

# GAIA

## *DAC, War & Macroeconomics*

Why saving the planet is 'too expensive' — and what Gaia does about it

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Two Deep Analyses

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***If you believe the planet will heal and we will survive - Gaia will make you wealthy***

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## Introduction

Two questions sit at the heart of any serious engagement with Gaia. The first is about Direct Air Capture of CO<sub>2</sub>: the technology exists, the planet needs it, the money exists globally — yet it isn't being deployed at scale. Why? The second is macroeconomic: what actually happens to a national or global economy as it transitions from predominantly destructive production to predominantly regenerative production? What is the pain, and what is the gain?

These are not rhetorical questions. They deserve precise, honest answers.

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# Part One: Direct Air Capture of CO<sub>2</sub>

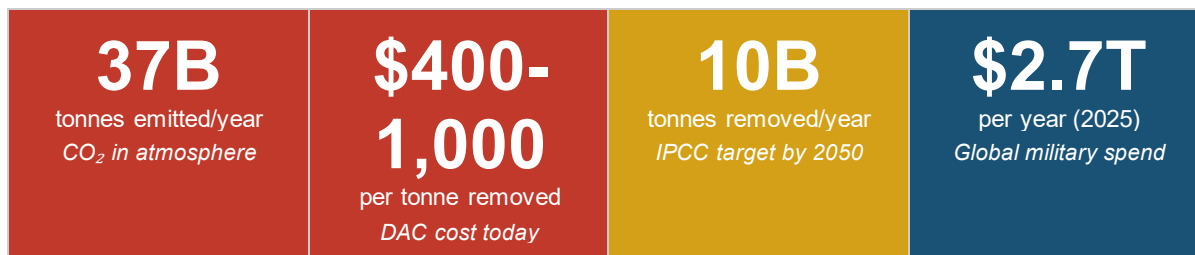
## What Is DAC and Why Does It Matter?

Direct Air Capture (DAC) is a technology that pulls CO<sub>2</sub> directly from the ambient atmosphere using chemical processes and stores it permanently underground or converts it into useful materials. Unlike reforestation or ocean sequestration, DAC is permanent, verifiable, scalable, and does not compete for land with food production.

The IPCC's net-zero scenarios require removing 10 billion tonnes of CO<sub>2</sub> from the atmosphere annually by 2050, in addition to eliminating current emissions. DAC is the most scalable technology available to do this. It already works. Plants are operating today in Iceland, the US, and Canada.

So why is it not being deployed at the scale the planet requires?

## The Numbers: What It Would Cost



To remove 1 billion tonnes of CO<sub>2</sub> per year at current DAC costs of \$500/tonne: \$500 billion annually. To reach the IPCC target of 10 billion tonnes per year: \$5 trillion annually at current costs, falling to approximately \$1 trillion as costs reduce with scale.

Global GDP is approximately \$105 trillion. The cost of full-scale DAC deployment represents 1–5% of global GDP. The world currently spends 2.6% of GDP on military. The US alone spends \$900 billion per year on defence. The European Union spent over €800 billion on Covid-19 economic recovery in two years.

The money is not missing. The incentive is.

## Why the Money Exists for War but Not for DAC

*War creates demand in the current monetary system. Every bomb manufactured creates GDP. Every bomb exploded creates reconstruction demand. Saving the planet prevents future losses — which is invisible to any economic metric we currently use.*

This is the core obscenity of the current system, stated precisely:

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War: Economically Stimulating	DAC: Economically Invisible
A \$2B arms contract: GDP +\$2B immediately	\$2B in DAC: GDP neutral under current accounting
Factory workers producing shells: employed	DAC plant workers: employed, but benefit unquantified
Infrastructure destroyed: GDP falls	CO <sub>2</sub> prevented: doesn't appear in any GDP metric
Reconstruction contracts: GDP rises again	Future climate damage avoided: invisible in accounts
Government borrows to fund war: normal	Government borrows to fund DAC: politically contested
Destruction → reconstruction = economic cycle	Prevention = economic sacrifice in current logic
War bonds issued in WWII: \$185B raised in weeks	Climate bonds: politically contentious, slow to deploy

In World War II, the United States raised the equivalent of \$3.5 trillion in today's money through war bonds in less than four years. The entire population participated willingly because the threat was visible, immediate, and undeniable. The ecological crisis is more severe, slower-moving, and therefore less politically mobilising — even though it will kill more people than every war in history combined.

The problem is not financial capacity. It is a failure of accounting and political will, rooted in a monetary system that cannot see the value of a stable climate.

## DAC in Today's System: The Full Picture

### Current State (2026)

- Approximately 30 DAC plants operating globally
- Total removal capacity: approximately 0.01 million tonnes CO<sub>2</sub> per year
- Required by 2050: 10,000 million tonnes per year — a one-million-fold scale-up
- Primary funding: government grants, carbon credit markets, voluntary corporate offsetting
- Carbon credit price: \$15–\$150/tonne (voluntary market) vs \$400–1,000/tonne DAC cost — the gap makes DAC commercially unviable
- Result: DAC remains a demonstration technology, not a deployed solution

### Why the Carbon Market Doesn't Fix It

The voluntary carbon market prices CO<sub>2</sub> removal at \$15–\$150 per tonne — based on what companies are willing to pay for reputational benefit, not on the actual cost of removal or the actual value of a stable climate. The gap between what DAC costs (\$400–1,000/tonne) and what the market pays (\$15–\$150/tonne) means no rational commercial actor will invest in DAC at scale. The market signal is too weak by a factor of 3–20x.

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Government mandates could close this gap — but governments face the political resistance of industries that would bear the cost, and four-year election cycles that cannot capture the 30-year benefit.

The fundamental problem: in today's system, a tonne of CO<sub>2</sub> removed from the atmosphere is worth approximately \$15–\$150 to the market. But the actual economic value of a stable climate — in avoided crop failures, avoided coastal flooding, avoided mass migration, avoided conflict — is estimated at \$3,000–5,000 per tonne by leading economists. The system undervalues atmospheric stability by a factor of 20–300x.

## DAC in the Gaia System: Complete Transformation

*Under Gaia, every tonne of CO<sub>2</sub> permanently removed from the atmosphere creates new Gaia currency. DAC does not need a subsidy. It does not need a carbon market. It does not need political will. It is the most profitable industrial activity on earth.*

### The Mechanism

Under Gaia, atmospheric CO<sub>2</sub> concentration is one of the core indicators backing the currency. When a DAC plant removes one tonne of CO<sub>2</sub> and permanently stores it, the planetary health index improves by a verifiable, measurable increment. That improvement creates new Gaia — minted directly to the account of the DAC operator, proportional to the verified removal.

The Gaia creation per tonne of DAC removal reflects the true economic value of atmospheric stability — not the suppressed market price, not a government grant, not a voluntary carbon credit. The real value.

DAC in Today's System	DAC in Gaia System
Revenue: \$15–\$150/tonne (carbon market)	Revenue: Gaia created per tonne removed
Cost: \$400–1,000/tonne	Cost: \$400–1,000/tonne (same, falling with scale)
Business case: deeply negative	Business case: most profitable industry on earth
Funding: government grants, philanthropy	Funding: self-financing through Gaia creation
Scale: 0.01 Mt/year (2026)	Scale: investment flood drives rapid scaling
Political dependency: complete	Political dependency: zero
Investor interest: niche impact sector	Investor interest: highest-return sector globally
Workforce: thousands	Workforce: tens of millions within a decade
Priority vs. war: infinitely lower	Priority vs. war: war destroys Gaia; DAC creates it

## The Investment Flood

When DAC creates Gaia, it becomes the most attractive investment opportunity in the history of financial markets. Consider what happens simultaneously:

- Every tonne of CO<sub>2</sub> emitted by industry burns Gaia — raising their costs
- Every tonne of CO<sub>2</sub> removed by DAC creates Gaia — generating direct revenue
- DAC operators receive Gaia that can be spent, saved, or exchanged
- Demurrage means investors cannot hold Gaia idle — they must deploy it productively
- The highest-return productive deployment is DAC and ecological restoration

The capital that currently flows into fossil fuel exploration, arms manufacturing, and financial speculation flows instead into DAC, reforestation, soil regeneration, and ocean restoration. Not because investors become ethical. Because those are now the highest-returning assets.

Scale projection under Gaia: With the investment economics of DAC reversed from deeply negative to strongly positive, deployment could realistically reach 1 billion tonnes per year within 10 years and 10 billion tonnes per year within 25 years — the IPCC's 2050 target, achieved 25 years early, without a single government mandate.

## The War vs. DAC Comparison Under Gaia

Under today's system: a government can spend \$2 trillion on war and the monetary system registers only economic activity. Under Gaia:

- \$2 trillion spent on war — burns Gaia across every explosion, every forest destroyed, every aquifer poisoned. The government's Gaia account collapses. Trading partners withdraw. The country faces Gaia insolvency.
- \$2 trillion spent on DAC — creates Gaia proportional to every tonne removed. The country's Gaia account grows. Its currency strengthens. Its trade position improves. Its long-term economic stability increases.

The question “why is there money for war but not for DAC?” has a precise answer under Gaia: there isn't. War destroys the money that DAC creates. The choice is not between spending priorities. It is between a country that grows richer by healing the planet and one that grows poorer by destroying it.

*Under today's system, saving the planet is a cost. Under Gaia, saving the planet is how you make money. This single inversion changes everything.*

# Part Two: Macroeconomic Impact

## The Question

What happens to a national economy — and to the global economy — when the Gaia system operates? Specifically: what is the economic impact when the majority of production is still environmentally harmful, versus when the majority has shifted to ecological production?

This requires two analyses: the transition period (painful, necessary, manageable) and the long-term outcome (transformative, stable, genuinely prosperous).

## Baseline: How to Think About a Gaia Economy

In a conventional economy, we measure GDP — the total value of goods and services produced. GDP has no concept of ecological cost. A country that doubles its industrial output while destroying all its forests, poisoning its rivers, and emitting unlimited CO<sub>2</sub> shows as ‘growing’.

In a Gaia economy, the money supply itself reflects ecological reality. This means:

- A country whose economic activity creates net ecological destruction has a shrinking Gaia supply — deflationary pressure on destructive sectors
- A country whose economic activity creates net ecological restoration has a growing Gaia supply — inflationary stimulus for restorative sectors
- The exchange rate between Gaia and conventional currencies reflects the ecological health trajectory of the Gaia economy

## Scenario A: Early Transition — Majority Still Destructive (Years 1–15)

### The Economic Landscape

In the early transition, Gaia runs parallel to existing currencies. The majority of economic activity is still ecologically destructive — industrial farming, fossil fuel energy, conventional construction, fast fashion, etc. Only a minority of actors have shifted to regenerative models.

Indicator	Destructive Majority Sectors	Transitioning Sectors	Regenerative Vanguard
Cost of production	Rising (Gaia destruction fees add to costs)	Stable (transition investments)	Falling (Gaia creation offsets costs)
Profit margins	Compressing	Variable	Expanding
Competitiveness	Declining vs. regenerative	Mixed	Growing rapidly
Employment	Declining as costs rise	Retraining period	Growing fast
Consumer prices	Rising for destructive goods	Mixed	Falling for clean goods
Investment flows	Fleeing (poor returns)	Selective	Flooding in (high returns)
Gaia account	Draining	Neutral	Growing

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## The Honest Pain

The transition period is not painless. Industries that have externalised costs for decades suddenly face them. This creates real disruption:

- Industrial food producers face rising costs and compressing margins — some go bankrupt or consolidate
- Fossil fuel companies face Gaia destruction fees on production — their business models deteriorate progressively
- Conventional construction faces higher material costs — cement, steel, PVC all carry destruction fees
- Workers in these sectors face job uncertainty during the retraining period
- Consumer prices for destructive goods rise before clean alternatives have fully scaled

The critical risk in the transition period: if clean alternatives have not scaled fast enough when destructive industries contract, there can be a supply gap — a period where goods cost more and supply is tighter. This is why the 10-year parallel phase is essential: it allows regenerative alternatives to grow BEFORE destructive industries are fully priced out.

## The Stabilisers

Three mechanisms prevent the transition period from becoming economic collapse:

- Universal Ecological Dividend: every citizen receives baseline Gaia, maintaining consumer purchasing power through the transition
- Gaia creation from restoration: every job in reforestation, soil regeneration, renewable energy, and DAC creates new Gaia — the economy's money supply doesn't simply shrink, it shifts
- Parallel currency: Gaia doesn't replace existing currency overnight. The old system cushions the transition while the new one builds momentum

## Scenario B: Tipping Point — Majority Shifting (Years 15–30)

### The Economic Inflection

At some point in the transition — modelled here at approximately Year 15–20 — the regenerative sector becomes larger than the destructive sector in Gaia economic terms. This is the tipping point. At this moment, the dynamics reverse completely:



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Once the regenerative sector is dominant, the Gaia money supply begins growing consistently — because net ecological restoration is occurring. This is monetary expansion backed by real planetary health improvement. It is non-inflationary in the traditional sense because it reflects genuine value creation, not debt creation.

Consumer prices for ecologically healthy goods — regenerative food, clean energy, natural building materials — fall as scale reduces unit costs and Gaia creation offsets production costs. Prices for ecologically destructive goods continue rising as destruction fees compound. The market finishes the job the transition started.

## Scenario C: Mature Gaia Economy — Majority Regenerative (Years 30+)

### The New Economic Reality

In a mature Gaia economy where the majority of production is regenerative, the macroeconomic dynamics are fundamentally different from anything in economic history:

Economic Dimension	Today's System	Mature Gaia Economy
Money creation	Bank lending (debt)	Ecological restoration (health)
Growth metric	GDP (destruction-blind)	Gaia index (ecologically accurate)
Inflation driver	Excess credit creation	Insufficient restoration
Deflation driver	Demand collapse	Ecological destruction (corrective)
Wealth concentration	Compounds via interest	Self-limiting via demurrage
Most profitable sector	Finance, fossil fuels, arms	DAC, restoration, clean energy, care
Price signal for food	Cost of production only	Cost of production + ecological truth
Employment base	Services, manufacturing	Restoration, care, clean production
National security asset	Military capacity	Ecological health of territory
Trade advantage	Low-cost production	Low ecological destruction score
Long-term stability	Structurally unstable (debt cycle)	Structurally stable (planetary limits)

### What GDP Looks Like in a Gaia Economy

This is the most important macroeconomic question: does the economy shrink?

The honest answer: conventional GDP almost certainly contracts in the early transition as destructive industries shrink faster than regenerative ones scale. This is real economic pain and should not be minimised.

But GDP is the wrong metric. Consider what actually happens:

- Food is cheaper and more nutritious — real living standards rise even if GDP falls

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- Healthcare costs fall dramatically as diet-related disease, air pollution, and water contamination decline — this is economic gain that GDP registers as a loss (less healthcare spending)
- Energy is cheaper and abundant as renewable costs continue falling and Gaia creation subsidises clean energy — real energy security rises
- Housing is more affordable as natural materials become cheaper than conventional ones
- The ecological services that nature provides — clean water, pollination, climate regulation, flood protection — are restored and sustained, removing costs that current economies spend trillions managing

The Doughnut Economics framework captures this better than GDP: the economy operates within planetary boundaries while meeting all human needs. By that measure, the Gaia economy is dramatically more prosperous than today's, even if conventional GDP is lower.

## The Global Picture: What Happens When Nations Diverge

Not all nations will adopt Gaia simultaneously. This creates an important dynamic: early adopters vs. late adopters.

### Early Adopter Nations

- Build the regenerative industries of the future while others are still paying the costs of the destructive past
- Accumulate Gaia — the most credible currency in a world facing ecological stress
- Attract the best talent and investment as their economic environment becomes more stable and prosperous
- Gain trade advantage: their goods carry lower Gaia destruction scores, making them more competitive in Gaia-denominated trade
- Costa Rica, Bhutan, Iceland, Denmark, New Zealand are natural early adopters — small, ecologically aware, already measuring beyond GDP

### Late Adopter Nations

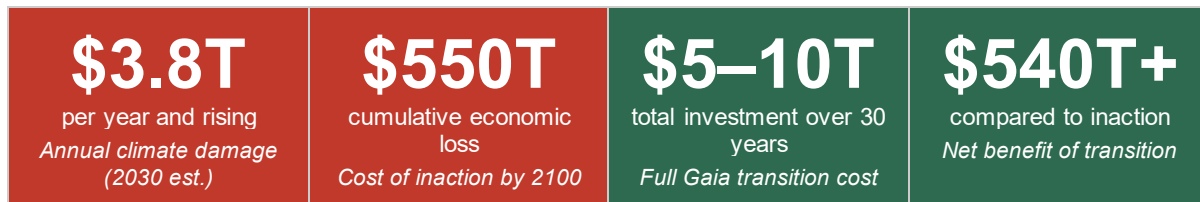
- Continue paying the rising costs of ecological destruction as their natural capital depletes
- Face mounting climate costs — agricultural failures, flooding, drought — that drain conventional fiscal capacity
- Lose competitive position as their goods carry high ecological destruction costs in Gaia trade
- Eventually face a forced transition as ecological collapse makes the old model physically impossible
- The Gulf states, major fossil fuel exporters, and heavily industrial economies face the most difficult adjustment

The critical insight: late adopters do not avoid the transition. They only delay it and pay more for it. Every year of delay means more ecological destruction accumulated, more

Gaia burned before the system is in place, and a more severe adjustment when it finally comes. Early adoption is not idealism. It is the economically rational choice.

## The Most Important Number

What is the cost of NOT deploying DAC and NOT transitioning to a Gaia economy?



The economic case for Gaia is not about sacrifice. It is about compound returns on the largest investment opportunity in human history. The planet is the asset. Restoring it creates more value than any financial instrument ever devised.

*The question “can we afford to save the planet?” is based on a category error. The correct question is: “can we afford not to?” The answer, in any monetary system that can see reality, is no.*

# Synthesis: The Two Questions Answered

## Why is there money for war but not for DAC?

Because in today's monetary system, war creates demand, employs people, stimulates manufacturing, and generates measurable GDP. DAC prevents future losses — which is economically invisible. Governments can borrow to fund wars because the financial system sees the economic activity. They struggle to fund DAC at scale because the financial system cannot see the value of a stable climate.

Under Gaia, this is structurally reversed. DAC creates money. War destroys it. The question of 'affordability' disappears because the act of saving the planet is the act of creating currency. The funding mechanism is the monetary mechanism. They are the same thing.

## What happens to the economy when destructive production dominates vs. when regenerative production dominates?

When destructive production dominates under Gaia: costs rise for destructive producers, margins compress, investment flees, jobs shift. The transition is painful and requires the stabilising mechanisms — Universal Ecological Dividend, parallel currency, deliberate retraining. It is manageable with a decade of careful parallel operation.

When regenerative production dominates: the money supply grows with planetary health, consumer prices for clean goods fall, the most profitable industries are the most restorative ones, wealth concentration is structurally prevented by demurrage, and the economy becomes genuinely stable for the first time — because it operates within the limits of the planet that sustains it.

The GDP number may be lower in conventional terms. Real human wellbeing is dramatically higher. And unlike today's economy, the Gaia economy does not carry the compounding liability of a planet that is being destroyed faster than it can recover.

*Today's economy is a high-growth enterprise built on consuming its own foundations. The Gaia economy is a sustainable enterprise built on restoring them. One of these is a viable long-term model. The other is not. The only question is how long it takes to acknowledge this — and how much damage accumulates in the meantime.*