Resources and systems abound, but good starting points are:

- Join Stop Fossil Fuels in our work. 20
- Maximize personal & organizational effectiveness. 20
- Serve on the front lines. 19
- Become familiar with digital security tools. 19
- We need people stopping fossil fuels. 19
- Joining with even one or two others allows for more sophisticated and effective strategy and tactics. 15
- We need people stopping fossil fuels. 17
- We must stop fossil fuels now and get involved. 16
Our future: wasteland or life?

Why stop fossil fuels?

Climate change is already increasing the frequency and/or severity of fires, floods, droughts, and hurricanes. Sea levels have risen 8” with more to come. Ocean acidity has increased 30%, and coral reefs worldwide are suffering unprecedented bleaching. From 2008 to 2017, 21.3 million people each year were displaced by climate and weather-related disasters, and perhaps hundreds of millions will be climate refugees by 2050.

The devastation we’re experiencing today results from only 1°C of global warming since the 1800s. Scientists argued decades ago that limiting the increase to 1°C was the safest option, but that was considered infeasible. The Paris Agreement aims for “well below” an arbitrarily chosen 2°C, and professes it still feasible to keep warming below 1.5°C.

Pretenses of politicians aside, we’ve already locked in an increase of 1.5 to 2°C even if we stop burning all fossil fuels tomorrow:

- The earth has already warmed 1°C.
- Fossil fuel combustion produces cooling aerosols. When the combustion stops (as it must to limit damage), the earth will eventually warm an additional .5°C-1.1°C, best estimate .7°C.
- Positive feedback loops of melting permafrost, decreased ice and snow cover, phytoplankton collapse, and loss of vegetation to drought and fire will add to warming.

Conditions, already dangerous for hundreds of millions of people, will inevitably worsen. We simply can’t afford to burn any more carbon. We have a practical and moral imperative to stop fossil fuels now.

Fossil fuel pollution and climate disruption kill humans: more than 6 million annually, and climbing rapidly.

Industrial pollution—air, chemical, soil, and occupational—killed 5.5 million humans in 2015, a rate increasing an average 50,000 per year since 1990. (Lancet Commission on pollution and health, figure 7)

As of 2012, climate disruption killed 400,000 humans each year. Projections are for nearly 700,000 deaths per year by 2030. (DARA Climate Vulnerability

Activists, especially those considering underground action, should use digital security tools for anonymity and encryption of communication.

Even if you don’t have a pressing need to protect your online activity, normalizing privacy assists activists who do. If only those with “something to hide” secure their data, their activity will draw suspicion. As more people use digital security tools, underground activists will better blend into the crowd.

Prism Break provides a comprehensive list of available tools, and Freedom of the Press Foundation has links to many guides. Important concepts are:

- anonymity vs pseudo anonymity vs privacy
- end to end encryption (E2EE) vs client to server encryption

Free tools with which to start:

- Tor browser: anonymous web browsing
- DuckDuckGo: The search engine that doesn’t track you
- Signal: E2EE of texts (easy drop-in replacement) and voice calls
- Riot: E2EE of instant messaging
- Wire: E2EE of instant messaging, voice calls, conference calls, and video
- Enigmail with Thunderbird or Mailvelope or GPG4USB or ProtonMail: E2EE of email with different pros and cons for each tool

Security culture is more important than any technical tools. All activists should learn these simple yet powerful guidelines.

The first line of defense is the firewall between aboveground and underground activists and groups. Law enforcement routinely investigates and surveils aboveground protesters and their associates. Underground activists must maintain distance from the aboveground to stay off law enforcement radar.

Share information on a “need to know” basis. Only those directly involved should know about illegal activities or the people committing them. Others should neither ask, talk, nor speculate about illegal activity or underground individuals and groups. Activist cultures should ingrain a code of silence.

Whether you’re aboveground, belowground, or completely uninvolved in the movement, never speak to law enforcement agents about investigations. Know your rights, politely say you don’t want to talk with them, then end the conversation.

Carelessness is dangerous to activists, but so is paranoia. Establish behavioral norms within your group, and procedures for dealing with disruptive transgressions including sexism, racism, abuse, creation of conflict and division, and violations of firewall or “need to know” boundaries. It doesn’t matter whether or not someone is an infiltrator; the group must simply address and end problematic behavior.

Those taking underground action must intensively study operational security, and carefully design and implement countermeasures to expected adversaries.

If you can serve on the front lines, the movement needs you.

2/20 - Stop Fossil Fuels
Why We Must
stopfossilfuels.org

19/20 - Stop Fossil Fuels
Get Involved
stopfossilfuels.org
Material support not only strengthens resisters’ resolve by demonstrating loyalty, but directly helps their work. Underground activists can and should protect themselves from the start. Your first choice is your most important: will you work aboveground or underground? Underground? Underground activists can and should protect themselves from the start.

Aboveground involvement doesn’t rule out future underground work, but does from the start. There must be a firewall between those working aboveground and underground. الاًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًًٰ
love. The onslights won’t stop until we shift from reactionary defensive actions with temporary victories at best, to carefully chosen offensive battles targeting the root problem.

The environmental movement has worked for decades towards mass awakening, yet nearly everything keeps getting worse. We can’t rely on hope that this pattern will suddenly change.

The movement, hoping to trigger mass adoption of a sane and sustainable way of living, has tried hard to convince individuals to change their values and lifestyles. Though some people have responded to calls for change, they remain a tiny minority. All measures of global sustainability are going in the wrong direction. Decades of environmentalism haven’t even slowed the growth of population, consumption, mining, waste, and atmospheric CO₂ concentration; all are increasing relentlessly.

Rationally, we know it’s a mistake to burn the carbon sequestered over millions of years. But it’s natural for individuals and for communities, whether human or forest or prairie, to fully utilize available energy and food. Fossil fuels are incredibly dense stores of energy, so it’s unsurprising that we’ve developed a full-on addiction. Although a few individuals may choose to forego the easy energy, the majority will happily burn as much as they can, as long as they can.

There’s no evidence of a mass shift in consciousness, and with the world at stake, we can’t afford to pretend otherwise. The only way industrial society will stop burning fossil fuels is if it can no longer get its hands on them.

Renewable energy is growing at unprecedented rates, but isn’t slowing the much faster growth of fossil fuel burn. Green tech is not a solution.

Renewables are only a solution if they actually replace fossil fuels, but as Barry Saxifrage elegantly illustrates, “the new business-as-usual is one in which we keep expanding both renewables and fossil fuels at the same time.” Industrial society is responding to ecological and climate crises not as a rational actor in control over its decisions, but instead as an energy addict using as much as it can get, whether clean or dirty.

From 2009 to 2016, total world energy consumption increased 15%. New renewables supplied less than 30% of the growth in demand, with the great majority met by fossil fuels. And if you don’t consider hydroelectric dams which kill rivers and displace humans to be “renewable,” then more than ⅓ of the new demand was met by dirty energy.

We can’t wait for “enough” renewables to be in place before transitioning; we have neither the time to spare, nor assurance that more renewables will even

We need people stopping fossil fuels. Broadly, this requires front line activists, loyalty and material support for those front liners, and dissemination of strategy and tactics.

Front line activists directly stop fossil fuels through civil disobedience, ecosabotage, or militant attacks. We need as many people doing this work as we can get.

If you’re in a position to take direct action, the planet desperately needs you. It especially needs people thinking and acting towards cascading failure—people capable of going underground to carry out ecosabotage or militant actions.

If you can’t engage in underground attacks, civil disobedience can still be valuable. Though an approach of attrition often limits aboveground campaigns, hitting strategic bottlenecks using smart tactics can win real victories. Perhaps more importantly, aboveground actions provide networking and media opportunities to share the strategy of cascading failure with fellow activists and the public.

Most of us can’t be on the front lines for perfectly valid reasons. But we can all provide loyalty and material support to those doing the necessary work.

At a bare minimum, adopt a motto of “See something, say nothing,” a code of silence around ecosabotage and militancy. Encourage others to do the same.

More proactively, give front line activists, especially those working in underground seclusion, the moral courage that comes from community validation. Write and speak out in support of resisters and their actions, especially ecosabotage and militancy. Write letters in solidarity to those imprisoned for taking effective action. Expand the range of tactics considered possible and respectable.
United States special operations forces developed the CARVER matrix for target selection:

- **Criticality**: How important is the element to the system?
- **Accessibility**: How easy is it to get to the element?
- **Recognizability**: How easy is it to identify the element under adverse conditions?
- **Controllability**: How easy is it to change the element’s state?
- **Effectiveness**: What affect will the element have on the system?
- **Influence**: How much does the element need to be protected from disruption?

### Why We Must
Stop fossil fuels have not taken meaningful action to reduce fossil fuel use. Regardless of how many cars, lights, and machines we use, each need has an impact on fossil fuel use. Regardless of what we do to improve energy efficiency, we must ultimately stop using as much fossil fuel as possible. But how do we stop fossil fuel use? The answer is buy fewer, buy smaller, use less, and make the transition to electric cars, bicycles, and other forms of transportation that do not require fossil fuels. In the absence of action, fossil fuel use will continue to increase, polluting our air, water, and land.

### How We Can
- **Stop**: The first step is to stop using fossil fuels. This can be done by eliminating the use of fossil fuels for transportation, heating, and electricity. We can start by using public transportation, walking, or bicycling instead of driving. We can also use electric vehicles and solar panels to replace fossil fuels.
- **Switch**: The next step is to switch to renewable energy sources. We can switch to solar panels, wind turbines, and geothermal energy to generate electricity. We can also use energy-efficient appliances and light bulbs to reduce our energy consumption.
- **Save**: The final step is to save energy. We can save energy by using energy-efficient appliances and light bulbs, turning off lights when not in use, and using public transportation instead of driving.

In conclusion, stopping the use of fossil fuels is the only way to reduce our dependence on fossil fuels. We must act now to reduce our fossil fuel use and transition to renewable energy sources.
Through decades of scientific warnings about the dangers of climate disruption, governments have excelled at forming bodies with official names, holding meetings, encouraging more research, and proudly announcing symbolic agreements. Yet somehow, they haven’t actually cut carbon emissions. Not only did they fail to adopt the precautionary principle as scientists debated just how big a problem global warming could be, but they didn’t take meaningful action even after scientific consensus made clear the looming catastrophe.

The most recent accomplishment, the 2015 Paris Agreement, is non-binding, with hypothetical emissions reductions far in the future. Like under the Copenhagen Accord before it, governments have no legal mandate to do anything substantive. Meanwhile, investors are pouring money into a 30% global expansion of coal power capacity; the smart money doesn’t believe governments will put a halt to burning coal any time soon.

We all know that governments take better care of corporations than they do of people. Fossil fuels are the life blood of the industrial economy. We’d be fools to trust that politicians will suddenly decide to do the right thing after all this time. We must shut down fossil fuels ourselves.

**Fossil fuels are finite resources, so their use will inevitably decline. But peak oil won’t reduce carbon emissions fast enough.**

We can’t maintain the ever increasing extraction of oil, natural gas, and coal on which our growth economy depends. Once peak oil forces a reduction in energy use, we’ll see an escalated replay of the 2008 global financial crisis—this time permanent—and a concomitant decrease in fossil fuel combustion.

Militants frequently bomb wells and pipelines. Saboteurs (and the just plain drunk) shoot holes in pipelines with rifles. Monkeywrenchers disrupt rail traffic by damaging rails, connecting them with jumper cables, sabotaging cables, and pouring concrete or felling trees onto tracks. Underground activists cut fiber optic communication cables, topple cell and radio towers, and torch transmitters. Cyberattackers crash corporate computers and industrial equipment.

**The electric grid is uniquely vulnerable to cascading failure. It may be the most critical infrastructure on which fossil fuels depend.**

The electric grid underpins every stage of fossil fuel use, from extraction to transportation to processing to combustion. Targeted attacks on the grid could idle coal mining draglines, disable pumping and compressor stations on oil and gas pipelines, halt coal and oil trains, shutter refineries and coal preparation plants, or disrupt project administration.

Since electricity can’t easily be stored, grid operators must match supply to demand, second by second. So if, for example, damage to an electric substation were to shut down an industrial park, a power plant somewhere would have to reduce its output or shut down altogether. This would be a win-win for the planet, reducing both industrial activity and carbon emissions.

The grid is exposed. Globally, thousands of miles of high voltage transmission lines traverse remote areas, and hundreds of thousands of isolated substations dot landscapes. Saboteurs can disable lines and substations with attacks as simple as shooting with a hunting rifle, as demonstrated by experiments at Operation Circuit Breaker and by the 2013 attack on the Metcalf California substation. Powerline towers are bombed or topped, and substations are hit by arsons and cyberattacks.

Though the grid is designed to withstand the loss of one major node, sometimes even two, further losses overload remaining equipment. In a textbook example of cascading failure, more and more nodes shut down automatically to avoid damage.

Recovery from serious damage is difficult. Replacing high voltage transformers can take up to 18 months, as many are custom manufactured for a specific site and spares are rarely stocked. Transportation of the huge, bulky units is difficult and slow, requiring special equipment and carefully planned routes vulnerable to further disruption.

**Careful target selection of specific infrastructure is necessary for triggering cascading failures.**

A group may analyze and select targets at multiple scales before taking action. The group may decide to shut down a particular coal mining site, which might lead them to shut down the site’s electric supply. They may then identify a particular substation to take offline, and may ultimately plan their action around vulnerable transformers in the substation.

At each level of analysis, activists identify bottlenecks, elements without which the system can’t function. Obvious bottlenecks are single points of failure, such as the electric supply in this example. Where elements are networked with redundant nodes, activists look for nodes with the highest volume and most connections.
Some attacks require extensive knowledge and skills, but many are simple and accessible to anyone. Some attacks can reach more targets, with more damage and longer lasting disruptions. These can impact a subset of critical infrastructure, such as blocks of people’s control or actions of entire nations. Ecosabotage and militancy, two examples of such attacks, can exploit telecommunications, and just-in-time supply chains. All have vulnerabilities that can be exploited.

Civil disobedience, such as blockades of pipeline construction or of active rail transportation, can impact a subset of critical infrastructure. Ecosabotage and militancy, two examples of such attacks, can exploit telecommunications, and just-in-time supply chains. All have vulnerabilities that can be exploited.

Through action, we can minimize the use of violence while still resisting. Militant resisters are responsive to the need for violence, and are less visible than the rest of the world. The rest of the world is on the lookout, while the rest are successful in their core missions. The rest of the world is on the lookout, while the rest are successful in their core missions.

We're carrying out an experiment in madness. It would be great if everyone in the world could stop fossil fuels. The sooner we put on the brakes, the gentler the crash is inevitable.

Militant resistance cut Nigerian crude extraction by a sustained 200-800,000 bpd since 2006. The Niger Delta militants have killed oil workers and members of government, kidnapped foreign oil workers for ransom, engaged in guerrilla warfare, and launching surprise attacks using speed boats. Multiple government buildings, kidnapping foreign oil workers for ransom, engaging in guerrilla warfare, and launching surprise attacks using speed boats.

Decades of nonviolent tactics failed to achieve justice, culminating instead in the Nigerian military regime and Royal Dutch Shell conspiring to execute nine movement leaders in 1995. The resistance movement escalated its tactics in response, by 2006 regularly sabotaging and bombing oil infrastructure and communication lines, which can be exploited.

We're carrying out an experiment in madness. It would be great if everyone in the world could stop fossil fuels. The sooner we put on the brakes, the gentler the crash is inevitable.
Every day, a net 220,000 new humans join the global population. At the same time, fossil fuels undermine the planet’s ability to support even those already here. Industrial development, manufacturing, transportation, farming, fishing, and logging erode topsoil, destabilize the climate, toxify the environment, and collapse populations of fish and wildlife. The sooner we stop fossil fuels, the less we’ll overshoot, thus the less wrenching will be our adjustment.

**How to stop fossil fuels**

Valve Turners shutting down a pipeline

**Valve Turners shutting down a pipeline**

Industrial society has had decades to transition voluntarily from fossil fuels and their known hazards, but is too addicted to give them up. It’s time for an intervention: we must physically shut off the flows ourselves. The consequences for humans and non humans are already dire, and getting worse. As a society, we’ve known this for a long time, but haven’t shown an ability to change.

1. The term “nonviolent direct action,” though similar to “civil disobedience,” also includes ecosabotage with its potential to go beyond attrition. Since “nonviolent direct action” lumps together tactics suitable for distinct strategies, we use “civil disobedience.”

**Ecosabotage allows activists to take the offensive with a strategy of cascading failure. It leverages limited resources against sprawling, largely unprotected infrastructure.**

Civil disobedience has a noble history in social change movements. Law breakers proudly accept the consequences of their actions, hoping to win hearts and minds for the cause. But we’ll never sway the general public to support the necessary 90% cut in fossil fuel use, so we shouldn’t temper effective action for their sake. Actionists who work underground, striking surreptitiously then melting into the night without reprisal, can fully apply the principles of strategy summarized above.

Unfortunately, most acts of ecosabotage have been limited to attrition, with targets chosen solely to stop the damage they directly cause, or even for symbolic value. When infrastructure is attacked, it’s only in one place at a time, and the disruption is usually quickly repaired.

To shift to a strategy of cascading failure, ecosaboteurs might learn from militant resisters to learn how they target entire systems of infrastructure.

**In the Niger Delta, militant resistance has shuttered 10-40% of the country’s oil extraction since 2006, an impact unmatched in the history of the environmental movement. The militants use violence, but have saved many more lives than they’ve taken.**

Militant resistance provides, by far, the most successful examples of inducing cascading failure and stopping fossil fuels. The best comes from the oil drenched Niger Delta, where residents suffer the worst effects of pollution and spills: contaminated air, soil and water make forests, fields, mangroves and rivers unable to support human or nonhuman life. An estimated 11,000 infants die each year due to on-shore oil spills. Despite immense riches made from oil extraction, the general population doesn’t benefit—a large majority of Nigerians live in...
Our work is the very definition of asymmetric struggle: an individual and a movement we must escalate beyond piecemeal attrition.

Asymmetric forces unsuitable for attention

The environmental movement has been pursuing a strategy of attention

The strategy and tactics to physically stop fossil fuels.

The only way is to focus decreases.

Cascading Failure

Characteristics

Attention

Catastrophe is imminent. Even if we had the people power to wage a war of civil disobedience, we can win.

To begin winning our campaign of attention, we need not only to block all actions, resources and capabilities needed for winning.

Knowledge of system needed

Limited

Extensive and deep

Skill, planning, & knowledge needed

Limited

Extensive and deep

Attention is a product of expectation.

Expenditure of effort is directly proportional to the greater numbers and resources.

Barry Saxifrage

The only way is to focus decreases.

Cascading Failure

Characteristics

Attention

Catastrophe is imminent. Even if we had the people power to wage a war of civil disobedience, we can win.

To begin winning our campaign of attention, we need not only to block all actions, resources and capabilities needed for winning.

Knowledge of system needed

Limited

Extensive and deep

Skill, planning, & knowledge needed

Limited

Extensive and deep

Attention is a product of expectation.

Expenditure of effort is directly proportional to the greater numbers and resources.

Barry Saxifrage

The only way is to focus decreases.

Cascading Failure

Characteristics

Attention

Catastrophe is imminent. Even if we had the people power to wage a war of civil disobedience, we can win.

To begin winning our campaign of attention, we need not only to block all actions, resources and capabilities needed for winning.

Knowledge of system needed

Limited

Extensive and deep

Skill, planning, & knowledge needed

Limited

Extensive and deep

Attention is a product of expectation.

Expenditure of effort is directly proportional to the greater numbers and resources.

Barry Saxifrage

The only way is to focus decreases.

Cascading Failure

Characteristics

Attention

Catastrophe is imminent. Even if we had the people power to wage a war of civil disobedience, we can win.

To begin winning our campaign of attention, we need not only to block all actions, resources and capabilities needed for winning.

Knowledge of system needed

Limited

Extensive and deep

Skill, planning, & knowledge needed

Limited

Extensive and deep

Attention is a product of expectation.

Expenditure of effort is directly proportional to the greater numbers and resources.

Barry Saxifrage

The only way is to focus decreases.

Cascading Failure

Characteristics

Attention

Catastrophe is imminent. Even if we had the people power to wage a war of civil disobedience, we can win.

To begin winning our campaign of attention, we need not only to block all actions, resources and capabilities needed for winning.

Knowledge of system needed

Limited

Extensive and deep

Skill, planning, & knowledge needed

Limited

Extensive and deep

Attention is a product of expectation.

Expenditure of effort is directly proportional to the greater numbers and resources.

Barry Saxifrage

The only way is to focus decreases.

Cascading Failure

Characteristics

Attention

Catastrophe is imminent. Even if we had the people power to wage a war of civil disobedience, we can win.

To begin winning our campaign of attention, we need not only to block all actions, resources and capabilities needed for winning.

Knowledge of system needed

Limited

Extensive and deep

Skill, planning, & knowledge needed

Limited

Extensive and deep

Attention is a product of expectation.

Expenditure of effort is directly proportional to the greater numbers and resources.

Barry Saxifrage

The only way is to focus decreases.

Cascading Failure

Characteristics

Attention

Catastrophe is imminent. Even if we had the people power to wage a war of civil disobedience, we can win.

To begin winning our campaign of attention, we need not only to block all actions, resources and capabilities needed for winning.

Knowledge of system needed

Limited

Extensive and deep

Skill, planning, & knowledge needed

Limited

Extensive and deep

Attention is a product of expectation.

Expenditure of effort is directly proportional to the greater numbers and resources.

Barry Saxifrage

The only way is to focus decreases.

Cascading Failure

Characteristics

Attention

Catastrophe is imminent. Even if we had the people power to wage a war of civil disobedience, we can win.

To begin winning our campaign of attention, we need not only to block all actions, resources and capabilities needed for winning.

Knowledge of system needed

Limited

Extensive and deep

Skill, planning, & knowledge needed

Limited

Extensive and deep

Attention is a product of expectation.

Expenditure of effort is directly proportional to the greater numbers and resources.

Barry Saxifrage

The only way is to focus decreases.

Cascading Failure

Characteristics

Attention

Catastrophe is imminent. Even if we had the people power to wage a war of civil disobedience, we can win.

To begin winning our campaign of attention, we need not only to block all actions, resources and capabilities needed for winning.

Knowledge of system needed

Limited

Extensive and deep

Skill, planning, & knowledge needed

Limited

Extensive and deep

Attention is a product of expectation.

Expenditure of effort is directly proportional to the greater numbers and resources.

Barry Saxifrage

The only way is to focus decreases.

Cascading Failure

Characteristics

Attention

Catastrophe is imminent. Even if we had the people power to wage a war of civil disobedience, we can win.

To begin winning our campaign of attention, we need not only to block all actions, resources and capabilities needed for winning.

Knowledge of system needed

Limited

Extensive and deep

Skill, planning, & knowledge needed

Limited

Extensive and deep

Attention is a product of expectation.

Expenditure of effort is directly proportional to the greater numbers and resources.

Barry Saxifrage

The only way is to focus decreases.

Cascading Failure

Characteristics

Attention

Catastrophe is imminent. Even if we had the people power to wage a war of civil disobedience, we can win.

To begin winning our campaign of attention, we need not only to block all actions, resources and capabilities needed for winning.

Knowledge of system needed

Limited

Extensive and deep

Skill, planning, & knowledge needed

Limited

Extensive and deep

Attention is a product of expectation.

Expenditure of effort is directly proportional to the greater numbers and resources.

Barry Saxifrage

The only way is to focus decreases.

Cascading Failure

Characteristics

Attention

Catastrophe is imminent. Even if we had the people power to wage a war of civil disobedience, we can win.

To begin winning our campaign of attention, we need not only to block all actions, resources and capabilities needed for winning.

Knowledge of system needed

Limited

Extensive and deep

Skill, planning, & knowledge needed

Limited

Extensive and deep

Attention is a product of expectation.

Expenditure of effort is directly proportional to the greater numbers and resources.

Barry Saxifrage

The only way is to focus decreases.
Over the centuries, military analysts have derived principles of strategy and tactics. Though our goal of stopping fossil fuels is unique, we can apply what they've learned to our own work.

- Direct every operation toward a clearly defined, decisive, and attainable objective. Every campaign and action must further the ultimate goal.
- Intervene with an economy of effort. Eliminate any unnecessary secondary pursuits.
- Seize, retain, and exploit the initiative. Rather than reacting defensively on the opponent’s terms, go on the offensive.
- Use your initiative to choose fights where you can apply strength to their weakness. Concentrate your forces on their vulnerabilities.
- Surprise your opponent by striking at an unexpected time or place or in an unexpected manner. Surprise is a temporary but powerful force multiplier.
- Strike multiple targets at once for maximum impact and to keep your opponent off balance.
- Keep actions of short duration, then withdraw. Avoid prolonged engagement from fixed positions.
- Aim for unity of command to coordinate all your forces to maximum effect. If this isn’t possible, ensure unity of effort by following a shared plan.
- Maintain security, never allowing your opponent to acquire an unexpected advantage.
- Gather intelligence. Understand your opponent’s systems. Know what you’re doing and the likely effects.

To stop fossil fuels in this asymmetric struggle, we must employ a strategy of cascading failure to disrupt a fragile technological system.

Military historian and strategist Liddell Hart summarizes our work:

“It should be the aim of grand strategy to discover and pierce the Achilles’ heel of the opposing government’s power to make war.”

“A strategist should think in terms of paralyzing, not of killing.”

We needn’t dismantle every factory, destroy every bulldozer, tear up every highway. We just need to paralyze their infrastructure. The war against the planet, against the global majority of humans, and against future generations runs on fossil fuels. To move beyond a strategy of attrition, we must think in terms of systems, flows, nodes, and bottlenecks. We must understand how oil, coal, and gas are extracted, transported, processed, distributed, and burned; and where we can intervene for maximum impact.

Industrial systems withstand the loss of an element or two without experiencing further damage, and quickly repair problems. But these systems are designed for efficiency, not resiliency. When enough critical pieces break at once, the failures cascade through the system like a series of dominoes, causing more and more elements to fail. Impacts increase exponentially the longer disruptions persist. Under the right circumstances, the whole system grinds to a halt. With follow up actions, it may never restart.

### Attrition vs Cascading Failure

These are general trends; specific campaigns may vary.

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Attrition</th>
<th>Cascading Failure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Target type</td>
<td>New project in the works</td>
<td>Operational infrastructure</td>
</tr>
<tr>
<td>Why target chosen</td>
<td>Immediate damage caused by project</td>
<td>Criticality to the system</td>
</tr>
<tr>
<td>Campaign goal</td>
<td>Stop this project</td>
<td>Stop this piece of infrastructure, plus others dependent on it—trigger domino effect</td>
</tr>
<tr>
<td>Initiative</td>
<td>Defensive</td>
<td>Offensive</td>
</tr>
<tr>
<td>Element of surprise</td>
<td>Minimal</td>
<td>Maximal</td>
</tr>
<tr>
<td>Target’s role in system</td>
<td>Any</td>
<td>Bottleneck or interconnected node</td>
</tr>
<tr>
<td>Number of targets attacked</td>
<td>One at a time, isolated</td>
<td>Multiple, attacked simultaneously for synergistic effect</td>
</tr>
<tr>
<td>Targets available</td>
<td>Many and interchangeable</td>
<td>Few and unique</td>
</tr>
<tr>
<td>Tactics</td>
<td>Blockades &amp; occupations</td>
<td>Hit and run</td>
</tr>
<tr>
<td>Goal of actions</td>
<td>Delay project completion. Make project uneconomical.</td>
<td>Damage or destroy infrastructure, and delay or prevent repair. Make operations physically impossible.</td>
</tr>
<tr>
<td>Duration of disruption</td>
<td>Shorter</td>
<td>Longer</td>
</tr>
</tbody>
</table>