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THE CLOUD LOST 44 ELECTIONS

Who Benefits, Who Pays, Who Decides — and Why Intelligence Must Learn to Need Less

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Consent divides the burden. Science must shrink it.

I. The Cloud Has an Address

On November 3, the cloud lost 44 elections: 44 local referendums in which voters approved limits on data centers.

Redbud Consulting tracked 47 such referendums in 44 municipalities across 12 states. Restrictions passed in 44 of the 45 where counting was complete. About three-quarters of American voters told The AP Voter Poll they oppose a new data center in their own community, and majorities said so in red and blue states alike. Among the 34 winning candidates for governor in races the Associated Press had called, Data Center Watch counted 32 who support stronger regulation or restrictions and 12 who support bans or moratoriums.[1]

For a decade, an industry sold a word with no location. The cloud was weightless. It had no water bill, no substation, and no neighbors. Then it arrived in Ohio, Maine, Illinois, and Kansas, and people learned what it was: a building, a transmission line, a draw on the water table, a negotiation conducted under nondisclosure.

The proposition of this paper is simple. **The promised benefits of AI are broad and long-term. Many of its costs are local and arrive first.** No promise of future abundance resolves that asymmetry. Only a new arrangement can.

The election should not be over-read. Data centers were widely opposed, yet about one-quarter of voters called them crucial to their vote for Congress, well below the cost of living and government corruption.[1] Nor did these ballots pronounce on artificial intelligence as such. They asked about land,

electricity, water, and local control.[2] That is why the result matters. These ballots were not a verdict on intelligence. They were a demand to be asked.

II. Trust Begins With Consent

The industry's reply has been swift, and it deserves credit. Two days after the vote, OpenAI published a National Community Compact for the future campuses it owns and operates. Each campus is to have a local version, with residents engaged early. OpenAI promises to pay for its power and the infrastructure that serves it, to provide financial assurances if a project is delayed, reduced, or canceled, to avoid nondisclosure agreements with public officials, apart from narrow exceptions for security and trade secrets, and to report publicly each year. A companion Policy Blueprint asks lawmakers to set rules for the whole industry, including the power to reclaim tax breaks when developers miss their commitments.[3] The Data Center Coalition says developers must keep working to build trust.[1] These are real steps.

Four things remain to be built. As reported, the Compact itself describes no penalties and no dispute process, and the remedies in the Blueprint are proposals, not law. It provides no independent verification of power and water figures. It does not say a community may refuse. And it binds one company, in one country. A company can write a compact. A community must have the means to hold it to its word.

Trust begins with the right to know, the right to take part, and promises kept. It cannot be demanded in advance. To ask for it first is to ask for credit before opening the books. Four questions come first:

Who benefits? Who pays? Who decides? And when the promise is broken, who answers?

Voters asked the first three. The fourth decides whether the others mean anything.

In 2020, the Boston Global Forum issued the Social Contract for the AI Age to balance power among governments, businesses, civil society, individuals, and AI assistants.[4] Digital power now has a physical address. The contract needs a clause written for that address.

III. The Ledger No One Can Read

The debate is missing a public fact base. Consider the electric bill. A Rutgers study covering 24 states from 2014 through 2024 found no robust, detectable rise in residential bills after a data center opened nearby. Its author adds two decisive words: *not yet*. Most facilities in the sample predate the AI wave. Campuses now planned can approach a gigawatt. Their costs reach household rates years later, and through regional markets a ZIP-code study cannot see. In PJM, the market that serves Northern Virginia and much of the Mid-Atlantic, the capacity price for 2025/26 cleared at $269.92 per megawatt-day across much of the region, up from $28.92 the year before. PJM cites several causes; independent analysts and consumer advocates point to data center load as one important contributor.[5]

Some voters may have blamed the wrong line on their bill. Others may have seen the future correctly. No one can show them which. That is the failure. When the public cannot verify, it assumes the worst, and no one can prove it wrong. A town should not need a doctoral dissertation to learn who is paying for the building next door. Beacon Papers No. 18 argued that truth must arrive in time for people to act on it.[6] The same holds for a town facing a permit vote.

IV. The Host Community Compact

AIWS proposes the **Host Community Compact**: an enforceable agreement signed by a community and whoever would build there, before any irreversible commitment. Four terms define it.

Disclosure before approval. The end user, the power and water required at full build, the tax terms, and the effects on land and noise are public before any decision. No nondisclosure agreement binds a public official.

Protection of those who pay. A new load carries the cost it creates, including when a project shrinks or is canceled. No household underwrites another party's forecast.

Decision by those who live there. The host community may say yes, yes on conditions, or no, through institutions answerable to it, before construction begins. Those beyond its borders who share the same grid or watershed have the right to be heard.

A human who answers. Each site names a Designated Human Answerer, the standard of Beacon Papers No. 10, with authority to trigger a safe shutdown under defined procedures and a duty to account.[7]

Every Compact publishes a **Host Ledger**: each year, what was promised against what was measured, in megawatts, water, household bills, tax revenue, and jobs. We propose that the AIWS Trust Observatory extend its Commitment Register from safety commitments to commitments made to host communities, and that its Footprint Station check what can be observed from outside.[8] The Observatory would approve nothing and block nothing. It would keep the record. The community keeps the decision.

Compensation is the minimum. Elevation is the aim. A host community should be among the first to gain: compute for its schools and clinics, training for its people, a local share in what is built. Beacon Papers No. 15 asks whether a person has advanced after working with AI.[9] The Compact asks the same of a town: after the building came, is this place more capable of shaping its own future? Such a town is not a site. It is a co-creator.

The objection is serious. Refusal has costs. Communities can lose tax revenue and payments, and data center construction is driving much of American economic growth.[1] Consent does not answer this by favoring refusal. It answers by making agreement possible. Only a community that can say no can give a yes worth having.

V. The Burden Must Not Move

Morgan Stanley warns that new state rules could "split the country into areas that are open to new data centers and those without."[1] Analysts expect some projects to be delayed or relocated.[10] What happens among American states can happen among nations. The gravest outcome of November 3 would be a simple migration: compute leaving the places where people can vote no, for the places where they cannot.

The standard must travel with the project. Terms owed to a town in Ohio are owed to a town anywhere on earth. The same rule binds every project that carries the AIWS name.

VI. The Twenty-Watt Challenge

Consent decides who carries the burden. It does not make the burden smaller. That is the work of science.

The human brain runs on about 20 watts.[11] The world's data centers, serving all purposes, used an estimated 485 terawatt-hours in 2025. Consumption at AI-focused facilities surged 50 percent in that one year, and the International Energy Agency projects a total for all data centers of 950 terawatt-hours by 2030.[11] The brain is an inspiration here, not a threshold and not a direct comparison. It is the product of evolution and of years of upbringing. But it poses the right question: what would it take to understand more and consume less?

The dominant road to intelligence has been accumulation: more data, more parameters, more power. Judea Pearl showed what that road cannot reach by itself. Correlation, however vast, does not yield cause without assumptions about how the world works, and a system that knows *why* need not see every case. Causal inference gave science a language for that knowledge. Yet discovering causal structure from raw experience remains hard, and the question Pearl opened is still open. Is there something better? Three frontiers deserve the world's best minds.

> **Causal world models.** Systems that build a model of how things work, then generalize from a handful of examples. Early results are promising and remain confined to experiments.[12]
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> **Neurosymbolic reasoning.** Systems that learn a few axioms and compose them by logic. One *PNAS Nexus* perspective argues such models could be 100 times smaller than today's leading language models. A 2026 preprint reports needing 30 to 100 times fewer samples than one graph-based baseline to reach a goal from scratch, in simulated maze navigation.[13]
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> **Learning as compression.** Solomonoff and Kolmogorov gave this idea its mathematics in the 1960s: to understand is to find the shortest explanation. The ideal cannot be computed exactly. No one has yet built intelligence on it at scale.

A mind that understands can be told little and grasp much. That, not scale, is the mark of intelligence.

The machines must change as well. Reading data from memory can consume far more energy than the arithmetic performed on it.[14] The brain does not separate memory from computation. Cambridge researchers have demonstrated a hafnium-oxide memristor in the laboratory and say brain-like computing could cut AI's energy use by as much as 70 percent. That figure is a projection for the field,

and the device still requires fabrication at about 700°C.[15] An analysis of a photonic design with analog memory projects power savings of more than 26 times over conventional SRAM-DAC memory architectures.[16] These are results at the level of the device and the model, not the data center.

Two disciplines must hold. First, less data does not by itself mean less electricity. A 2025 World Economic Forum paper estimates that, of the electricity used in development, training, and deployment combined, deployment takes 60 to 70 percent and training 20 to 40 percent.[17] Learning must become cheaper, and so must every answer. Second, efficiency does not by itself lower the total. The IEA finds that energy use per AI task has been dropping by at least an order of magnitude a year, while total demand keeps climbing.[11] Cheaper intelligence gets used more. Science cannot replace consent.

AIWS therefore issues the **AIWS Twenty-Watt Challenge**, a scientific challenge inspired by the brain, to universities and laboratories everywhere. We propose a measurement framework that reports three results separately: capability verified, including causal reasoning and transfer to problems not seen before; energy per correctly completed task; and water used. Comparisons must hold quality and safety constant, disclose how training and infrastructure costs are counted, and report total consumption alongside per-task efficiency. Its headline measure is **understanding per joule**. Beacon Papers No. 16 asked whether humanity understands what its machines find.[18] This measure asks how much a machine must consume to understand anything at all. We propose to pilot it within AIWS Trust Rating and to develop an energy criterion for the AIWS Trust Silicon Standard of Beacon Papers No. 9.[19] The largest verified gains will be recognized, with methods published so that every result can be contested. From the verified results of the Challenge, AIWS will develop the Twenty-Watt Standard, and no facility may invoke it as a substitute for the consent of those who host it.

VII. A Proposed Article

For the Constitution for Humanity in the Age of Artificial Intelligence:

The Consent of Those Who Bear the Cost

1. Those who would build the physical infrastructure of artificial intelligence shall disclose its purpose, its demands on energy, water, and land, and its public terms before any decision to approve it.

2. A community asked to host such infrastructure has the right to decide, through institutions answerable to it, whether and on what terms it will be built. This right does not depend on the country in which the community lies. Those beyond the community who share the same grid or watershed shall have the right to be heard.

3. The costs created by such infrastructure shall be borne by those who create them, and shall not be shifted to households or to future generations.

4. Each such facility shall have a named human being with the authority, under defined procedures, to trigger its safe shutdown and the duty to answer for it, and shall publish each year a record of what was promised against what was measured.

5. The advancement of artificial intelligence shall be measured not only by what it can do but by what it requires. Humanity shall pursue intelligence that understands more and consumes less.

Beacon Principle No. 19

Those who bear the cost must have the say. Those who build must be able to answer. Those who discover must learn to need less.

The AI Age began by asking how much intelligence could consume. It will be judged by how little it came to need, and by whether the people who lived beside it said yes.

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