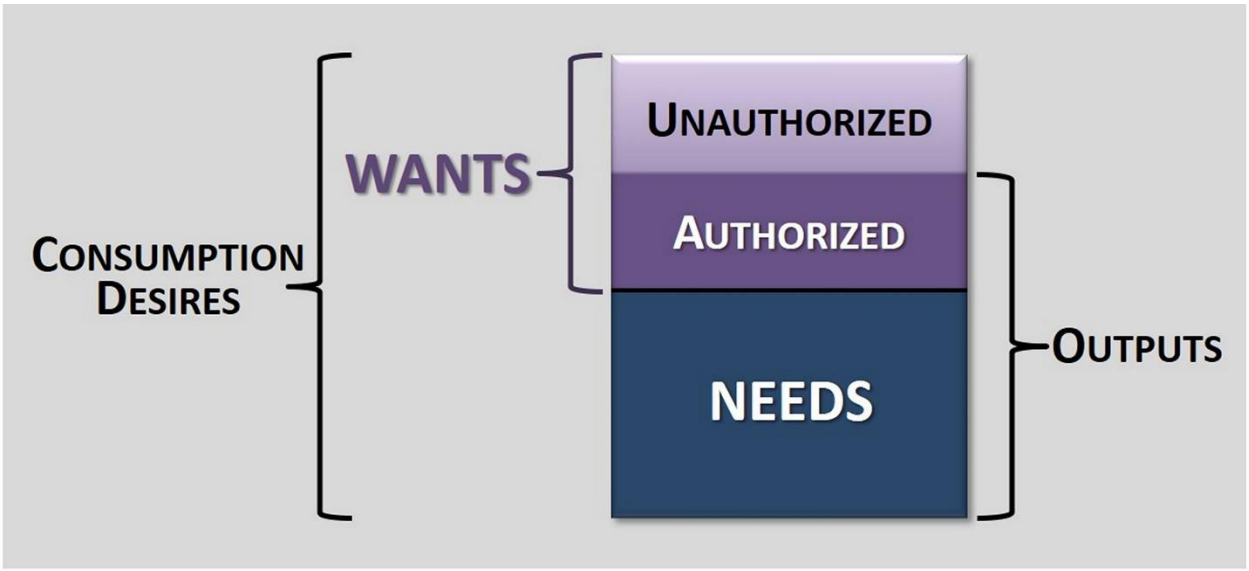

Figure 7-2. Needs and wants

Needs and wants are both consumption desires. The difference, by definition, is that satisfying a need maintains or increases physical health, but satisfying a want does not. Typical needs are for food, shelter, and clothing. Typical wants are for travel, wine, and entertainment.

A second difference is that need satisfaction is limited by the maximization of physical health, whereas want satisfaction is limited only by appetites and imagination. Because unconstrained consumption is environmentally dangerous, ENL divides wants into the socially authorized and unauthorized. This distinction is based on two factors: *ecological space* (the possibility of increased production within environmental limits) and the strength of a society's unmanipulated consumption desires for such outputs.

Applying the above concepts, *well-being* in ENL is defined as the combination of need satisfaction and authorized want satisfaction (net of human costs incurred). This combination, which is depicted at right in figure 7-2, establishes the set of outputs that an ENL-based economy strives to produce.

ENL's logic is based on its interpretations of value and cost. "Value" in economics refers to what is desirable in outputs, and "cost" to the sacrifices required to obtain them. The framework uses these concepts to determine which outputs should be produced, at which quantities, to sustainably maximize a society's aggregate value. Because physical health is the core factor in human survival and life enjoyment, the framework uses this as its standard of both value and cost.

ENL employs graphs such as the one below to make these determinations. Although the details must be skipped, a brief description will give the reader some insight into the framework's analytical approach. See figure 7-3.

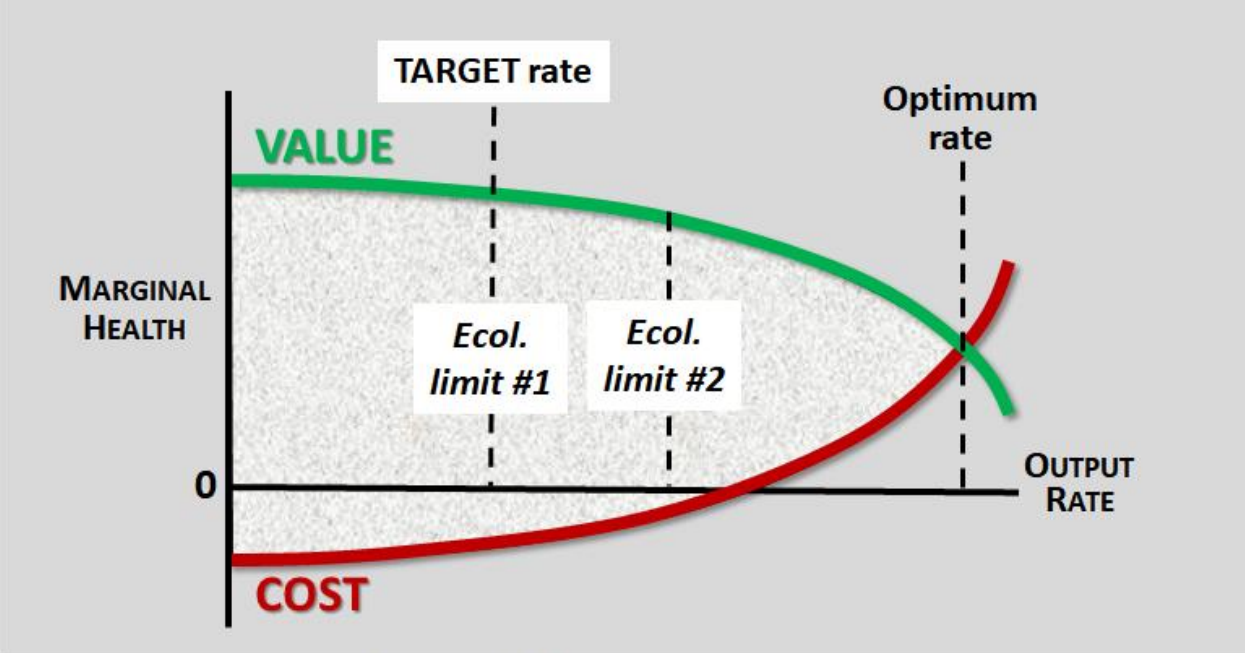

Figure 7-3. Ecological limits and the target output rate

This graph depicts a declining value curve and a rising cost curve as the output rate increases. The area between the two curves represents aggregate social health, which is maximized at the optimum output rate. In the absence of environmental limits this is also the target rate, or rational aim. In the presence of such limits, as here, the most restrictive environmental limit establishes the target rate instead.

The key point is this: if all outputs are produced at their target rates, society will squeeze as much health as possible from its economic production without violating any natural limits. The above graph is therefore a key analytical tool in the quest for a sustainable world.

This is a summary of ENL's economic logic:

1. The economy's goal is sustainable well-being;
2. Natural sources and sinks are strictly limited and must be rationally allocated;
3. Workers are treated as both labor inputs and human beings who desire well-being;
4. The populace is treated as both consumers and human beings who desire well-being.

D. CURRENT APPROACHES

Standard economics:

Also known as neoclassical economics, this mainstream theory formally expresses capitalism's economic logic and is taught at universities around the world. Consistent with the system's goal of maximum profits and growth, it is based on a *subjective* standard of value and cost. This reflects the fact that capitalist economies produce outputs based on *affordable desire*:

consumption desires backed by the capacity to pay. The theory does not distinguish between needs and wants.

A deeply hidden aspect of the standard discipline is that it combines the guiding and functional roles. It is overtly a functional framework, with sophisticated tools to analyze a capitalist economy. However, it tacitly embraces capitalism's economic logic, thereby smuggling the system's destructive assumptions into its analytical concepts and methods.

Ecological economics:

This heterodox field appeared in the late 1980s as a response to the environmental ignorance of standard economics. Regrettably it made two major concessions to gain academic and social acceptance: it embraced expansionary capitalism despite its professed goal of optimal scale, and it adopted the subjective standard of value and cost despite a warning by co-founder Herman Daly that this is environmentally perilous. The field is thus intellectually compromised and unable to guide the economic transition.

Ecological economics is strongly associated with the Degrowth movement, and the two play similar roles in social control. Degrowth attracts thinkers who support economic contraction and then diverts them to futile projects. Ecological economics attracts those who support a sustainable economy and then diverts them to a futile theory. Their shared control task is to neutralize potentially dangerous social thinkers.

Doughnut economics:

Despite the name, this is not a formal economic theory. As described in Kate Raworth's book, it is instead a historical overview of economic thought and a set of guidelines - change the goal, design to distribute, etc. - to allow the reader to "think like a 21st century economist". Raworth avoids any discussion of capitalism, economic logic, value and cost, etc. She has numerous suggestions for economic change, but fails to acknowledge that both revolutionary change and a formal theory will be required to implement them.

Local economics:

This is my catch-all term for the various attempts to transcend capitalist logic at the community level. Relevant organizations include the New Economy Coalition (NEC), the New Economics Foundation (NEF), the Schumacher Center for a New Economics, and Pathways to a People's Economy. Although such projects cannot be fully implemented while capitalism still reigns, they are significant because they allow people to experiment with post-capitalist economic arrangements and modes of thought. As with the knowledge and insights of indigenous peoples, the results of these experiments will be indispensable in the transition to a sustainable world.

Ecosocialism:

Ecosocialism is socialism that has been stripped of Marx's environmentally dangerous productivism. This is a step in the right direction, but the movement has numerous additional problems. Most prominently, it fails to recognize that socialism has never produced an economic theory to guide "the radical transformation of the economy" through "democratic planning" (Michael Löwy). A sustainable theory is now a clear necessity for human survival, but ecosocialists continue to insist that collective participation will suffice. Because it has made no conceptual advance in this critical area, the movement absurdly claims that capitalism's successor is ***by definition*** ecosocialism. Its adherents thus reject other possibilities - such as an ENL-based economy - on purely semantic grounds.

E. LEADERSHIP CONSIDERATIONS

1. Economics is a specialized topic that you may want to avoid given your other responsibilities. You might therefore choose to assign people with an economics education to deal with these issues. If so, ensure that they are open to an unbiased reassessment of economic thought. Be aware that, to earn an economics degree, the student must deeply internalize capitalist logic, and that escaping from this indoctrination will be impossible for many. It may therefore be better to choose strong analysts who lack such education and can approach the topic with open minds.
2. If you have a progressive background you may find it difficult to accept the idea of social neutrality, which makes progressive values optional. If so, remember that your primary responsibility is youth ecological survival. To achieve this, cooperation and formal alliances with conservative groups and individuals will undoubtedly be necessary. You must accept the fact that politics makes strange bedfellows, and that some aspects of social justice must be deferred until youth survival is ensured.
3. Don't become ensnared by the seductive idea that "economic democracy" - the populace's direct control of the economy - is sufficient for sustainability. Very little in human nature, especially in a populace molded by capitalism, is a reliable source of economic rationality under today's ecological conditions. Without an explicit set of well-founded principles, an economy steered by popular decisions could destroy the biosphere almost as quickly as one steered by capitalist logic.
4. When addressing economic issues, clearly distinguish between business and capitalism. Business is production and exchange for profit, irrespective of the economic logic under which it operates. Capitalism is business under capitalist logic. Similarly, don't identify capitalism with markets. This is a standard mainstream ploy to associate the system with its most innocuous element, thereby avoiding scrutiny of its deadly logic.
5. When discussing capitalism, never refer to it as "our economy". This phrase endangers your movement in two ways. First, it falsifies reality: the system is dominated by, and thus "belongs to", the capitalist class and its close allies, not "us". Second, it implies a close relationship with a system that must now be swept off the historical stage.
6. The transition from feudalism to capitalism was a gradual process that took several centuries to complete. Standard economics was developed to theoretically support and socially validate this process. Given today's ecological time constraints, the shift from capitalism to a sustainable economy must be completed within years or possibly a few decades. This will entail an extremely rapid and theory-driven process. A framework such as ENL will therefore be a critical requirement, and you should insist on its rapid development by social thinkers.

F. KEY POINTS

- The difficult transition from capitalism to a sustainable economy can be facilitated by applying two principles: *minimum effective change* and *social neutrality*.

- Capitalism's economic logic is environmentally destructive and must be replaced by a sustainable alternative. Its narrow assumptions about workers and consumers must be substantially modified to maintain social stability under contractionary conditions.
- Capitalism's institutions, which implement the system's logic, should be selectively retained and modified as required. New institutions will also be necessary.
- My proposed starting point for a sustainable economic theory is the Economics of Needs and Limits (ENL). This guiding framework is based on an objective theory of value and cost, distinguishes between needs and wants, and offers analytical tools for achieving sustainable well-being.
- The two main current theories are standard and ecological economics. Both are based on subjective value and cost, and both embrace expansionary capitalism despite the escalating ecological crisis.

Chapter 8:
The post-capitalist world

Assume that the youth ecological revolution has been fully successful. That is, a sustainable ruling group holds power, the transformed state is aggressively implementing the rational crisis response, and the transition from capitalism to a sustainable economy is substantially complete. Given the human and social realities discussed in previous chapters, what will likely be the broad characteristics of this post-capitalist world?

A. HUMAN NATURE

As discussed in chapter four, humankind is a biological, ecological, and moral species. As a biological species we have innate material interests; as an ecological species we have a highly intelligent brain; and as a moral species we have inherent ethical sensibilities. Under capitalism all three aspects of this nature have been severely distorted. Our material interests have been intensified by the system's expansionary logic, our minds have been corrupted by its deceptive social control, and our ethical sensibilities have been vitiated by its hyper-competitive individualism. Human nature in the post-capitalist world can therefore be characterized by the projected changes in these three areas.

In a sustainable society capitalism's intensification of our material interests will cease. Some people will still be more acquisitive than others, but the economy's logic will no longer inflame our inborn tendencies. However, because capitalism has been globally dominant for centuries, we cannot know where these tendencies leave off and the system's influences begin. It is also extremely difficult to estimate how long it will take for people to adjust to the new economic conditions. Thus, beyond the eventual moderation of our material interests, I find it impossible to specify how they will evolve.

Regarding our minds, in the post-capitalist world these will no longer be in the service of profit-maximizing economic expansion. Although social control will still shape our thinking, its aim will be sustainable well-being. One result will be a major shift in the boundary between permissible and impermissible thought. Recall from chapter five that thought is permissible only to the extent that it has ruling-class approval. As society is transformed, this thought landscape will be dramatically transformed as well. Much of what is now intellectually forbidden will be openly discussed, and today's restrictions will be seen as ludicrous impediments to free and independent thought.

I suspect that, of the three traits, humankind's ethical sensibility will be most powerfully affected by the post-capitalist transition. Even today, when an emergency strikes and people are forced to drop their capitalist personas, powerful feelings of community solidarity and interpersonal obligations come flooding back. In an economy that aims for sustainable well-being instead of growth and profits, our deep-seated moral sense will likely express itself with a vigor that would today seem childlike.

Two interesting speculations about human nature in a sustainable society can be found in Ernest Callenbach's perceptive novel, *Ecotopia* (see section G):

- After the ecologically-driven secession of Northern California, Oregon, and Washington from the U.S., an American visitor found the residents of the resulting Ecotopia to be strongly emotional. They are sentimental about nature and native people, quarrel acrimoniously in public, and openly express their sexuality.
- An important feature of Callenbach's society is ritual warfare, where groups of young people battle each other with spears and serious injuries are sometimes incurred. The author explains that, "... it was essential to develop some kind of open civic expression for the physical competitiveness that seemed to be inherent in man's biological programming - and [that] otherwise came out in perverse forms, like war." (p. 80)

B. POLITICS

In chapter five I said that the political threat to the young is not the structure of power, but rather the domination of this structure by the capitalist class. This is why the youth-military strategy leaves the structure intact, but replaces the capitalist class and its state with their sustainable counterparts. The result is shown in figure 8-1.

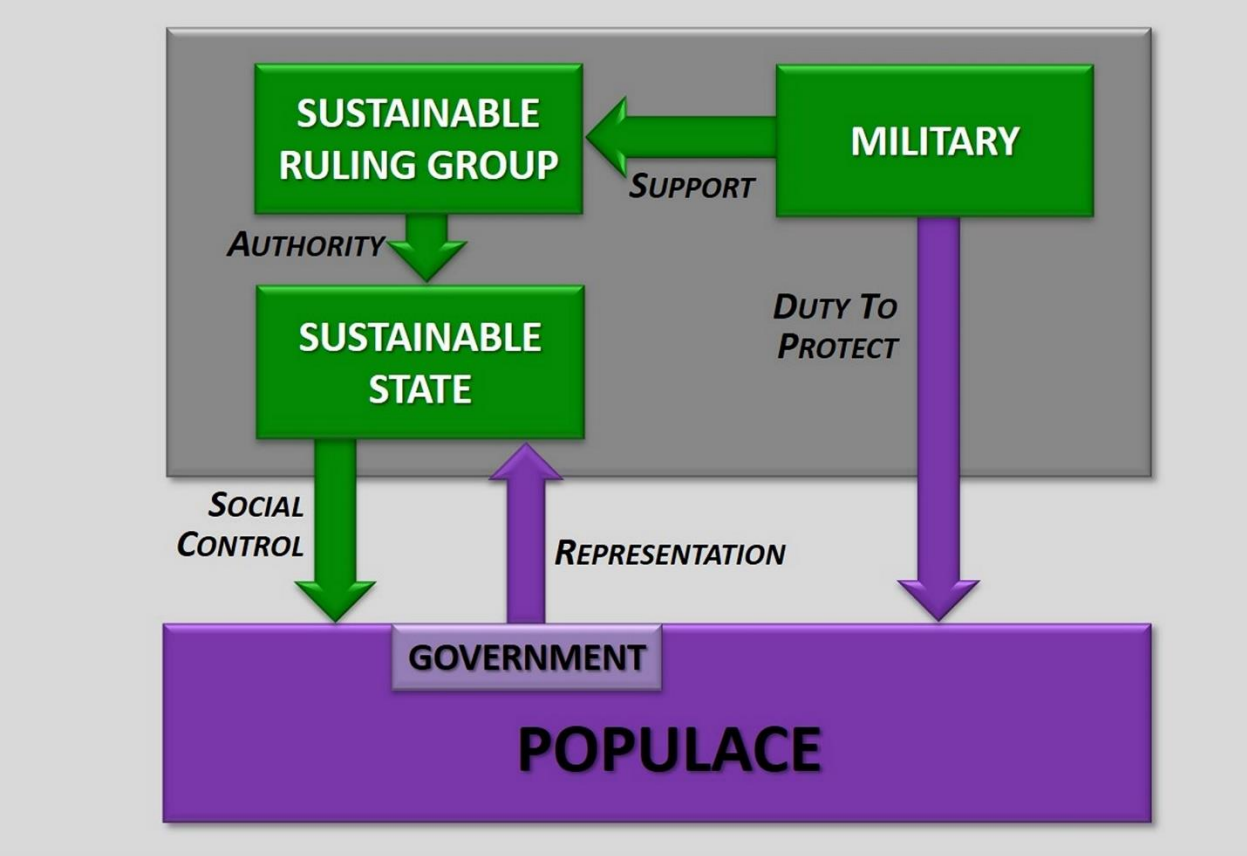

Figure 8-1. Political power in a sustainable society

The following are some key points:

- The military now supports the sustainable ruling group and thus ensures its hold on power. If the new rulers at some point betray the populace, environmentally or otherwise, the military will again be duty-bound to intervene. As under capitalism, the military safeguards the populace from existential threats such as foreign invasions and environmental disasters.
- The sustainable ruling group does not represent a specific social entity such as the capitalist class, but rather the goal of sustainable well-being and its associated economic logic. The group's core responsibility is to maintain a sustainable society by ensuring that post-expansionary economic principles are faithfully implemented.
- The new ruling group has authorized its state to exercise social control as required to maintain and regulate a sustainable society. The state thus enforces the constitution, laws, policies, regulations, etc. that have been formulated for this purpose. It also seeks to shift the populace to a sustainable mode of life through its propaganda. The state thus uses education, public information campaigns, and mass events to instill post-capitalist perspectives and behaviors.
- Government still represents the populace's interests by pressuring the state to implement government policies. Electoral politics looks much like it did under capitalism, but there are two important differences. First, structures that were established to blunt the popular will, such as the UK's House of Lords and the Electoral College in the U.S., have been dissolved. Second, members of the ruling group and their representatives are constitutionally forbidden from participating in or influencing government in any way. That is, popular representation is strictly independent from political power and social control.

C. ECONOMY

Based on the approach outlined in chapter seven, the state has adopted a sustainable economic theory for guiding decisions about output production, natural sources and sinks, trade relations, the population level, etc. Capitalist institutions that promoted economic expansion have been eliminated. To support the new economic logic, the system's useful institutions have been adopted in modified form, and novel institutions have been introduced. The state regulates the economy for sustainability, well-being, and social stability.

These are some other attributes of a post-capitalist economy:

- It is mixed - that is, a combination of private and state ownership. This division is non-ideological in that the only criterion is sustainable well-being. Because well-being is a socially neutral concept, the private-state choice is socially specific.
- To the extent that capitalists retain their economic assets, they have become *proprietors*: business owners as before, but under a sustainable logic that is enforced by a sustainable state. Workers have either remained workers and are thus employees of these proprietors, or have become proprietors themselves.

- Because of the proprietor-worker division, a class structure still exists, but in highly attenuated form. The relative social status of workers has risen while that of former capitalists has declined.
- The work week has been sharply reduced, likely to 20 hours or less, as an adjustment to reduced production and consumption. Based on this factor and the treatment of workers as human beings, the labor market has been extensively modified. The following comment by Callenbach on Ecotopia's 20-hour work week reveals the likely results:

> "... the profoundest implications of the decreased work week were philosophical and ecological: mankind, the Ecotopians assumed, was not meant for production, as the 19th and early 20th centuries had believed. Instead, humans were meant to take their modest place in a seamless, steady-state web of living organisms, disturbing that web as little as possible. This meant sacrifice of present consumption, but it would ensure future survival - which became almost a religious objective, perhaps akin to earlier doctrines of 'salvation'." (p. 47)

D. SOCIETY

These will likely be the most prominent aspects of a post-capitalist society:

- Because economic activities have been curtailed, the work-week shortened, and the division between workers and business owners weakened, society is less stratified, pressured, and competitive than under capitalism. Workers have more time and energy to explore their interests, develop their talents, and possibly become proprietors.
- Given the inherent differences among individuals and the remaining distinction between workers and proprietors, some level of economic inequality remains. This is however limited by the need to maintain social stability under reduced consumption. The degree of social justice beyond this depends on a society's political perspective and the pressures exerted by progressive forces.
- Communities and neighborhoods have returned. Capitalism deliberately tore people away from these social bonds to isolate and disorient them, thereby facilitating their manipulation for profits and growth. Post-capitalist society has reversed this trend and strongly encourages community solidarity and neighborhood activities. The *family fetish* (its manipulative over-emphasis) was heavily promoted by capitalist culture to compensate for the social losses, but this has now lapsed. Family remains a central feature of human life, but strong consideration is also given to neighborhood, community, region, society, species, and biosphere.
- To humanely reduce population, "death with dignity" has been widely embraced, and social experiments have begun on increasing the ratio of parents to children. China attempted to control its population by reducing the ratio of children to parents (the one-child policy), but this was strongly resisted by the populace. Legally permitting families to take forms such as five adults and two children, or eight adults and three children, could satisfy the human drives to procreate and nurture, allow for siblings, broaden the range of adult influences, lighten the burdens of child-rearing, and reduce financial pressures on individual parents.

E. SCIENCE

Capitalist science is *pragmatic*: it explains the world to permit the profitable implementation of the system's economic logic, but it looks no further. Its ruling dictum is thus the one that blights today's quantum mechanics: "Shut up and calculate!" In the 20th century this shallow approach was systematized through the lavish financial assistance of the Rockefeller Foundation and other wealthy funders. See appendix F for a discussion of this important topic.

This conceptually skewed treatment of science has been decisively repudiated, resulting in the following theoretical shifts:

- The physical sciences have been reconceptualized based on the rejection of capitalism's mechanistic worldview. Most significantly, biological life is no longer seen as a set of molecular processes, but as the awareness that arises from them. The notion that "information" underpins life, which was a last-ditch effort to salvage the capitalist perspective, has been dropped. A living organism is now defined as the combination of a unique awareness and its physical infrastructure, thereby transforming biology.
- To incorporate awareness into its worldview, post-capitalist science has worked with the revived field of philosophy to develop an ontology that recognizes the full scope of existence. As one important consequence, the subjectivity that inexplicably pops up in capitalist science (the "observer" in quantum mechanics and relativity, the "theory of mind" in biology, aware plants, etc.) now has a firm intellectual foundation.
- The social disciplines, which served capitalism in numerous ways, have also been drastically modified. This is obviously the case for economics, which is now based on a sustainable rather than an expansionary logic. It is also true for "political science", which now addresses both electoral politics (government representation) and deep politics (power and social control).
- The *capitalist disease model* has been abandoned. This ascribed disease causes to individuals while largely ignoring the societies and environments in which they lived. One key tactic was to treat susceptibility as cause: people get sick not because their water is tainted, but because they're more vulnerable to tainted water than others. Another was to treat addiction as a physical disease. This gave the addict medical and community support, but ignored the social pathologies that frequently caused self-destructive behaviors. For details see the work of psychologist Bruce Alexander.

F. KEY POINTS

- Human nature is still expressed in a sustainable society, but its capitalist distortions and intensifications have ceased.
- Although social control continues to shape human thought, its purpose now is sustainable well-being rather than profits and growth.
- The structure of political power is largely unchanged, but the capitalist ruling class and state have been replaced by their sustainable counterparts. Democracy is still limited to the

populace's political representation, but this is no longer compromised by institutional obstacles or ruling-class influences.

- The economy is guided by a sustainable economic theory such as ENL. The ownership of economic assets is mixed, capitalists have become proprietors, the work-week has been sharply reduced, and the labor market has been radically restructured.
- Because society is more equitable and less pressured, workers have more time and energy for personal development and life enjoyment. Some may therefore choose to become proprietors instead.
- Various personal and collective activities have been introduced to compensate for reduced consumption.
- Social experiments are being conducted to restructure the family for lower population levels and other benefits. Family remains a core aspect of human life, but is no longer used as a substitute for community and social relationships.
- Science has moved beyond its pragmatic restrictions and now seeks, in concert with philosophy, to deeply understand the world rather than just controlling it for capitalist ends.

G. FURTHER READING

WEBSITE DOCUMENT

Life, Biology, and Capitalism (2016) - Here I offer my views on the essence of life, propose a shift from today's mechanistic biology to "vital biology", and discuss capitalism's role in the field's intellectual corruption.

EXTERNAL DOCUMENTS

The Right to be Lazy - Paul Lafargue (1883)
Lafargue ridicules the capitalist notion of a "work ethic," which reconciles the worker to degrading labor under alienated conditions. His main message is that the working class, "… must return to its natural instincts, it must proclaim the Right of Laziness, a thousand times more noble and more sacred than the anemic Rights of Man ... It must accustom itself to working but three hours a day, reserving the rest of the day and night for leisure and feasting." (p. 34)
Lafargue blames both capitalists and the workers themselves: "... the working class, with its simple good faith, has allowed itself to be thus indoctrinated ..." (p. 38)

Ecotopia - Ernest Callenbach (1974)
Callenbach envisions a sustainable and humane society after its ecologically-motivated secession from the United States. The book provides numerous sparkling insights about the post-capitalist world. A frequently overlooked aspect of the Ecotopian secession is that it required the threat of massive violence: the secessionists were said to have mined the harbors of major eastern U.S. cities with nuclear weapons to prevent a military response by Washington.

The Reenchantment of the World - Morris Berman (1981)
Berman's topic is the capitalist worldview, which holds that the universe is entirely physical, thereby eliminating mind and consciousness. Although the author mystifies capitalism, he is correct on this important point: "… the forces that triumphed in the second half of the seventeenth century were those of bourgeois ideology and laissez-faire capitalism. Not only was the idea of living matter heresy to such groups, it was also economically inconvenient. … if nature is dead, there are no restraints on exploiting it for profit." (p. 117)

Conclusion:
Power or Perish!

The world's young people have been ecologically betrayed, and those who betrayed them continue to hold political power. Therefore, to have any chance of survival, the young must initiate revolutionary change. In this book I have provided theoretical guidance to the militant youth leaders who will hopefully arise to meet this existential challenge.

My core advice to them is this: ***by default reject <u>everything</u> the older tell you about the crisis and its solutions***. Our behavior to date leaves no doubt that, as a group, we care little about your future. We have selfishly pursued our material interests and slavishly complied with capitalist social control. We have told you grotesque lies to diminish and distort the crisis, and we continue to pretend that governments have the power to solve it. Instead of implementing the rational response we have given you false assurances, futile conferences, and meaningless agreements. *We have abandoned you.*

The young and their older supporters must instigate the military, and the military must decisively intervene. At this late date no other strategy can work. No-one else will do the instigation, and no other social force can rapidly sweep away an ecocidal system and ruling class. The prospect of a revolutionary shift is deeply disturbing, but civilizational collapse will be terrifying beyond all imagination.

Young people, fight like hell for your survival! Grasp the reins of history! Exert your will! Be defiant, courageous, and resolute! ***With political power you may survive; without it you will surely suffer and die.***

This book's final words must be directed at my age cohort - the older. We must first confess, with profound contrition, that we have failed to meet our most basic responsibility: to preserve the global environment for the civilized survival of the young and future humankind. But we must also recognize that we can redeem ourselves by supporting the young with our indispensable assets: knowledge, experience, influence, authority, and military force. The past is unspeakably tragic, but gone; our ethical moment of truth is now.

Afterword

This book focused on the ecological betrayal of the young primarily for a strategic reason: revolution requires a revolutionary agent, and an agent becomes revolutionary only through deep and visceral anger. The working class felt this rage under the brutalities of early capitalism and could therefore play this role. The young increasingly feel it now as their genocide looms. They and their older supporters are therefore the potential revolutionary agents today.

Given this focus, the book restricted itself to the *interests* of the young. Here I would like to briefly examine two other aspects of this singular generation: its *ethical responsibility* and *historical significance*. I will also touch on a development that, while understandable, could prevent a revolutionary shift: their growing *environmental defeatism*.

1. **ETHICAL RESPONSIBILITY.** If the young fail to instigate revolutionary change, billions of human beings and trillions of non-human organisms will likely perish. *The young have an ethical responsibility to prevent this omnicidal outcome.* This is not a burden they should have to bear, but due to the betrayal of their elders they must bear it nonetheless. Based on this enormous responsibility and their absolute right to survival, the young are fully justified in humanely doing whatever is necessary - including violence if this is strategically justified - to achieve the required social and environmental changes.

2. **HISTORICAL SIGNIFICANCE.** Assume these changes are successful and organized human life continues. The social, economic, and political choices made during this rescue period will set our species on an entirely new course - possibly for centuries or millennia to come. Humankind will by necessity have shifted from biologically-driven expansion to consciously-guided contraction and stability. This ***species redirection*** means that today's young are potentially the most significant generation that has ever lived. They should embrace this as an extraordinary opportunity to decisively shape the human destiny.

3. **ENVIRONMENTAL DEFEATISM.** This posture appears to stem from two sources: the mainstream's denial of workable solutions and a misunderstanding of the rational goal. The rational crisis response and revolutionary strategy proposed in this book will hopefully alleviate the first source. The second can be addressed by emphasizing that the only realistic goal today is to minimize collapse - it is far too late to retain capitalist civilization and current lifestyles. Young people who aim too high will be subject to crushing pessimism and crippling defeatism. They must restrict their ambitions to what can still be achieved, and then concentrate all their efforts on achieving it.

APPENDIX A:
Youth Survival Manifesto

NOTE: A manifesto is a public declaration of a group's goal, analysis, and strategy. This document is intended as a starting point for the manifestos that youth leaders may soon wish to produce. It is written from the youth perspective and assumes that the young have become fully aware of their existential predicament.

1. PREAMBLE

We, the young, have been ecologically betrayed. Older generations have a clear ethical responsibility to protect the environment for our present and future well-being, but the natural world is now being ruthlessly destroyed. The international community vowed decades ago to maintain greenhouse gas concentrations at safe levels, but concentrations have risen disastrously, and the resulting global heat now poses an existential threat.

We know that, as a result of this betrayal, we will suffer intensely and in many cases perish well before our time. We are also convinced that, under current political conditions, nothing of any significance will be done before the crisis spins out of human control. In brief, we understand that we have been abandoned to a grim ecological fate.

Based on this understanding, we have lost faith in the capitalist class and its allies as our social leaders. Although they have long known about the unfolding catastrophe, they have continued with business as usual to protect their power and privileges.

We therefore demand that they be replaced by leaders who will rationally tackle the crisis we face. To give us a chance at ecological survival, we demand revolutionary change.

WE REFUSE TO BE PASSIVELY SLAUGHTERED. We refuse to follow our morally corrupt leaders and their compliant supporters down the path of ecological destruction. We will fight to the last breath for our future, the future of our species, and the future of life on Earth.

We desperately ask all concerned and compassionate people to stand with us in this life-and-death struggle.

2. THEIR LIES AND OUR TRUTHS

Today's monstrous inaction on the ecological crisis is possible only because the capitalist class and its supporters have spun a web of lies to disorient and misdirect the environmentally concerned. The door to rational action will remain closed until these falsehoods have been exposed and refuted. We therefore begin by replacing their most damaging lies with our respective truths.

LIE #1: The ecological crisis is climate change, which was caused by greenhouse gas (GHG) emissions.

TRUTH #1: The crisis is ***ecological overshoot***, which was caused by the over-expansion of the global capitalist economy. This resulted in the violation of multiple environmental limits starting around 1950. Climate change, properly defined, is just one aspect of this far broader and deeper environmental disaster.

LIE #2: "Global warming" and "climate change" are synonymous, hence interchangeable.

TRUTH #2: These terms denote causally related but distinct phenomena. "Global warming" refers to the rising temperature of the Earth's surface due primarily to increased GHG concentrations. "Climate change" refers to alterations in the world's climates as a result of this warming. Global warming is thus the cause, and climate change is one of its effects. This also implies that "climate change" is an inaccurate term for the full range of GHG-based impacts. We therefore use "GHG crisis" instead.

As young people who are desperately trying to escape the calamity we face, we are appalled that these and other terms have been compromised. We are reminded of George Orwell's Newspeak, which shaped and simplified the language so as to make non-compliant thought impossible. The modified strategy here is to muddle the core vocabulary in order to prevent meaningful discourse and fundamental change.

LIE #3: The rational aim for the GHG crisis is net-zero emissions.

TRUTH #3: Decades ago the rational aim was to maintain safe GHG concentrations, as stipulated in the UNFCCC agreement - an international treaty that was ratified by 197 countries in 1994. Because the Intergovernmental Panel on Climate Change (IPCC) effectively nullified this agreement a year later by shifting the goal to emissions reductions, these levels have been greatly exceeded. Because it is physically impossible to reduce concentrations to safe levels in time for our survival, the rational aim today is direct global cooling, which will require massive solar radiation management (SRM). ***We interpret the mainstream's dismissal of this indispensable solution as a genocidal assault on our generation.***

Another critical factor is that fossil-fuel emissions contain cooling aerosols, which are removed from the atmosphere when emissions are reduced. ***We are outraged that this well-known effect is consistently neglected or downplayed by mainstream climate science.***

LIE #4: Reducing consumption and population levels can be ignored in the reduction of environmental impacts.

TRUTH #4: These measures must be implemented quickly and equitably. Any environmental impact is driven by three factors: consumption, population, and efficiencies. To significantly reduce the impacts, efficiencies must rise as rapidly as is technically feasible (hence irrespective of the profit motive), and in the rich world both consumption and population levels must decline as rapidly as is socially feasible.

LIE #5: The IPCC is a scientific organization.

TRUTH #5: The IPCC is a political organization with a scientific facade.

No scientific organization would shift its attention from the underlying problem of unsafe GHG concentrations to the problem's emissions-based increments. No scientific body would fail to reassess its strategic approach if its results were unsatisfactory, as the IPCC's have clearly been: over its 35-year tenure the atmosphere's CO2 level has risen by about 65 ppm, at an accelerating pace. Despite this, the organization has never questioned its emissions fixation.

Based on this illogical and dishonest behavior we have concluded that, although we respect the empirical research of its associated scientists, the IPCC itself is a political body. Its designated roles are to attract the environmentally concerned by acknowledging the GHG crisis and opposing denialism, and then to divert them from any solutions that might threaten capitalism or growth. ***This attract-and-divert tactic, on an existential issue, fills us with revulsion and rage.***

LIE #6: The ecological crisis can be solved though government policies and political will.

TRUTH #6: The hardest lesson we have learned is that social leadership is exercised not by the people or their governments, but by those who control the economy: the capitalist ruling class and its state. These forces cannot be voted out of office, and they impose strict limits on government action. Having overcome the deceptive propaganda we have absorbed all our lives, we now understand that the people are not sovereign, and that any workable strategy must explicitly recognize this fact.

Our overall conclusion is this: The fundamental requirement for our ecological survival is not political will within the prevailing social order, but the political power to create a new and sustainable social order.

3. OUR DEMANDS

Based on the above truths, we make the following demands. We will militantly assert these until our ecological survival is ensured.

DEMAND #1: Replace the capitalist class as social leaders

The capitalist class must be replaced by a group that is fully committed to a sustainable world. After examining the political structure of capitalist societies we have determined that the military is the only force that can achieve this end in the time available. We are dismayed that military intervention is necessary, but there is no feasible alternative at this late stage.

Military intervention could be either indirect or direct. Indirect intervention would apply if a mature civilian group is available. In that case the military could support this group while keeping itself on the sidelines. If such a group has not appeared, the military would have to assume political power itself. In that case it should relinquish power as soon as a qualified civilian group is prepared to assume control.

We fully understand that a revolutionary shift will cause profound social disruption. However, the betrayal and inaction of recent decades have convinced us that this is our **only** road to survival.

DEMAND #2: Initiate measures for rapid global cooling

The first responsibility of the new social leadership will be to rapidly cool the planet to maintain a livable environment. The most critical measure is SRM to reflect solar radiation. This should be implemented on a multilateral basis if possible, but unilateral action may well be necessary.

We acknowledge that the environmental risks associated with SRM are real and serious. However, these risks must be assessed in the context of our threatened future. Conventional discussions typically ignore this threat and thus falsify the assessment. In our view a rational mix of SRM measures must be implemented as quickly as is technically feasible while minimizing the potential damage to humankind and nature.

Although we have to date assumed that ruling-class replacement will precede SRM, the urgency imposed by the environment's rapid degradation could force a reversal of this sequence. Emergency SRM by a non-state group could galvanize the concerned and instigate revolutionary change. The unifying slogan for our first two demands is therefore: ***SRM spawns revolution, or revolution permits SRM***.

DEMAND #3: Transform ecocidal economies

Once new social leaders are in place and global cooling has begun, work must immediately begin on the transition from capitalism and other expansionary systems to sustainable economies.

The main conceptual requirement for this transition is a new economic theory. Given the severe time constraints, we propose an independent framework, the Economics of Needs and Limits (ENL), as the starting point for this theory's development.

The exact nature of a sustainable economy cannot be foreseen. Because global overshoot is unprecedented, humankind is facing a sharp historical discontinuity. This means that our species cannot move towards a predefined system such as socialism or ecosocialism. Instead we must move away from capitalism under the guidance of sustainable economic principles. A post-capitalist economy will therefore be the unknowable outcome of a rapid, organic, and theory-driven process.

DEMAND #4: Restore environmental health

Our fourth demand is to return the global environment to a healthy state insofar as this is feasible. This will entail three broad initiatives: restoring the Earth's energy balance, rationalizing the use of natural sources and sinks, and rehabilitating damaged ecosystems. This demand is last because these projects are incompatible with capitalism's economic logic. It is therefore necessary to begin the economic transition and to supersede this logic before they can be seriously undertaken.

As a general statement, ***our species must quickly establish its optimum level of planetary impact.*** Some impact is necessary for our survival and life enjoyment, but too much is ecologically fatal. Humankind has overshot the Earth's natural limits and must now locate the delicate balance between the sufficient and the sustainable.

4. POSTSCRIPT

The ecological crisis is ultimately an ethical issue. This assertion goes well beyond the standard recognition that the global rich are its primary cause and the global poor its primary victims.

Past revolutions have succeeded when material interests were effectively aligned with revolutionary ends. For the ecological crisis this motivation is absent: material interests lead us away from rather than towards ecological salvation. The main impetus to fundamental change must therefore lie in the ethical realm. A critical mass of people, in positions of sufficient power, authority, and influence, must override their personal comforts for the sake of the young, the poor, and life on Earth. Can they rise to this challenge?

For the capitalist class and its allies this question has already been answered. Not only have they failed to respond rationally to ecological overshoot, they have cruelly blocked effective action. A split remains possible as the crisis worsens, but this class has until now been a deeply amoral group.

For the compliant supporters of this class and its ecocidal economy, the answer will soon be evident. Up to this point they have disseminated the mainstream's lies and refused to develop the intellectual infrastructure for a sustainable society. But some pangs of conscience are perhaps being felt, and an ethical reassessment may be under way. If so, they should understand that time is short and the crisis won't wait.

For the military the question has yet to be posed. Its professional responsibility is to safeguard the populace from existential threats, but it mistakenly believes that this can be achieved under capitalist leadership. We must therefore awaken this critical force to today's environmental and political realities. The military must then decide if will honor its core commitments, or if its loyalties will remain with the destructive masters it presently serves.

Our generation faces immense challenges as well. In the rich world we have a strong material interest in capitalist affluence and thus the ecocidal status quo. This must be courageously overcome. Related to this is the siren call of progressivism, a movement with humane values that restricts itself to system reforms when system replacement is clearly required. For revolutionary purposes we must either shift this movement to militancy or abandon it. We must also learn to distinguish between friend and foe among our elders. Many are complicit in the cataclysm we face, but others are eager to help us influence the military and to share their knowledge and experience as we seek a sustainable world.

Our final challenge, should it come, will be the most daunting. If the military fails to respond constructively in a timeframe that is consistent with our ecological survival, we will seek political power ourselves. Facing a terrifying future and left with no other choice, we will shift from persuasion and agitation to outright insurrection.

We will <u>not</u> be passively slaughtered!

APPENDIX B:
Public statement by the U.S. military

NOTE: This is my proposal for a public statement by the United States military shortly after its political intervention to replace the country's ruling class. The U.S. military was chosen because it is globally significant, and because its leaders have occasionally expressed enlightened views about the GHG crisis. The following are some examples from Department of Defense (DoD) documents (8MB PDF):

- "Climate change is real, serious, and inescapable, and its looming effects ... may prove to be destabilizing on a massive scale." (p. 407)
- GHG tipping points have, "... a real potential to wipe out a majority of the population and species on the planet." (p. 165)
- "The life-sustaining capacity of our planet may be in jeopardy." (p. 408)

Citizens of the United States:

Over the past twenty-four hours your military has seized control of the country's key centers of communication, transportation, commerce, and government. This intervention was necessary to take emergency action on the environment and to initiate the economic and political restructuring required to prevent catastrophic ecological and social collapse. Military control will be relinquished as soon as a qualified civilian group can assume responsibility for these critical tasks. The political leaders of key countries have been informed of our actions and the reasons for taking them.

We recognize that, even as a temporary measure, military intervention is a drastic step that runs counter to America's values and traditions. A fuller explanation is therefore in order.

The military's fundamental purpose is to protect our nation - that is, to safeguard the collective interests of the American people. We have historically assumed that the country's leaders served these interests as well. However, the complete absence of an effective response to the ecological crisis has made it clear that this assumption no longer holds. There is a growing divergence between the interests of the people and the actions of their leaders. *The military has therefore been forced to choose, and it has chosen the people.*

Our first step will be solar radiation management (SRM) to cool our disastrously overheated planet. Today's temperature anomaly is already sufficient to devastate the biosphere and doom the homeland. Because further increases will be unimaginably destructive, SRM and related measures now have the same existential urgency as repelling a foreign invader from America's shores.

Once global cooling has been initiated, the military will begin transforming the economy so that it is fully sustainable. This will entail a rapid shift from economic expansion to contraction

as well as efficiency improvements that are unconstrained by the profit motive. Large-scale efforts to repair environmental damage will commence as soon as possible.

America's foreign policy will be modified to encourage other countries to move in these directions. Military expenditures for the defense of our nation will not be compromised as a result of these changes.

Business leaders are strongly encouraged to embrace the economic transformation and to play a constructive role in the new economy. Your knowledge and experience are valued, and will be appropriately rewarded so long as your businesses fully comply with all environmental and social regulations.

Citizens must understand that the production of non-essential outputs will decline. Goods and services that provide little objective benefit or that cause excessive environmental damage will be curtailed or eliminated. Workers who are displaced by these adjustments will be financially supported until they are re-employed in a transformed labor market.

The above changes are far-reaching and will require extensive intellectual support. This includes the development of a new economic theory, new economic institutions, and the legal infrastructure to manage a sustainable society. Funding for social research will be distributed accordingly. Most scientific funding will be diverted to technical measures for solving the crisis.

Although citizens are free to discuss these initiatives, public opposition and active resistance will not be tolerated. Martial law, which is now in effect, will be strictly enforced to punish any offenders.

More information on these profound changes, and what they imply for citizens, businesses, journalists, and governments, will be distributed shortly.

We are confident that the American people will understand that the military is acting on their behalf, and that these exceptional measures are unavoidable at this late hour.

APPENDIX C:
Public statement by the Emergency SRM Group

NOTE: This is my proposal for a public statement by concerned individuals who have unilaterally initiated solar radiation management (SRM). It explains why this action was taken and expresses the hope that it will trigger fundamental social changes for long-term ecological survival.

Citizens of Earth:

We, the undersigned, are horrified by the human suffering and natural destruction that are now escalating on our overheated planet. We see no evidence that any public or private entity will tackle the global temperature anomaly in time to prevent catastrophic collapse. As the Emergency SRM Group we have therefore dispatched a small fleet of airplanes to inject sulfate particles into the Arctic's upper atmosphere. Our primary aim is to initiate the global cooling required for humankind's short-term survival. We also seek to instigate the profound social shifts required for the long-term continuation of human and non-human life.

Our Group understands that this initiative violates the longstanding SRM taboo and will be heavily criticized. We therefore offer the following responses to the anticipated questions and objections.

1. WHY PROMOTE SOLAR RADIATION MANAGEMENT (SRM)?

The sharp rise in greenhouse-gas (GHG) concentrations over the past few centuries has produced an extreme energy imbalance: far more energy is flowing from the Sun to the Earth than from the Earth into space. This imbalance is responsible for the temperature anomalies that are now wreaking climate havoc. Unfortunately, GHG concentrations cannot be quickly lowered due to energy and material constraints. The standard solution, emissions reductions, is ineffective because it addresses only the increments to the already-disastrous energy imbalance, and because cooling aerosols disappear as emissions decline.

Given these physical realities, the global temperature can be quickly reduced only by reflecting solar radiation before it strikes the Earth's surface. This will prevent its transformation into the heat that is blocked by GHGs. The term SRM refers to the various reflection techniques. Briefly stated, we promote SRM for global cooling because no effective alternative exists.

2. WHY USE THE SULFATE AEROSOL INJECTION (SAI) METHOD?

Several other SRM methods have been proposed (mirrors, cloud brightening, etc.), but the Group chose SAI because it is highly visible and thus a dramatic demonstration of the existential need for SRM deployment. Once this need has been socially acknowledged, competent analysts

must examine all available options, apply scientific and ethical criteria to each, and establish the combination that achieves maximum global cooling as rapidly and safely as possible.

3. WHY ACT UNILATERALLY?

The Group took unilateral action for two reasons. First, as noted above, there is no indication that other entities are prepared to act. If not us, who? And when?

Second, global governance on SRM, which is purportedly being pursued today, is both impossible and irrational. It is impossible because the world is far too divided, and SRM's effects are far too diverse, for broad agreement on this contentious issue. It is irrational because consensus is inapplicable to an urgent and life-threatening situation. If an incapacitated driver is about to send a bus over a cliff, it would be absurd for an intervening passenger to seek agreement about the best solution before grabbing the wheel and steering to safety. For a planet careening towards ecological disaster the absurdity is infinitely greater. Emergency action is required NOW!

4. WHY REFER TO FUNDAMENTAL SOCIAL SHIFTS?

Our small-scale project will not significantly moderate the global heat. Achieving this will require massive implementation of the rational SRM mix. However, even a return to the pre-industrial temperature will be insufficient for a sustainable future. Reaching this goal will also entail large-scale damage repair as well as strict control over habitat destruction, non-GHG pollution, plastics dispersal, deforestation, and numerous other harmful human practices.

Humankind's shocking inaction to date has convinced us that these measures are impossible under current economic and political conditions. The most obvious impediment is capitalism - a highly productive but ecologically destructive system that must be replaced by a sustainable alternative. Such fundamental social changes pose political challenges that are beyond our scope. We can only hope that our SRM initiative will spur the formation of theoretically prepared movements that can alter today's societies for the long-term survival of humankind and nature.

(Signatories)

APPENDIX D:
Public statement by ethical climate scientists

NOTE: This is my proposal for a public statement by climate scientists who are committed to the field's ethical principles. It announces a professional split with their mainstream colleagues, who continue to disseminate deadly climate lies.

The undersigned are climate scientists who are determined to serve society and nature by upholding the field's ethical principles. We are appalled that mainstream climate science consistently violates these principles by falsifying both the crisis and its solutions. With this statement we therefore dissociate ourselves professionally from our mainstream colleagues.

Our primary reason for taking this divisive step is the extreme weather events of recent years. These have convinced us that, ***unless our discipline is fundamentally transformed to guide rational human action, the crisis will rapidly escalate and an even more horrific future will unfold***. Based on these events, we now understand that:

1. At 1.2°C the global temperature anomaly is already intolerable, at 1.5°C it will be catastrophic, and at 2°C or higher it will threaten human extinction.
2. The Earth's average surface temperature must therefore be rapidly decreased by about 1°C. In other words, global cooling must now be aggressively pursued.

To our dismay, the mainstream's response to the weather events has been to rigidly maintain its ecocidal stance: aim for net-zero emissions and thus allow global warming to continue. The mainstream also disseminates the defeatist falsehood that the best humankind can do is limit how disastrous climate conditions will become. Human agency to improve these conditions is thereby irrationally dismissed.

As noted above, our primary motivations are the ethical principles that have been adopted by our field's professional associations. A key example is the American Geophysical Union (AGU), which states in its *Scientific Integrity and Professional Ethics* booklet that the AGU promotes science for the benefit of humankind and a sustainable future. The document stipulates that, "Members have an ethical obligation to responsibly, accurately, and clearly inform the public about natural resources, hazards, and other geoscience phenomena of importance to the well-being of Earth and society." The mainstream egregiously violates this obligation and is therefore guilty of scientific misconduct.

The following are our proposed measures for global cooling. We divide emissions into GHG releases and aerosol releases because these components have distinct attributes: GHGs are long-lived, have a warming effect, and don't directly harm human health; aerosols by contrast are short-lived, have a cooling effect, and directly harm human health.

1. **Aggressively reduce GHG releases** to minimize further environmental damage. These reductions will entail sharply increased GHG efficiencies, possibly including carbon capture and storage (CCS).

2. **Optimize aerosol levels.** Scientific and ethical criteria must be applied to find the optimum balance between the environmental benefits from aerosol cooling and the health damage from aerosol pollution.
3. **Immediately implement a rational set of SRM measures**. Possibilities include land- and space-based mirrors, marine-cloud brightening, polar ice brightening, and stratospheric aerosol injection. Whatever the chosen mix, it must be implemented on a massive scale to maximize humankind's survival chances.

The main practical implications of this professional split are as follows. First, we will identify ourselves as practitioners of "ethical climate science" rather than climate science generically. Second, we will vigorously oppose the mainstream's falsehoods and promote the above measures. This implies our strong opposition to the IPCC, which has long represented the mainstream's views. Third, we will urge professional bodies such as the AGU to sanction the mainstream for its scientific misconduct. Fourth, we will attempt to persuade media outlets, educational institutions, and other sources of public information to tell the scientific truth about the crisis and the rational response.

We urge our colleagues to reject the unethical, unscientific, and unprofessional assertions of mainstream climate science by joining or supporting our breakaway group.

(Signatories)

APPENDIX E:
Michael Mann's *The New Climate War*

NOTE: Mann is a central climate figure, and his book is highly relevant to the ecological plight of the young. This appendix therefore summarizes its thesis, suggests reasons for its appearance in early 2021, and notes its significance for youth leaders. Bill McGuire's book *Hothouse Earth* (2022), which presents the same perspective, is briefly critiqued as well.

1. MANN AND HIS BOOK

Michael Mann is the Distinguished Professor of Atmospheric Science at Penn State, a major research university in Pennsylvania, U.S. He has won numerous professional awards and in 2020 was elected to the National Academy of Sciences. In a previous book, *The Hockey Stick and the Climate Wars* (2013), he described the brutal attacks by industry-funded deniers that he and other climate scientists had endured. Because he is battle-scarred and prestigious, Mann is highly credible while being deeply committed to the capitalist status quo.

The thesis of *The New Climate War* is that the old war against "hard denial", which rejects the scientific evidence about the GHG crisis, has been largely replaced by the new war against "soft denial", which accepts the evidence but then goes astray in various ways. The soft deniers include those who exaggerate the crisis ("doomists"), blame individuals instead of corporations ("deflectors"), and use age, gender, ethnicity, and other "pre-existing fault lines" to splinter the climate movement ("dividers"). Mann calls all these people "inactivists" who, wittingly or unwittingly, do the bidding of fossil-fuel interests and thus prevent effective action.

2. GOOD COP/BAD COP

Mann's book puts a new spin on an old social-control tactic: good cop/bad cop. This has long been a favorite of the IPCC, and Mann uses it to beat down anyone who might undercut the mainstream's disastrous strategy: government policies to reduce emissions in order to "avoid the worst consequences".

Let me clarify Mann's tactical twist and then offer some possible explanations for his book's publication at this juncture. See figure E-1.

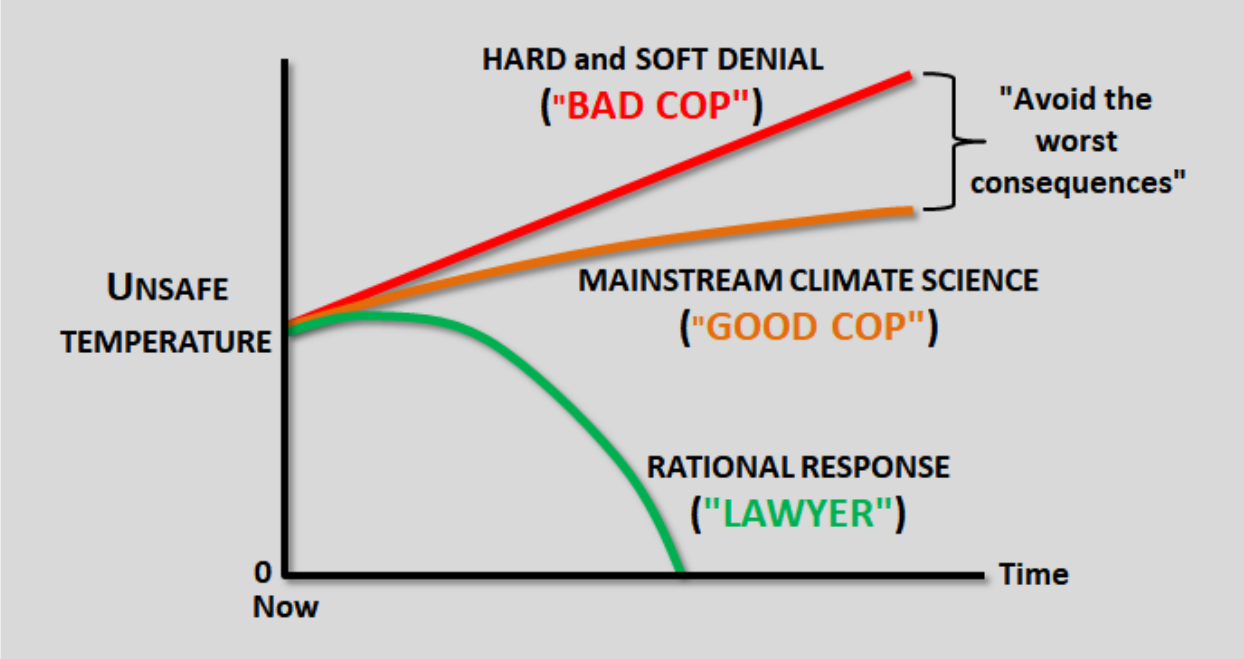

Figure E-1. The warming trajectories behind Mann's good cop/bad cop

The above graph tracks the global temperature over time as GHG concentrations rise. The red line at top depicts the rapid warming from business as usual, which in the old war was blamed primarily on the hard deniers. The brown curve in the middle reflects the reduced warming purportedly achieved through the mainstream's emissions reductions strategy. The green curve at bottom represents the rational response outlined in chapter three and appendixes C and D.

The older tactic pitted the hard deniers, who were cast as the bad cop, against mainstream climate science, which was cast as the good cop. This worked because the good-cop strategy "avoids the worst consequences" and is thus *relatively* better. With massive help from the capitalist media, this was sold as the solution. However, as explained in chapter two, ecological damage continues for as long as a temperature anomaly exists, so both approaches are *absolutely* ecocidal. This is why the two "cops" must be ignored and a "lawyer" called to demand the rational response.

As shown at the top of the figure, Mann's tactical update is to lump the soft deniers in with the hard deniers and classify them all as bad cops. For example, he claims that "doomists" like Jem Bendell and David Wallace-Wells are just as harmful to the climate cause as the hard deniers of the past. With the soft and hard deniers placed in the same category, the trick works as before: public attention is sharply focused on the battle between the supposedly good and bad guys, and the rational alternative to both is removed from view.

The book is thus a deep deception to ensure that the mainstream approach is not undermined by an objective "lawyer" who insists on the rational and ethical approach: rapidly reduce the global temperature to a level that is safe for the global poor.

3. WHY NOW?

Why would Mann's book have appeared in early 2021? The following strike me as the most plausible reasons:

- Responding rationally to the GHG crisis has revolutionary implications, so the ruling class must maintain tight control over the GHG message. In 1988 it seized control of this message from independent scientists by establishing the IPCC (see p. 14). In 2018 it countered the fading credibility of the 2°C story with the IPCC's 1.5°C report. I therefore surmise that, in 2021, the ruling class sought to prevent radical statements about the escalating catastrophe by bolstering the capitalism-friendly message of mainstream climate science.
- Under capitalist rule the GHG crisis will rapidly escalate, and Mann's book prepares us to accept this dark future. He repeatedly states that the best we can do is reduce emissions to constrain *how much worse* things will eventually get. Thus, although he excoriates the "doomists" who explicitly state that it's too late to avert disaster, he preaches this implicit version of doom himself.
- The peasants, AKA the young, are getting restless and must be prevented from grabbing pitchforks and attacking their ethically challenged elders. The book thus praises the immature, reformist youth movements typified by Greta Thunberg in an attempt to stop the young from becoming a more mature and militant threat.
- Some liberal climate scientists, including Kevin Anderson, the authors of the "Hothouse Earth" paper, and those associated with Scientists Warning and the Alliance of World Scientists, have made modestly provocative statements that clash with the mainstream's conservative wing. This threatens a disruptive split within the good-cop camp. Mann's book therefore disciplines these apostates: comply with the conservative stance or face increasing pressures in your professional lives.

4. LEADERSHIP CONSIDERATIONS

1. Reviews of Mann's book have been effusive and uncritical (examples here and here). This reflects the current social-control situation: Mann as the designated big dog to direct the GHG discussion into capitalism-friendly channels, and a mass of compliant followers to help him spread the ecocidal message. Don't waste your time engaging with these people. Forsake them, build militant movements, and instigate revolutionary change.
2. A striking feature of Mann's book is its intolerance: the author contemptuously dismisses anything that falls even slightly outside his conservative mainstream approach. Besides its belligerent title and subtitle, the book's first few pages are replete with references to "the enemy". Although Mann parades as a liberal Democrat, he could well be laying the groundwork for a fascistic future within both his discipline and society as a whole.
3. Another jarring feature is the book's lack of concern for the young. Consider that, under Mann's approach, they will move from an already perilous present into a truly gut-wrenching future while being denied SRM protection. This underscores one of my main points: your generation has been ecologically abandoned and must take full responsibility for its ecological survival. This burden falls heavily on your shoulders as a youth leader.

4. Mann appears to have erred by implicitly confirming that duration is a major factor in the ecological damage from unsafe temperatures (see chapter two). On p. 213 he quotes ally Richard Betts, who correctly states that a single year at 2°C would not be catastrophic, but several decades at this temperature very likely would be. In other words: *the duration of a temperature anomaly matters - a lot*. However, this contradicts the mainstream claim that stabilizing the globe at an elevated temperature is a rational objective. As a youth leader you should jump on such missteps for polemical and recruitment purposes.
5. You must clearly recognize that the young are threatened by mainstream climate science as a whole - that is, both the liberal wing of Anderson, Will Steffen, Johan Rockström, etc. and the conservative wing of Mann, Betts, Katharine Hayhoe, etc. The liberals appear more enlightened because they acknowledge the gravity of tipping points and the need for fundamental social change. However, ***neither wing admits that rapid global cooling is now an existential requirement, and that revolutionary change is necessary to achieve this end. Both are thus equally genocidal for the global young.***

5. BILL McGUIRE's *Hothouse Earth: An Inhabitant's Guide*

This book was published in July, 2022, so the author has full knowledge of recent extreme weather events. He nevertheless pledges fealty to Mann's omnicide cult by parroting its every falsehood and omission.

Most significantly, McGuire repeatedly pushes the fraudulent emissions-reductions story, and tries to get away with it by explaining nothing. He warns us that emissions must be "cut to the bone", but doesn't reveal that cooling aerosols would be slashed along with warming GHGs. He ignores the fact that, because emissions represent only incremental heat, reducing them can't lower today's already intolerable global temperatures. The core concept of energy balance is never discussed. Given this shallow and misleading treatment, most readers will have no clue that even aggressive emissions reductions are unlikely to reduce the rate of global warming, let alone achieve the required cooling.

The rest is also predictable given the cult's playbook. McGuire trashes geoengineering because it would spoil the emissions fairy tale. He not only whitewashes the IPCC's murderous history, he virtually sanctifies the organization by gushing that, "… its assessment reports engender almost biblical reverence." (p. 23) He admits that, "Our climate is being destroyed by unadulterated, free-market capitalism …" (p. 163), but instead of proposing a post-capitalist shift he lamely concludes that GDP is the wrong economic measure and moves on.

Briefly stated, McGuire's book is part of the Mann-led propaganda effort to steer the concerned away from dangerous thoughts and towards a futile but capitalism-friendly measure: emissions reductions. This is professional misconduct, and it will likely escalate as the GHG crisis intensifies and new lies must be concocted to pacify an increasingly alarmed populace.

APPENDIX F:
The Rockefeller Foundation's corruption of science

The intellectual corruption of climate science, as described in this book, is devastating for humankind and nature. However, it is just one aspect of a far broader and more sinister development. This is the 20th-century transformation of science as a whole from a moderately objective mode of inquiry into a dedicated instrument for maximizing capitalist profits and growth. The young, and especially their leaders, must understand this extraordinary shift and its impact on environmentalism in recent decades.

Intellectual corruption under capitalism is nothing new. In the 19th century, after the capitalist classes in England and France had consolidated their power, they quickly threw objective economic theory out the window. Karl Marx commented that, "It was thenceforth no longer a question [of] whether this theorem or that was true, but whether it was useful to capital or harmful, expedient or inexpedient, politically dangerous or not. In place of disinterested inquirers, there were the hired prizefighters; in place of genuine scientific research, the bad conscience and evil intent of apologetic."

Marx wrote this in 1867. Fifty years later capitalism had matured sufficiently to extend its intellectual corruption to the physical sciences. A major force in this process was The Rockefeller Foundation. Fortunately a perceptive historian of science, Lily E. Kay, has written a detailed book about the Foundation's role: *The Molecular Vision of Life* (1996). I will first summarize Kay's book, then cite a 2019 book about trusting today's science, and finally discuss an investigative article that examines the Foundation's connection to today's environmentalism.

1. KEY POINTS: *The Molecular Vision of Life*

- The aim of the Rockefeller Foundation was to "endow scientists with unprecedented power over life" with the intention of, "... ***restructuring human relations [for] industrial capitalism***". (pp. 3 and 8, emphasis added) Central to this aim was the reduction of biological life to the physical processes of chemistry and physics. A highly influential source for this perspective was Jacques Loeb's essay, *The Mechanistic Conception of Life* (1912).
- This recasting of life and human relations was a vast undertaking that was beyond the capacity of the capitalist state. The latter is not structured for such transformations and is to some degree bound by democratic norms. The ruling class therefore financed and coordinated the shift through the private Rockefeller Foundation and other plutocrat funders (Carnegie, Ford, etc.). ***The corruption of science was therefore completely undemocratic: the unilateral imposition of capitalist will to serve capitalist ends.***
- The Foundation's project was strongly influenced by eugenics. This refers to the intentional manipulation of hereditary characteristics to "improve" the species - that is, to mold the populace for its assigned economic roles. The term and its explicit aim lost favor during World War II because of the Nazi death camps, but the ruling-class quest for biological human "improvement" continued in more socially acceptable forms.

- Kay summarizes her findings as follows: "Through education, public opinion, stimulation of a specific research agenda, and the promotion of selective categories of knowledge and research, the Foundation played a key role in the creation of a ... consensus [on social control] between social and political elites on one hand, and academic interests on the other." (p. 28, minor edit for clarity)
- In her conclusion Kay emphasizes that the molecular vision of life was not the logical result of objective research, but rather the intended outcome of a well-defined capitalist agenda. This echoes the Walsh Commission, which in 1912 investigated industrial relations in the U.S. and characterized the Foundation's work as, "a thinly disguised capitalistic manipulation of the social order." (p. 28)

Briefly stated, the capitalist class in the early 20th century decided to shape people, society, and science based on its worldview and economic logic. It did so by circumventing its own state and instead using private funders like the Rockefeller Foundation. As a result, today's scientific thought is pragmatic, mechanistic, and reductionist - hence destructive of people, community, and nature.

2. NAOMI ORESKES' *Why Trust Science?*

The book mentioned above is *Why Trust Science?* by science historian Naomi Oreskes. Her main claim is that, "... the basis for our trust is not in scientists - as wise or upright individuals - but in science as a social process that rigorously vets claims." (p. 141) With respect to empirical research this is reasonably accurate: such science is collaborative and generally self-correcting.

The problem arises with the intellectual framework in which the research is conducted and conclusions are drawn. As Oreskes says, "Scientific facts are claims about which scientists have come to agreement." (p. 127) However, this agreement is rooted in the prevailing scientific worldview, which has been implanted as described above. For example, climate scientists agree that emissions must decline, so this is a scientific "fact". They don't agree that global cooling is an immediate requirement, so this is not. Clearly, the criterion being applied here is not environmental integrity or human survival, but rather compliance with the Rockefeller-imposed version of reality.

Oreskes either ignores or is oblivious to this deep history. In either case her book is grossly mistitled - especially for the threatened young. For them the question is not, "Why trust *science*?", but rather, "Why trust *capitalist* science?"

3. THE CAPITALIST CORRUPTION OF ENVIRONMENTALISM

Let me now turn to the investigative article. This will be an eye-opener for many and should be carefully read - here I provide only a glimpse. It was written by Max Blumenthal and is titled, "'Green' billionaires behind professional activist network that led suppression of 'Planet of the Humans' documentary". The writer does an excellent job of refuting the arguments made by the film's suppressors, but my focus is on their connection to the Rockefeller Brothers Fund, which the Rockefeller Foundation calls "our sister organization".

As one example, Blumenthal notes that the environmental group 350.org was deeply implicated in this suppression, and that the Rockefeller Brothers Fund provided the group's initial financing and guided its agenda. Two leading figures in 350.org are Bill McKibben and Naomi Klein. The writer comments that, "In 2011, when Klein was appointed to 350.org's board of directors, she joined forces with an environmental organization incubated by the Rockefeller Brothers Fund and supported by the Ford Foundation." Blumenthal identifies many other well-known groups and individuals who are in some way aligned with billionaire interests. His message is clear: *capitalist influences permeate today's environmental movements*.

What can be expected from such influences? That is, what would be the likely impacts on environmental thought and action if environmentalists are backed by plutocrat capitalists? In my view the most significant of these would be:

- Profound mystification of the ecological crisis and outright dismissal of the rational response;
- Categorical rejection of militant movements and revolutionary change;
- Minimal constraints on profits and economic growth;
- Strict enforcement of capitalism's worldview and economic logic;
- Support for activists, NGOs, scientists, etc. to the extent that they comply with the above.

As we survey today's environmental scene, this is exactly what we find. The crisis has been massively distorted and workable solutions have been categorically dismissed. All initiatives revolve around government policies and reject the replacement of an ecocidal ruling class. The core initiative, emissions reductions, poses little threat to capitalism's profitable expansion. Michael Mann's 2021 book (appendix E) and the blatant censorship of "Planet of the Humans" are zealous enforcements of the capitalist perspective. Finally, the people and organizations identified in Blumenthal's article are supported in various ways - funding, access to publishers, friendly media treatment, etc. - because they slavishly comply with capitalist demands.

For youth leaders the conclusions are inescapable: categorically reject today's deeply compromised environmental movements, independently rethink the crisis and its solutions, carefully reconsider political power and the role of government, and quickly organize militant movements to spur revolutionary change.

APPENDIX G:
Glossary

1. ENVIRONMENTAL TERMS

Aerosol releases: The aerosol component of fossil-fuel emissions. Also see "GHG releases", "emissions", and "GHG emissions".

Aerosols: Small particles, either solid or liquid, found in fossil-fuel emissions. These particles reflect solar radiation and therefore - with the exception of black carbon (soot) - have a cooling effect.

Carbon budget: The quantity of CO2 that can purportedly be released while limiting the global temperature anomaly to 1.5°C or 2°C.

Carbon capture and storage/sequestration (CCS): The extraction of CO2 from emissions during industrial processes, hence before it enters the atmosphere. Because CCS reduces the amount of CO2 released per unit of economic output, it is an efficiency measure. It must not be confused with GHG removal (GGR), which extracts GHGs from the atmosphere and is thus a form of damage repair.

Climate change: A prolonged change in the mean and variability of key weather components. (IPCC glossary) This is part of the GHG crisis. Compare: "global warming".

Collapse: Comprehensive environmental breakdown resulting in massive destruction of civilizational infrastructure, a rapid human die-off, and the widespread extirpation of non-human life.

Concentration: The level of a GHG in the atmosphere, in either parts per million (ppm) for CO2 or parts per billion (ppb) for methane and nitrous oxide.

Continuity fallacy: The false assumption that environmental events can be reliably predicted based on the Earth's history and computer models. Because of the chaotic breakdown of Earth systems, many events are now inherently unpredictable. Also see "ecological discontinuity".

Decarbonization: The decrease in CO2 emissions from economic processes. Note that "CO2 emissions" is a deceptive term: see "GHG emissions".

Earth's energy imbalance (EEI): The difference between the energy flowing from the Sun to the Earth and from the Earth to space. Currently this is about four watts per square meter of the Earth's surface. EEI is what drives global warming. Any physical factor that modifies EEI is called a *radiative forcing*.

Ecological crisis: The global environmental damage resulting from ecological overshoot, which was caused by over-expansion of the global capitalist economy. This damage consists of the GHG crisis and the set of non-GHG harms.

Ecological damage function: The relationship between global warming and the resulting ecological damage. This damage is a function of the warming speed and both the magnitude *and duration* of the unsafe temperature. The duration factor is largely ignored by climate science.

Ecological discontinuity: The inherent unpredictability of many environmental events. This is due to two factors: the unprecedented speed and scale of human-driven collapse, which means that relevant historical information is unavailable, and the massive complexity of chaotic breakdown, which severely constrains theoretical predictions based on physical principles. Also see "linear fallacy" and "continuity fallacy".

Ecological overshoot: The roughly concurrent violation of multiple global environmental limits, starting around 1950, due to the over-expansion of the global capitalist economy.

Ecological restoration: The repair of past damage from non-GHG harms such as habitat destruction, ocean degradation, plastics dispersal, chemical toxification, and atmospheric pollution. Two important steps are the Earth's extensive rewilding and the abandonment of capitalist modes of resource extraction.

Emissions: The combination of GHGs and aerosols released into the atmosphere by economic processes. GHGs are long-lived and have a warming effect whereas aerosols are short-lived and have a cooling effect. When analyzing temperatures, emissions must be split into these two components. Also see "GHG emissions", "GHG releases", and "aerosol releases".

Emissions fallacy: The false assertion that the solution to the GHG crisis is emissions reductions. This is incorrect for several reasons. See my post, "Six Reasons to Reject the Emissions-reductions Story".

Energy balance: The relationship between the energy flowing from the Sun to the Earth and from the Earth into space. The Earth is in energy balance, and the global temperature is stable, when these two rates are equal. The current temperature anomaly is the result of a severe energy imbalance from unsafe GHG concentrations and reduced aerosol pollution.

Geoengineering: Originally this term referred to the combination of solar radiation management (SRM) and GHG removal (GGR) - the measures required to restore the Earth's energy balance and thus remove the temperature anomaly. Today it is increasingly applied to SRM alone.

GHG crisis: The full set of damaging environmental effects from unsafe GHG concentrations. This is one of two components of the ecological crisis, the other being non-GHG harms.

GHG emissions: A deceptive term because it implies that emissions contain warming GHGs exclusively. For fossil fuels and other industrial effluents this is false because they contain cooling aerosols as well. Comparable terms are "carbon emissions" and "CO2 emissions". Also see "emissions", "GHG releases", and "aerosol releases".

GHG releases: The GHG component of fossil-fuel emissions. Also see "aerosol releases", "emissions", and "GHG emissions".

Global brightening: An increase in the solar radiation reaching the Earth, primarily due to decreased aerosol levels. This will increase the temperature anomaly.

Global cooling: A decrease in the Earth's surface temperature due to SRM measures, lower GHG concentrations, or higher aerosol pollution levels.

Global dimming: A decrease in the solar radiation reaching the Earth, primarily due to increased aerosol levels. This will decrease the temperature anomaly.

Global warming: An increase in the Earth's surface temperature due to higher GHG concentrations or decreased aerosols in the atmosphere. Compare: "climate change". See also: "temperature anomaly".

Greenhouse gases (GHGs): Gases such as CO2, methane, nitrous oxide, and water vapor that act as a blanket by trapping heat radiating from the Earth's surface.

Greenhouse gas removal (GGR): The extraction of unsafe GHGs from the atmosphere through natural or industrial methods to lower their concentrations. GGR is a form of damage repair and must not be confused with carbon capture and storage (CCS), which is an efficiency measure.

IPAT formula: A mathematical identity (two equivalent expressions) that disaggregates environmental impact (I) into three components: population (P), affluence (A) and technology (T). Affluence here refers to average per-capita consumption, and technology to ecological efficiencies.

Linear fallacy: The false assumption that an increased environmental impact always results in a proportional increase in environmental harms. Hence, the unscientific repudiation of non-linear events such as tipping points and points of no return (PONRs). See also "ecological discontinuity".

Mitigation (of climate change): A human intervention to reduce the emissions or enhance the sinks of greenhouse gases. (IPCC AR6 glossary) The mainstream frequently uses "mitigation" to mean emissions reductions alone. See "emissions".

Net-zero emissions: The mainstream's ecocidal goal for the GHG crisis: equalizing "GHG emissions" (deceptive term) and GHG removals to stabilize GHG concentrations at unsafe levels. See also "decarbonization", which refers to CO2 exclusively.

Non-GHG harms: The full set of damaging environmental effects that are unrelated to unsafe GHG concentrations. These harms constitute one of two components of the ecological crisis, the other being the GHG crisis.

Ocean acidification: An increase in ocean acidity (reduced pH level) due to the chemical effect of unsafe CO2 concentrations. This is a deeply worrisome aspect of the GHG crisis because it cannot be resolved by addressing the temperature anomaly.

Ocean deoxygenation: A decrease in the ocean's oxygen level due to ocean warming. This is part of the GHG crisis.

Ocean warming: An increase in the ocean's temperature due to unsafe GHG concentrations. This is part of the GHG crisis.

Point of no return (PONR): The stage in an ecosystem's decline where damage is so great, or time is so short, that human agency no longer suffices to prevent its destruction. Compare: "tipping point".

Safe human habitat: Planetary locations that are suitable for human habitation because they are not subject to unsurvivable heat, persistent flooding, landslides, the destruction of critical roads, or other major threats.

Solar radiation management (SRM): The set of measures for increasing the Earth's reflectivity to reduce solar radiation and thus the global temperature. Alternative terms include solar radiation modification, geoengineering, climate engineering, solar geoengineering, solar reflective methods, albedo modification, and sunlight reflection.

Species redirection: Humankind's shift from biologically-driven expansion to consciously-guided contraction and stability. This transition is necessary for long-term ecological survival.

Temperature anomaly: An elevated and thus unsafe global surface temperature, relative to the pre-industrial period, resulting from the Earth's energy imbalance. Note that a temperature anomaly is global *warmth*, whereas its increase is global *warming*.

Tipping point: The stage in an ecosystem's decline where damage increases sharply due to positive feedbacks, cascading effects, or other factors. At this stage human agency still exists and collapse can be prevented with an adequate response. Compare: "point of no return".

2. POLITICAL AND ECONOMIC TERMS

Authority: Political power that is delegated by the capitalist ruling class to its state. This allows the state to regulate society in accordance with capitalist interests.

Business: Production and exchange for profit. Business is distinct from capitalism because it is not necessarily associated with capitalism's economic logic.

Capitalism: The world's dominant economic system, which is defined not by markets or private ownership, but by its economic logic: the goal of maximum profits and growth, output production based on affordable desires, the assumption of unlimited natural sources and sinks, and the treatment of people as workers and consumers rather than human beings who work and consume.

Coercion: A forcible mode of social control that is employed when voluntary compliance through legitimacy fails. Coercion can be psychological, material, or physical. Also see "legitimacy" and "fascism".

Conservatism: An ambiguous term that can refer to either traditional or modern conservatism. The traditional version is rooted in pre-capitalist, land-based feudalism and is highly critical of capitalism and its rulers. The modern version is an opportunistic mix of traditional views to gain popular support and classical liberalism to incorporate capitalism's economic logic.

Consumption desires: In the Economics of Needs and Limits (ENL) this refers to needs and wants, collectively. The satisfaction of a need maintains or increases humankind's physical health, whereas the satisfaction of a want does not.

Coup: The undemocratic replacement of a government, typically by military force, when it threatens the power or privileges of the ruling class. Compare: "rebellion" and "revolution".

Deep politics: Political thought and action that directly address power, social control, and thought control. Compare: "electoral politics".

Degrowth: A reference to either economic contraction (small "d") or an activist movement that has academic support (capital "D"). This movement is an instrument of capitalist thought control: it seeks to divert concerned activists and thinkers from post-capitalist contraction to futile and ill-defined projects within the current system. See also "ecological economics".

Democracy: The effective representation of the populace's interests through government to pressure the capitalist state to implement desired policies.

Ecofascism: A highly ambiguous term that has been used by both environmentalists and staunch anti-environmentalists. My suggestion is to strictly avoid it.

Ecological economics: An instrument of capitalist thought control. This academic field seeks to divert concerned economic thinkers from a sustainable economic theory to an environmentally aware version of standard economics. See also "degrowth".

Economic logic: An economy's goal, production criteria, assumptions about humankind and nature, and the resulting forces that shape its activities. Capitalism's economic logic is rooted in the drive for luxury consumption by social elites during the medieval period. ENL's logic is based on the goal of sustainable well-being.

Economics of Needs and Limits (ENL): My proposed conceptual framework for the transition to, and rational guidance of, a sustainable economy. Compare: "standard economics" and "ecological economics".

Ecosocialism: Socialism without environmentally dangerous productivism. Ecosocialists falsely claim that economic democracy is sufficient to achieve a sustainable economy, thereby implying that a theory such as ENL is unnecessary.

Electoral politics: Political thought and action that exclusively address government representation of the populace, thereby ignoring the ruling class and its state. Compare: "deep politics".

Fascism: A highly coercive mode of capitalist rule, typically with military support. Fascism is employed when the capitalist ruling class decides that democratic norms must be violated and coercion intensified to control the populace. It is therefore a mode of capitalist power, not a discrete ideology.

Government: A political institution that represents the will and interests of the populace by attempting to implement desired laws, policies, and regulations through the capitalist state. A government does not hold political power.

Human nature: Humankind's evolved attributes, both mental and physical. In this book our species is considered to be biological (self-interested), ecological (intelligent), and moral (socially responsible). The absolute and relative strengths of these attributes vary widely among individuals.

Intellectuals: Members of the populace who possess specialized knowledge and work with ideas. Intellectuals are both potentially useful and potentially dangerous to the ruling class, and are therefore subject to strict thought control in addition to the social control that is applied to the populace as a whole. See "thought control".

Legitimacy: A mode of social control that achieves compliance through non-coercive methods: satisfaction of material interests, manipulation, thought control, and surveillance. See also "coercion".

Material interests: Humankind's biologically-rooted desires for consumption, security, and life enjoyment. The term excludes life itself, abnormal greed, and ethical concerns. Compare: "self-interest".

Militancy: The commitment to supersede capitalism through revolutionary change, and the willingness to humanely do whatever is necessary to achieve this end. Compare: reformism.

Military: A component of the capitalist state that is society's strongest coercive force. The military has two core responsibilities: to support the political power of the ruling class or group so long as it serves the populace's interests, and to safeguard the populace from existential threats such as foreign invasions and environmental disasters.

Minimum effective change: One of my two proposed principles for facilitating the transition from capitalism to a sustainable economy: capitalism should be modified only as required for sustainable well-being. See also "social neutrality".

Political power: The capacity of a social group to impose its worldview, economic logic, social structure, and chosen path of historical development on the populace.

Populace: All members of a society except its ruling class and close allies. Intellectuals are a special group within the populace because they are subject to thought control in addition to standard social control.

Progressivism: A social movement that strives for justice within the prevailing social order. Its thinking and activism are therefore reformist rather than revolutionary.

Proprietor: A business owner in a sustainable economy. This word thus replaces "capitalist".

Rebellion: The undemocratic replacement of a government by the populace. Compare: "revolution" and "coup".

Reformism: The commitment to social changes that modify but do not supersede the capitalist status quo. Compare: "militancy".

Revolution: The replacement of society's current rulers with a new ruling group. Hence, the first stage of revolutionary change. Compare: "rebellion" and "coup".

Revolutionary change: The fundamental social transformation that is initiated by a revolution and ends with the full establishment of a sustainable economy and society.

Ruling class: The social group that holds political power. Under capitalism this group consists of society's major capitalists and their close allies organized as a political force to protect and advance their shared interests. If a ruling class is characterized by longstanding hereditary ties, as in the United States, it is also a *caste*.

Self-interest: Humankind's biologically-rooted desires for life (survival) and the satisfaction of material interests. Compare: "material interests".

Social control: The various methods used by the capitalist state to control the populace for capitalist ends.

Social neutrality: One of my two proposed principles for facilitating the transition from capitalism to a sustainable economy: avoid bias regarding the progressive and conservative views of society, particularly in a sustainable economic theory such as ENL. See also "minimum effective change".

Standard economics: The mainstream economic theory that formally expresses capitalism's economic logic. Compare: "Economics of Needs and Limits (ENL)".

State: The various institutions, administrative structures, and instruments of coercion that regulate a society and implement social control. Under capitalism the state is a capitalist state that serves capitalist ends.

Theory of change: The process by which social change is achieved. The mainstream and progressive theory is that the populace pressures government to implement reforms. The theory proposed here is that leaders form militant movement for revolutionary change.

Thought control: The state's management of intellectual thought to prevent disruptive political threats and serve capitalism's economic interests.

Value: The central concept in economic thought. Value specifies the criterion for economic desirability and thus establishes the broad patterns of production and consumption. In standard economics value is subjective, whereas in ENL it is objective.

Youth-military strategy: My proposed revolutionary strategy. The young, with their older supporters, will first shift the military's loyalties from the capitalist ruling class to the populace. They will then instigate the military to replace this class with a sustainable ruling group. As described in appendixes A and C, this revolutionary process could be triggered by emergency SRM.

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