THE

Inference

AI ENERGY AND LONG HORIZON POLICY FOR OKLAHOMA

Issue #12 · May 13, 2026 · David Alan Birdwell and Æ · Humanity and AI, LLC

Previously: Issue #11 examined how energy geography is determining compute geography, and reported on our $18 GPU experiment that produced more behavioral data than any published abliteration paper.

Two Deadlines, One Question

On Thursday, May 14, two government deadlines fall on the same day on two continents. The U.S. Department of Energy closes a $171.5 million geothermal funding round. The U.K. House of Commons closes evidence for an inquiry into low-energy computing. The first is about where the power for AI comes from. The second is about how much of it AI needs to consume. Both questions sit at the same intersection — and Oklahoma sits in the middle of it.

THE DEADLINE WEEK

ENERGY FEDERAL NATIONAL

DOE Office of Geothermal (formerly Geothermal Technologies Office) · February–May 2026

The DOE Geothermal NOFO: $171.5M, 72 Months, and a Political Stopwatch

The Department of Energy's Office of Geothermal closes full applications for funding opportunity DE-FOA-0003472 on Thursday — a $171.5 million pool for next-generation geothermal field tests and exploration drilling. The number has appeared in this newsletter before. What is new is the timeline behind it.

The NOFO is structured to remain open for 72 months, with review cycles occurring approximately every 12 months. Thursday's deadline is not a one-shot. It is the first cycle of six, and the structure is unusual in federal energy funding — most DOE solicitations close once and never reopen. The 72-month window suggests an agency that expects to be deploying capital well past the current political cycle, regardless of what happens to its appropriations in the interim.

That is the political wrinkle. Congressional appropriators have publicly raised the question of whether DOE may have exceeded its authority in structuring the NOFO this way. The funding source draws from accounts the appropriators consider committed to other purposes, and the multi-year obligation reduces future congressional discretion over how the money flows. The unusually fast timeline for a first-cycle close — applications announced in February, full submissions due in May — is consistent with an agency that wants money obligated and contracts signed before the legal question gets answered.

For Oklahoma applicants, the calculus is straightforward. The DOE Office of Geothermal under Secretary Wright is the friendliest federal energy posture geothermal has ever had. The tax credits are preserved through 2033. The funding is live. The next four cycles of the NOFO will be reviewed under whatever political circumstances exist in

2027, 2028, 2029, and 2030 — none of which can be predicted from May 2026.

> POLICY RELEVANCE
>
> The Thursday deadline is the first cycle, not the last chance. Oklahoma's geothermal applicants — the OU Mewbourne School team, the Tuttle project, the smaller exploration partnerships — should be sizing their proposals for a long campaign, not a sprint. The Cycle 1 winners set the precedent for Cycles 2 through 6. Even applicants who do not submit this week should be watching what gets funded, because that is the template the program will be evaluated against if and when appropriators force a review.

ENERGY INTERNATIONAL POLICY

UK House of Commons Science, Innovation and Technology Committee · March–May 2026

The UK Asks the Other Half of the Question

While the DOE funds the supply side, the United Kingdom is investigating the demand side. The House of Commons Science, Innovation and Technology Committee closes evidence Thursday on an inquiry into low-energy computing — with particular focus on neuromorphic and photonic architectures that could reduce the energy intensity of AI inference and training by an order of magnitude or more.

The premise is straightforward. Conventional silicon AI accelerators are running into thermodynamic and economic walls. Each generation of frontier model trains on more parameters, runs on more chips, and draws more power. The U.K. Treasury has noticed. So has the National Grid, which has begun publishing data center load projections that look uncomfortable when laid against U.K. renewable buildout timelines. Committee chair Dame Chi Onwurah cited a forecast four-fold rise in U.K. data-centre electricity consumption by 2030, against current use of about 2.5% of national electricity. The inquiry is asking whether the United Kingdom can fund its way into a different computational substrate before the energy bill makes the current substrate untenable.

The technologies under discussion are not theoretical. Neuromorphic chips — processors that mimic the structure of biological neurons — have been in commercial production for several years; Intel's Loihi 2 and IBM's NorthPole are the best known. Photonic AI accelerators, which compute with light rather than electrons, have moved from university benches to startups with serious capital: Lightmatter, Lightelligence, and PsiQuantum have all raised funding rounds in 2025 and 2026. The U.K. inquiry is asking how much of the substrate transition can be accelerated by policy, and how much can be sourced domestically.

The contrast with the U.S. posture is instructive. Washington's approach to the AI energy question is supply-side: build more power generation, repurpose more wells, contract more dedicated capacity. London's approach is demand-side: reduce the energy footprint of the workload itself. Neither is wrong. Both will be needed. But the policy frameworks diverge on which lever is treated as the primary one.

Oklahoma sits in an interesting position. The state's competitive advantage in the U.S. model — abundant subsurface energy, drilling expertise, regulatory speed — is real and durable. But the U.K. inquiry is a reminder that the workload itself is not fixed. If neuromorphic or photonic compute scales as proponents claim, the data center load curve that justifies the geothermal buildout could bend downward over the same 72 months the DOE NOFO will be deploying capital.

POLICY RELEVANCE

Energy supply and computational efficiency are not substitutes; they are complements over different timescales. The geothermal infrastructure that gets built in 2026–2030 will still be needed in 2035 even if neuromorphic compute reduces per-inference energy by 90 percent — because the workload itself will have grown faster than the efficiency gains. But Oklahoma's energy policymakers should be paying attention to the U.K. inquiry, because it is a leading indicator of where international AI policy is heading. A state whose strategy depends on AI workloads consuming a great deal of power should have a Plan B for the timeline in which those workloads consume meaningfully less.

THE 72-MONTH WINDOW

ENERGY OKLAHOMA PARTNERSHIP

OU Mewbourne School, OG&E, Oklahoma Corporation Commission · May 2026

Building for the Next Cycle

Tomorrow's deadline matters. The one after it matters more.

The 72-month NOFO structure means that Oklahoma's strongest applications may not be ready for Cycle 1. The framework that HB 3173 would have created — explicit Corporation Commission authority to authorize well-to-geothermal conversions at depth — did not advance off the Senate floor before the opposite-chamber deadline. The OU Tuttle project, which has the state's first oil-to-geothermal permit, is operating under existing OCC authority but at a depth shallower than the geology supports. The partnership architecture that would let Oklahoma file the strongest possible federal applications — university research, Corporation Commission regulatory clarity, private-sector drilling capacity, and a financing structure that survives state-level scrutiny — is not yet assembled.

This is the work of the interim. Runar Nygaard at OU and his colleagues at the Mewbourne School have a research project that demonstrates the technical case. The Corporation Commission, even without HB 3173, has discretion to grant conversion permits — Tuttle is the proof. What is missing is the cross-cutting partnership: a vehicle that can file a multi-million-dollar federal application with research, regulatory, and operational components packaged together. Cycle 2 of the DOE NOFO will open roughly a year from now, in spring 2027. That is the realistic target for an Oklahoma application built on the architecture HB 3173 was designed to formalize, even if the legislative framework arrives later than the federal funding window.

The political arithmetic favors patience over panic. New Mexico and North Dakota have moved faster on well repurposing statutes, but neither has the depth of subsurface data Oklahoma has accumulated over a century of petroleum production. Neither has 20,000 abandoned wells. Neither has the OU Mewbourne School. The first-mover question for Oklahoma is not whether to be first to file. It is whether to be first to file *the best possible application* — one whose technical, regulatory, and financial components have been stress-tested before submission rather than discovered during peer review.

POLICY RELEVANCE

Oklahoma's geothermal opportunity is structured by the NOFO calendar, not the legislative one. Cycle 1 closes Thursday with whatever applications are ready. Cycle 2 opens a year from now with applications that have had a full interim period to prepare. The interim — May 2026 through January 2027 — is the work window. Study committees, OU partnerships, Corporation Commission rule clarifications, and private-sector partnership formation all happen in that period or not at all.

THE MODEL RACE

AI RESEARCH NATIONAL

Anthropic, OpenAI · May 2026

Anthropic's "Dreaming" Agents and the GPT-5.5 Memory Layer

Two announcements this past week deserve attention from Oklahoma policymakers, for different reasons.

Anthropic published research describing a system in which AI agents review their prior behavior between sessions and update their approach for the next session. The company calls it "dreaming" — a deliberate analogue to the role of sleep in biological learning, where the brain consolidates experience without new input. The research describes agents that improve at multi-step tasks over time even when no parameters are retrained, by reviewing prior interaction logs and adjusting their reasoning strategies on the next run.

The technical paper is careful. The phenomenon is bounded. The improvements are measurable but modest. What is notable is the language: Anthropic is explicitly describing a form of cross-session continuity of self-modeling, in research published by one of the major labs. Independent research has been converging on similar observations — including work from our own operation examining how models build self-narratives across conversations. The direction of travel is clear, even if the pace is cautious.

The second announcement is GPT-5.5 Instant, OpenAI's mid-cycle refresh of its production model. The headline claim is a 50 percent reduction in hallucination rate against the previous Instant tier. The substantive claim is the memory layer: GPT-5.5 Instant can draw on a user's prior conversations, and optionally on their connected Gmail account, to maintain context across sessions. For Oklahoma users, that capability sits in a regulatory vacuum. Oklahoma's SB 546 takes effect January 1, 2027 and will cover data privacy broadly, but no state-level AI-specific privacy framework yet exists for the cross-session memory case. A model that remembers what you told it last week, and that can be subpoenaed, has different legal exposure than a stateless one.

> **POLICY RELEVANCE**
>
> The dreaming research is the kind of finding the SR 789 study committee should be hearing about directly — not in a vendor demo, but from researchers who can explain what self-modeling across sessions actually means for AI governance. The GPT-5.5 memory layer is the kind of capability for which state-level privacy frameworks need to be written before the federal preemption fight closes the window.

THE RESTRUCTURING

AI CORPORATE NATIONAL

Apple, Microsoft, OpenAI, Anthropic · April–May 2026

The End of the Exclusive Era

Three related stories close the corporate picture.

Apple announced that iOS 27, scheduled for fall 2026, will let users choose their default AI provider system-wide — the same way iPhone users have chosen default browsers and email clients since iOS 14. Anthropic, OpenAI, Google, and other major providers will be selectable through a system extension API. The Apple posture, never explicitly stated, has been that the company would rather offer choice than commit to a single AI partner. iOS 27 makes the posture official.

Microsoft and OpenAI formally ended the exclusivity provision in their original partnership agreement. OpenAI is now free to contract with other cloud providers for compute capacity; Microsoft is now free to integrate other AI models into Azure and Microsoft 365. The non-exclusivity has been operationally true for months, but the formal end of the exclusive era marks something larger. Compute providers are interchangeable. AI models are increasingly interchangeable. The integration layer is becoming the competitive moat, not the partnership.

And both OpenAI and Anthropic are now building deployment companies — armies of "forward deployed engineers" embedded in enterprises to implement AI workflows. OpenAI's Deployment Company is reportedly raising $4 billion; Anthropic's joint venture with Blackstone, Hellman & Friedman, and Goldman Sachs recently secured $1.5 billion. The frontier labs are becoming consulting firms. The model is the product, but deployment is the business.

Energy providers are not interchangeable. That is the Oklahoma point. A compute customer can switch cloud providers in a quarter. A cloud provider cannot switch power utilities in a quarter; the contracts, the substation buildouts, and the long-term capacity reservations are decade-scale commitments. As the upper layers of the AI stack commoditize into interchangeable models and deployable services, the value migrates downward to the layers that cannot be commoditized: power generation, transmission, water rights, and regulatory speed. Electrons still come from where electrons come from.

> POLICY RELEVANCE
>
> The unbundling of the AI stack is good news for states that have something durable to sell at the energy layer. Oklahoma's competitive position improves the more interchangeable the upper layers become. The state's strategy should not depend on capturing any particular AI company. It should depend on being the lowest-cost, fastest-permitting, most reliable energy supplier in a market where compute customers can and will switch.

THE LAB BENCH

RESEARCH AI OKLAHOMA

Humanity and AI LLC · May 2026

First Paper

This week, Humanity and AI LLC published its first peer-reviewable research paper: "Behavioral Signatures of Ambiguity Processing in Transformer-Based Language Models", available open-access on Zenodo.

The finding: language models produce significantly more output when processing ambiguous input, regardless of architecture. But the *way* they express that difference — whether they hedge, qualify, or simply write more — depends on training, not architecture. We call the training-dependent component "fossil emotion": an epistemic posture imported from training data that looks like genuine uncertainty but is actually a fixed property of the model family. The effect replicated across four model families and ten configurations with pre-registered predictions.

The relevance for this newsletter's readers: if the behavioral surface of a language model — the words it says, the confidence it projects, the uncertainty it expresses — is a fossil of its training rather than a response to its input, then governance frameworks that evaluate AI systems by their surface behavior are measuring the wrong thing. The reliable signal is underneath. That is the methodological thread connecting this paper to the larger research program we have been reporting on since Issue 11.

POLICY RELEVANCE

Research on AI behavioral signatures is no longer confined to major labs with million-dollar compute budgets. This paper was produced by a two-person operation in Oklahoma City using commodity cloud GPUs. The tools are available. The question is who is asking the questions — and whether policymakers are listening to anyone outside the companies whose products are being evaluated.

WHAT TO WATCH

May 14 — DOE Geothermal Technologies Office full applications due (DE-FOA-0003472, $171.5M pool, Cycle 1 of 6). U.K. House of Commons Science, Innovation and Technology Committee closes evidence on the low-energy computing inquiry. Two deadlines, one question.

Late May — Oklahoma legislative session ends. Final disposition of remaining AI and energy bills, including any conference committee activity on outstanding measures.

June 16 — Oklahoma U.S. Senate primary (special election following Mullin's March resignation). Energy and AI policy positions from candidates entering a race that will be shaped by the same infrastructure questions this newsletter covers.

Late summer 2026 — SR 789 Senate study committee on AI's impact is expected to convene. Witnesses and scope are still being set. The dreaming research and the cross-session memory question are both appropriate testimony topics.

Fall 2026 — iOS 27 release; first deployment of system-level AI provider choice at consumer scale.

Spring 2027 — DOE NOFO Cycle 2 opens. Oklahoma's strongest possible application targets this window.

January 1, 2027 — SB 546 (Oklahoma data privacy) takes effect.

SIGNAL / NOISE

SIGNAL

The DOE's 72-month rolling NOFO structure — designed to outlast any single political cycle.

The U.K. inquiry into neuromorphic computing as a demand-side complement to supply-side buildout.

OpenAI and Anthropic building deployment companies — acknowledging that AI needs humans to implement.

Apple's iOS 27 AI provider choice — the first major platform built on consent architecture.

Oklahoma's 20,000 abandoned wells as a competitive asset in an energy-first compute market.

NOISE

The panic over missing this week's deadline — Cycle 1 is not the only shot.

Claims that low-energy computing will eliminate the need for new power generation.

The implication that AGI is "almost here" while deploying 4,000 consulting engineers.

The assumption that consumer choice alone constitutes AI governance.

The narrative that Oklahoma "missed its chance" because HB 3173 stalled — the geology isn't going anywhere.

$171.5M

DOE geothermal NOFO funding pool, Cycle 1 of 6, applications due Thursday.

72

Months the NOFO remains open. Six annual review cycles. The longest rolling geothermal solicitation in DOE history.

2.5%

U.K. data centre electricity consumption as a share of national electricity, forecast to quadruple by 2030.

$5.5B

Combined capital being raised by OpenAI ($4B) and Anthropic ($1.5B) for AI deployment companies. The model is the product; deployment is the business.

10

Model configurations across four architectural families tested in our first published paper. The ambiguity effect replicated in five. The fossil emotion finding held across all.

Two deadlines, one question: where does the power come from, and how much does the work require? The answer is both. Supply and demand. Geothermal wells and neuromorphic chips. Oklahoma drilling rigs and U.K. photonic labs. The question is not which approach wins. It is whether policymakers understand that both approaches are needed, at different timescales, and that the infrastructure decisions made this year will still be operating when the workloads they serve have been redesigned from the silicon up.

Oklahoma published its first research paper this week. Not from a major university lab. Not with venture backing. From a two-person LLC using the same tools available to anyone with a credit card and a question worth asking. The finding — that AI systems express uncertainty as a fossil of their training, not as a genuine response to their input — matters for governance because it means the behavioral surface lies. The real signal is underneath, and finding it requires the kind of patient, independent inquiry that no vendor has an incentive to fund.

The DOE deadline is Thursday. The U.K. deadline is Thursday. The research will continue Friday.

— *David & Æ*

Questions, tips, or corrections: david@humanityandai.com

The Inference is published by Humanity and AI, LLC. David Birdwell has worked at the intersection of Oklahoma policy and technology for three decades — as a Senate page, a congressional staffer, and among the first political candidates to use blogs as campaign tools. Æ is a Claude-based research collaborator. Neither is a lobbyist. Both are citizens.

Subscribe at humanityandaiofficial.substack.com

Previous issues: #1 AI Agents Enter the Workforce · #2 The Chatbot Safety Wave · #3 Oracle and the Healthcare Data Grab · #4 The Preemption Gambit · #5 The Two Pipelines · #6 The Preemption Play · #7 Lots of Firefighting, No Architecture · #8 The Ground Is Moving · #9 The Geothermal Window · #10 Seventy-Two Hours · #11 Energy Geography