

**A META-STRATEGY FOR ATMOSPHERIC RECOVERY:  
FILING SUIT AGAINST THE CARBON MAJORS,  
FORCING THE MANAGED DECLINE OF FOSSIL FUELS, AND  
FUNDING CLIMATE RESTORATION THROUGH SOIL-BASED CARBON  
SEQUESTRATION**



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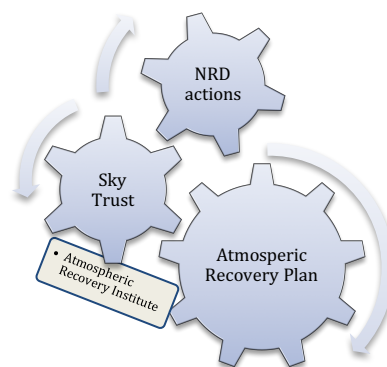
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*“In this planetary climate emergency, the level of our ambition must match the scale of the threat.”*

## Beyond Decarbonization

Stabilizing our climate requires a full transition off of carbon intensive fossil fuels by midcentury. But as ambitious as that is, decarbonization alone is not sufficient. The global mean temperature rise of almost one degree Centigrade is a result of excess carbon emissions already flooding the atmosphere, due to roughly 150 years of industrial-scale greenhouse gas emissions.

In 2010, NASA’s Dr. James Hansen, then the chief U.S. climate scientist, convened an international team of scientists to formulate a prescription to restore planetary stability. The global climate prescription has two parts: 1) rapid reduction of greenhouse gas emissions; and 2) removal of 100 Gigatons of carbon from the atmosphere through ecologically sound projects around the globe that harness the soil’s ability to sequester carbon.<sup>1</sup> Despite the clear implications of runaway planetary heating, there is currently no entity working to aggregate the science of drawdown, develop a strategy to sustainably sequester carbon, and fund a global effort to restore the atmosphere.



This summary describes a meta-strategy for Atmospheric Recovery, consisting of three interlocking programs: 1) an Atmospheric Recovery Institute that convenes experts and initially devises an Atmospheric Recovery Plan; 2) a Natural Resource Damage (NRD) Litigation Strategy pursued by sovereign co-trustees (states, tribes, foreign nations) against the fossil fuel industry to fund the Atmospheric Recovery Plan; and 3) an Atmospheric Recovery Trust Fund (or “Sky Trust”), which is a financial and administrative institution designed to receive NRD awards from U.S. courts, and to administer such funds to eligible projects (first domestically, then worldwide) that meet the parameters established in the Plan. The Fund would also monitor and administratively supervise completion of sequestration projects, and seek third-party verification of drawdown from the Atmospheric Recovery Institute.

## Creating an Operable Blueprint for Drawdown: The Atmospheric Recovery Institute

Leading research points to five categories of soil-based sequestration projects: 1) reforestation; 2) regenerative (non-chemical) agricultural processes; 3) mangrove and wetlands restoration; 4) regenerative grazing practices; and 5) food forest enhancements in the tropics. Deploying these projects at scale would engage farmers, foresters, ranchers, and native peoples, and would also boost adaptation efforts by harnessing nature’s own capacity to produce food, mitigate floods, and filter water. Techniques such as enhanced weathering, and more highly technological means of CO<sub>2</sub> extraction from the air, are still largely theoretical and in the development stage, and are potentially more costly, and less beneficial. These projects

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<sup>1</sup> See Hansen, et. al., 2010, *Assessing “Dangerous Climate Change:” Required Reduction of Carbon Emissions to Protect Young People, Future Generations and Nature*, Plos One, <http://www.plosone.org/article/info%3Adoi%2F10.1371%2Fjournal.pone.0081648>. More recently, Dr. Hansen and a team of scientists noted that a lag in the rate of emissions reduction would cause a corresponding increase in the amount of drawdown required to avert planetary catastrophe. The amount exceeds the capability of natural drawdown and would have to incorporate future technology. See Hansen, et al. 2017: *Young people’s burden: requirement of negative CO<sub>2</sub> emissions*. *Earth Syst. Dynam.*, **8**, 577-616, doi:10.5194/esd-8-577-2017.

could conceivably be incorporated as they develop, if they meet the standards and protocols established for the Trust.

A planning institute or entity, envisioned as the Atmospheric Recovery Institute (ARI), is needed to develop, publish, assess, and update an Atmospheric Recovery Plan—setting forth a global strategy of atmospheric CO<sub>2</sub> drawdown with criteria to guide priority funding of projects. The plan essentially sets forth a cleanup strategy for the atmosphere, with a function similar to cleanup plans for oil spills, such as the notorious BP spill in the Gulf of Mexico. Over the long term, the ARI must have the institutional capacity and longevity to: 1) serve as a third-party monitor verifying the carbon removal achieved by the drawdown projects; 2) monitor terrestrial processes and conduct a macro carbon accounting on the global scale to verify predicted drawdown; and 3) modify the Atmospheric Recovery Plan according to adaptive management principles, taking into account opportunities from emerging methods and technology. Perhaps ideally situated in a top-flight research university, the ARI must be independent, transparent, have unimpeachable integrity, and be nimbly positioned to detect and rapidly incorporate the dynamic forces of natural change in the overall atmospheric recovery effort.

### **Winding Down Fossil Fuels & Funding Drawdown: Natural Resource Damage Litigation**

A coordinated series of actions in state, federal, and foreign domestic courts must aim to recover sufficient Natural Resource Damages to fully fund the Atmospheric Recovery Plan. A major study by Richard Heede *et. al* traces most of the historic carbon dioxide emissions to the fossil fuels produced by about 90 fossil fuel entities.<sup>2</sup> Such “carbon majors,” in theory, are liable for the lion’s share of legacy carbon in the atmosphere. The same logic used by government to hold fossil fuel corporations liable for cleaning up oil from a marine spill positions these carbon majors to bear liability for damage to our atmosphere. Monetary damages from court judgments will fund the Atmospheric Recovery Plan to spur climate recovery using soil based sequestration projects.

In 2015, M. Wood, with D. Galpern, developed a litigation strategy known as Atmospheric Recovery Litigation (ARL) to hold carbon majors liable for funding such natural drawdown.<sup>3</sup> Launched by sovereign co-trustees of the atmosphere against carbon majors, the envisioned litigation is notably distinct from recent cases filed by local governments against fossil fuel companies in California seeking damages to compensate for climate harm (sea level rise, infrastructure damage, beach erosion, and the like). Those damages, aimed solely towards financing public infrastructure, will not do anything to recover climate balance, without which the catastrophes will worsen and become more frequent.

The public trust principle provides a foundation for holding the major fossil fuel corporations liable for funding atmospheric recovery. Public trust law traditionally holds polluters liable for Natural Resource Damages to public trust assets (as it does in the familiar context of oil spills). Sovereign governments, as trustees of public trust assets, are obligated to seek recovery of such Natural Resource Damages and apply them towards restoration of the resource. While ecosystem recovery on a global scale is unprecedented, the underlying legal principles and approach bear striking similarity to those traditionally applied to discrete

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<sup>2</sup> Richard Heede, CARBON MAJORS: ACCOUNTING FOR CARBON AND METHANE EMISSIONS 1854-2010 METHODS AND RESULTS REPORT 8–9, 25–30 (2014), <http://www.climateaccountability.org/pdf/MRR%209.1%20Apr14R.pdf>.

<sup>3</sup> Wood M.C. and D. Galpern, 2015: *Atmospheric Recovery Litigation: Making the Fossil Fuel Industry Pay to Restore a Viable Climate System*, Environ. Law, 45(2), 259-337, ISSN 0046-2276, draft available at: <https://law.uoregon.edu/images/uploads/entries/atmospheric-recovery-litigation--making-the-fossil.pdf>. The strategy was originated by M. Wood and then discussed in NATURE’S TRUST: ENVIRONMENTAL LAW FOR A NEW ECOLOGICAL AGE 184-85 (Cambridge University Press 2013).

resources. Just as an oil company must pay for cleanup of an oil spill in marine waters, so are the carbon majors situated to pay for atmospheric cleanup through Natural Resource Damages.

Atmospheric Trust Litigation (cases spearheaded by Our Children’s Trust) has established some bedrock principles for atmospheric natural resource damage actions.<sup>4</sup> In *Juliana v. United States*, a landmark suit brought by youth against the federal government, in which the fossil fuel industry intervened, the U.S. District Court of Oregon announced a constitutional right under the federal public trust doctrine, and the due process clause, to a “stable climate system capable of supporting human life.” Similarly, a Washington state case brought by youth, *Foster v. Department of Ecology*, explicitly found an atmospheric trust, holding that the public trust principle constitutionally obliged government to restore a healthy climate system. These decisions, while brought by youth beneficiaries of the trust against their government, and not seeking damages to the atmosphere (but rather decarbonization), nevertheless establish a framework in which the government trustees are constitutionally responsible for restoring climate balance.

In Atmospheric Recovery Litigation claiming Natural Resource Damages, sovereign co-trustees – states (or county subdivisions), tribes, and foreign nations – would seek a remedy asking for disgorgement of profits and assets retained by the fossil fuel industry. Monetary awards received by the plaintiff sovereign trustees will be deposited in the Atmospheric Recovery Trust Fund (or Sky Trust) described below. The Atmospheric Recovery Litigation Campaign may be launched in coordinated fashion to support Phase I domestic U.S. projects, and in Phase II, projects in other countries. Judgments from cases brought in other countries may be domesticated (enforced) in U.S. courts, with the money deposited in the Sky Trust, to support drawdown projects in those nations or elsewhere.

### **Disbursing Damages to Drawdown Projects: The Atmospheric Recovery Trust Fund**

A separate and independent financing entity, the Atmospheric Recovery Trust Fund (or Sky Trust), must be created or emerge from an existing institution to financially administer the Recovery plan. This trust, much like the Environmental Mitigation Trust established in the Volkswagen litigation settlement, would be a court-ordered Trust dedicated to remedying the harm from fossil fuel pollution. The Trust will carry out two corresponding roles: 1) receive and fiscally manage Natural Resource Damage monetary awards from court judgments, dispersing such money into qualifying drawdown projects; and 2) administratively implement the projects to carry out the Atmospheric Recovery Plan.

The Trust will solicit project proposals from states, tribes, cities, counties, and corporate or nonprofit entities, selecting projects that meet the criteria established in the Atmospheric Recovery Plan. The Trust will enter into contractual relationships with these proponents to carry out their projects using local partners and independent experts where necessary, and monitor the projects – all of which must ensure accountability, additionality, effectiveness, and permanency. In Phase I, the Trust will accept only domestic projects within the United States, but in Phase II will be positioned to accept projects from other nations, building on the structure created. While the Trust will be a domestic U.S. entity, its board could have representation from select global entities such as the United Nations Environment Programme, the IPCC, or the Green Climate Fund.

*“It is not enough that we do our best; sometimes we must do what is required.” Winston Churchill*

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<sup>4</sup> Atmospheric Trust Litigation (ATL) and Atmospheric Recovery Litigation (ARL) are distinct legal campaigns, with different plaintiff groups and defendant groups, and different kinds of remedies, but both rely fundamentally on the public trust framework to provide legal redress towards recovering the climate system. ATL is brought by youth plaintiffs, as beneficiaries of the atmospheric trust, against government trustees to gain injunctions requiring enforceable, science-based climate recovery plans. The campaign is largely directed towards energy transition and de-carbonization before irrevocable climate thresholds are passed. Atmospheric Recovery Litigation (ARL) is brought by government trustees against polluter fossil fuel industries (carbon majors) seeking natural resource damages to fund an Atmospheric Recovery Plan.