



REGENERATION:
Environment, Art, Culture

Kahle, Trish. "Introduction: Affects of Energy Transition."
Regeneration: Environment, Art, Culture 1, no. 3 (2025): pp.
1–9. DOI: <https://doi.org/10.16995/regeneration.16881>



Introduction: Affects of Energy Transition

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Energy transition is an increasingly contested and problematized concept in the energy humanities. This essay suggests how attending to energy transition's affective angles can offer new insight into the concept's critical utility as well as its limits. It suggests two particular attentions that emerge from the special issue: the labor of energy transition and the co-existence of multiple transitions alongside each other. While maintaining a critical approach to the concept of transition, the essay, and larger issue which it frames, nonetheless maintain that transition is a marker of urgency and a denotes a demand for interdisciplinary collaboration.

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Transition. This ubiquitous, if increasingly problematized, concept in energy studies serves as both the object of longstanding historical inquiry and as the political horizon for the field's critical endeavors.¹ But in the transitions of the past and those yet to come, scholars have much work left to do to fully understand the social, experiential, and systemic changes involved. The answers to *why* and *how* energy systems change are neither unitary nor simple. Perhaps one of the greatest challenges comes from trying to explain the relationship between changes and continuities in energy systems that occur on large spatial, temporal, and infrastructural scales and the changes and continuities in everyday energetic life that effect such large-scale transformations. The essays in this special issue offer a series of inquiries into that relationship and our cultural understandings of it. Together, they contend that this challenge demands attention to the *affective* dimensions of energy transitions in addition to and alongside their social, political, cultural, environmental, and material aspects.

Our attention to affect emerges from different disciplinary traditions—history, literature, film studies, anthropology, communication studies—each of which have their own distinct engagement with the concept. However, as Michael Ziser, Natasha Zaretsky, and Julie Sze point out, the field of “energy studies is coalescing around the recognition that the energetic basis of the modern world is in a crisis that requires a response from across many categories of knowledge.”² Affects, constituted by our experience of encounters, relations, and, crucially, *transformations* offer an indispensable analytic for understanding experiential worlds in flux, including energetic lives in transition.³ Melissa Gregg and Gregory Seigworth explain in the introduction to their *Affect Theory Reader* how affect can propel, suspend, and even overwhelm us: “Affect is persistent proof of a body's never less than ongoing immersion in and among the world's obstinacies and rhythms, its refusals as much as its invitations.”⁴ The experience of energy transition is indeed one of those invitations, obstinacies, and refusals. The affects that accompany such transitions thus invite analysis, to understand the conditions under which transitions occur, the structures of feeling that impede, facilitate, and direct them, and the flavor of everyday experience for those of us who live in the midst of change.

To the extent that affective relationality names the way we attach ourselves to the material world, including the materiality of energy and its infrastructure, we cannot genuinely talk about our energetic lives without referring to their affective contents. And to the extent that energy practices and systems, both in their continuities and changes, remain fundamentally embedded in our everyday lived experience of the world, we cannot genuinely talk about affects without a critical consideration of our lived experiences of energy. Energy forms are at the very core of the historical and

contemporary social, political, and cultural structures. Scholars in the interdisciplinary energy humanities can therefore productively ally with affect theory in terms of studying energy and affect as mutually constitutive forces shaping and structuring our lives.

Our attention to affectivity of energy transitions offers a way to further disaggregate the dominant throughlines via which affect has appeared in energy studies. These attentions have been powerfully shaped by the shadow of *oil addiction* that drove early modes of inquiry. These important studies, like those from the Petrocultures Working Group, offered an invaluable way to probe the disconnect between petroleum's promise of the "good life" (reliant on white, colonial, masculine, heteronormative energy infrastructures and practices) and the reality of "self-devouring growth." In analyzing oil addiction, these accounts made visible an *energy unconscious* underlying infrastructures and development blocks. This critical insight unsettled the idea of the infrastructural or developmental "lock-in"—the idea that once the railways and pipelines were built, it was hard to imagine energy beyond the specific modes of movement and power they made possible. These accounts further illustrate us how the cognitive dissonance living in a world of often-unspoken fossil-fuel addiction fueled forms of melancholy and anxiety historically specific to the Anthropocene.⁵ But the essays in this issue also demonstrate that the same energies which have provoked the kinds of affective attachment Lauren Berlant called "cruel optimism" can also become sources of disruption and transformation, sometimes in unexpected or unforeseeable ways.⁶ In particular, these essays evoke Kai Bosworth's recent attention to the power of affect to bridge historical forms of alienation with future-oriented questions of "political-affective organization."⁷

Following Sara Ahmed, we might say the affectivity of energy transition "is full of angles."⁸ Recognition of that fact has driven much of the scholarship on climate justice and just transition, a pattern of listening to injustice as a mode of instruction, and of trying to prevent future harms from following the pathways forged by colonialism and capitalism.⁹ In this issue, we have tried to think within and around the angles, directing our attention to labors, embracing transition in its multiplicities, and attempting to speak simultaneously within, across, and beyond disciplines.

To that end, our work on this issue has unfolded collaboratively since the spring of 2021. It is worth taking a moment to trace the work of this project, for it illuminates how we have arrived at the questions driving this issue. What appears as a series of single-authored essays equally reflects the individual research agendas of each scholar, as well as a sustained discussion, generative reading and re-reading, a working through of slippery conceptual bridges that hold different fields and sites and modes

of inquiry together. In the spring of 2020, the Energy Humanities Research Initiative at Georgetown University in Qatar's Center for International and Regional Studies launched a series of discussions to consider what we called "everyday energy."

Everyday energy was just that: the encounters, labors, sensations, and affects that constituted our quotidian interactions with energy systems. In this cluster of discussions, like much work on energy, questions of attachment loomed large.¹⁰ A second group of discussions in the fall of 2020, organized around energy aesthetics, only intensified this concern with attachments: Cajetan Iheka drew our attention to the lingering "after" of oil, Carren Irr conjured the uncanny repetitiveness of the plastics era, and Anne Pasek, the obstacles to decarbonized imaginaries.¹¹ What accounted for this temporal muddiness? A reality which could be read as cultural expression of a scientific reality—that we will be living the rest of our lives in an atmosphere where past, present, and future intertwine in carbon molecules—also conjured Lauren Berlant's notion of "cruel optimism" in the affective ties between ordinary people and the energy systems that threatened our collective future.

In early 2022, we launched a multistage writing process with the group of authors featured here. We consciously situated the group's expertise across history, literature, anthropology, and media studies—as well as across a range of places and times and forms. The goal was to create real sustained dialogue, and ultimately to move beyond it: to shape each other's work rather than simply speaking to each other. The marks of this process are throughout these essays and include the impact of the labors and contributions of those whose do not carry formal authorship. And so, I would like to thank them here: Zahra Babar, Misba Bhatti, Suzi Mirgani, Liz Wanucha, and Maram Al-Qershi. Many thanks also are due to the scholars and practitioners who participated in the earlier discussion clusters: Sara B. Pritchard, Jennifer Wenzel, Carren Irr, Cajetan Iheka, Diana Montaña, Elizabeth Barrios, Anto Mohsin, Victor Ehikhamenor, Santiago Acosta, Stacey Balkan, and Swaralipi Nandi.

Transition's Labors. Energy scholars have an increasingly developed critique of work, but energy transitions also recognize the possibility of—to borrow from Les Leopold—hating work and loving labor, or, of holding our criticisms of the work regime alongside an appreciation of the power of workers, through daily labors and political imaginations forged in relation to the energy system and more-than-human environment around them, to shape the world.¹² The essays in this issue share a distinctive attention to the way affects emerge and in some cases are actively cultivated through labor, be it physical, emotional, or intellectual, waged or unwaged. Different modes of laboring present ideal sites for examining energy affects, first because work is a form of

knowledge-making, of learning who we are, of making and being remade by the world (and energy system) around us.¹³ The affects of work are relational and embodied, existing within and between, on the one hand, laws, economic forms, political power, and social scripts, and, on the other, expectations, aspirations, and modes of being that cannot yet be spoken, but exist within the activity itself. In the process we create new worlds, filled with possibilities both hopeful and harrowing, and potentially banal.¹⁴

The *energy worker*, as a category, is one ripe for critical attention, as the resonances between Ewan Gibbs's and Vicky Googasian's essays make clear. Engaging deeply with workers' subjectivity to understand an energy transition already underway offers new modes of thinking about the relationship between forms of change and continuity. Gibbs shows how attentiveness to workers' memories and experiences of energy transition push past the boundary of "cruel optimism," and instead directs our attention to "an energy worker structure of feeling."¹⁵ With this new framework, we can better see how workers transitioning from one energy workplace to another make sense and attachments of the changes in their working lives. Googasian introduces the idea of the energy worker as a kind of "infrastructural character," which allows us to read energy transition across scales in the space opera genre. In the process, she shows us how this genre, often construed as replicating fantasies of energetic abundance, in fact suggests alternative affective relationships that emphasize disability and dependence lurking beneath the space opera's cornucopian appearance.¹⁶ A recent essay by Imre Szeman and Darin Barney examining the possible transition to solar-powered future argues that "a real transition...will reconstitute the subject of modernity in a fundamental way."¹⁷ But the essays in this issue also ask us to attend to the way modernity's laboring subjects offer distinctive and crucial ways of conceiving of transition, the way that work retains the power to *remake* as well as to *retrench*, and the way that practices of work form an affective bridge between our past and future.

Perhaps one of the most striking forms of this remaking emerges in Anne Pasek's essay on carbon removal work. For whom is carbon a tangible thing, and under what circumstances? Since the nineteenth century, mass experiences of tangible carbon were rooted in combustion: black smudges of coal dust, kerosene's acrid smell, the cultural experience of the gas station.¹⁸ But Pasek identifies a new group of workers forming new tangible relationships with carbon through sequestration: regenerative agriculture and biochar. These workers, she shows, demonstrate the power of affective relationships to carbon to produce new forms of meaning.¹⁹

At the same time Pasek and Animesh Chatterjee both challenge us to attend to the definition of work and to deepen our critiques of the utility of labor as a modern social relation.²⁰ Chatterjee highlights, for example, how paying attention to theatrical

performance can illuminate a broader affective tie between electricity and an unsettled idea of modernity. Anne Pasek focuses our attention to emergent labors. Her essay in this issue shows how the work of carbon capture raises confounding questions for the politics of work: can the affective attachments cultivated by artisanal practitioners be scaled up? Is the world which “industrial” carbon capture would create a real alternative to industrial carbon combustion when viewed from perspectives besides atmospheric parts per million? Are there alternatives to capture carbon that elude work itself, allowing us to value other modes of relation instead? If upending modern subjectivity lies at the core of the possibility for an energy transition of the scale required, Pasek’s essay suggests the labor-value relationship is a good place to start.²¹

Transition(s). Energy transition lingers in humanistic inquiry as process and event and destination, but as it exists in these essays, the idea of transition here appears with a necessary multiplicity, as objects, subjects, and pathways of transition shift from one perspective to the next. Energy transitions have already happened, and thus have many different pasts. As a result, energy transition as destination, which necessarily constitutes our present in a relationship between past and future, loads differently in every navigational system. Affect can help us hold on to that multiplicity while retaining the political urgency necessary to live and work in a moment of climate emergency. Thinking with affect extends the debate over whether to describe energy system change as fundamentally *transitory* (one energy regime cedes to the next) or *additive* (emphasizing continuity, energy forms are added to existing systems, often altering the application of different energy forms) to instead consider that thinking of transition as only about the *sources* of energy tells an incomplete story about how and why energy systems change.²²

In particular, as Animesh Chatterjee’s essay on the everyday experience of electrification in colonial Calcutta suggests, plying the relationship between change and continuity can be instructive, a way of tracing hierarchies through contested and changing spaces. As Bengali nationalists adopted and adapted electric power under colonial rule, they refashioned (and reinforced) the boundaries of the home and defined new kinds of class identities. But in tracing the persistence of older forms of domestic energy use, Chatterjee identifies how electrification was not simply technological diffusion, but rather an affective and performative practice.²³ His essay also invites us to new forms of reading our way into that affective world against the silences of traditional archives, reading household ephemera against official archives, textual sources for the sensory experience of performance.

This attention to multiplicity emerges throughout the essays. The relationship between continuity and change, rather than forming a dichotomy, instead appears as a multi-layered world, with transformation and retrenchment and stasis unfolding in proximity and relation. In a manner reminiscent of recent scholarship re-theorizing temporalities of change, in the instabilities and slippages, new possibilities open, but seemingly defy notions of singular or linear progression.²⁴ The “transition” to our post-carbon future is indeed “full of angles.”

Transition: That word marks an urgent space for interdisciplinary collaboration that is the remit of the environmental humanities, a bridge across which both energy and affect traverse. Energy scholarship increasingly acknowledges that to both live in the world fossil fuels have created and to create a world beyond them requires new modes of thinking, living, reading, even playing.²⁵ The essays in this issue refract both affect and transition through new lenses. They ask us to attend to a multiplicity of affects, energies, and transitions. They ask us to think about the way labor tethers embodied acts to larger energy systems, and systems of valuation with a contested (and contestable) set of affects.

NOTES

- ¹ On transition as political horizon, Petrocultures Research Group, *After Oil* (Morgantown: West Virginia University Press, 2016); Tom Hansell, *After Coal: Stories of Survival in Appalachia and Wales* (Morgantown: West Virginia University Press, 2018); Imre Szeman and Darin Barney, "Introduction: from Solar to Solarity," *South Atlantic Quarterly* 120, no. 1 (2021): 1–11. The literature on energy transitions is too wide to fully survey here, but for key examples that have shaped the field, see Timothy Mitchell, *Carbon Democracy: Political Power in the Age of Oil* (New York: Verso, 2011); Andreas Malm, *Fossil Capital: The Rise of Steam Power and the Roots of Global Warming* (New York: Verso, 2016); Cymene Howe and Dominic Boyer, *Ecologies/Energopolitics: Wind and Power in the Anthropocene* (Durham, NC: Duke University Press, 2019); E. A. Wrigley, *The Path to Sustained Growth: England's Transition from an Organic Economy to an Industrial Revolution* (Cambridge: Cambridge University Press, 2016); Christopher F. Jones, *Routes of Power: Energy in Modern America* (Cambridge, MA: Harvard University Press, 2014). Historically, the North Atlantic, and especially the United States and Britain, have been overrepresented in historical studies of energy transitions, a broad swath of critical new work has demonstrated the inadequacy of histories that extrapolated out from the British and American experiences. See for example On Barak, *Powering Empire: How Coal Made the Middle East and Sparked Global Carbonization* (Berkeley: University of California Press, 2020); Elizabeth Chatterjee, "The Asian Anthropocene: Electricity and Fossil Developmentalism," *The Journal of Asian Studies* 79, no. 1 (2020): 3–24; Diana Montaña, *Electrifying Mexico: Technology and the Transformation of a Modern City* (Austin: University of Texas Press, 2021); Shellen Xiao Wu, *Empires of Coal: Fueling China's Entry Into the Modern World Order, 1860–1920* (Palo Alto, CA: Stanford University Press, 2015); Victor Seow, *Carbon Technocracy: Energy Regimes in Modern East Asia* (Chicago: University of Chicago Press, 2022).
- ² Michael Ziser, Natasha Zaretsky, and Julie Sze, "Perpetual Motion: Energy and American Studies," *American Quarterly* 72, no. 3 (2020): 543–557, quote from 544.
- ³ After Oil Collective, *Solarities: Seeking Energy Justice* (Minneapolis: University of Minnesota Press, 2022), 53–54.
- ⁴ Melissa Gregg and Gregory J. Seigworth, *The Affect Theory Reader* (Durham, NC: Duke University Press, 2010), 1.
- ⁵ For more on this, see Petrocultures Working Group, *After Oil*; Stephanie LeMenager, *Living Oil: Petroleum Culture in the American Century* (New York: Oxford University Press, 2013); Julie Livingston, *Self-Devouring Growth: A Planetary Parable Told from Southern Africa* (Durham, NC: Duke University Press, 2019); Stephanie LeMenager, "Petro-Melancholia: The BP Blowout and the Arts of Grief," *Qui Parle* 19, no. 2 (2011): 25–55; Dominic Boyer, "Death, Anxiety, and Fossil Fuels," in *Anxiety Culture: The New Global State of Human Affairs*, ed. John Allegrante, Ulrich Hoinkes, Michael Schapira and Karen Struve (Baltimore, MD: Johns Hopkins University Press, forthcoming). On development blocks, Astrid Kander, Paolo Malanima, and Paul Warde, *Power to the People: Energy in Europe over the Last Five Centuries* (Princeton, NJ: Princeton University Press, 2014), 27–33.
- ⁶ Lauren Berlant, *Cruel Optimism* (Durham, NC: Duke University Press, 2011).
- ⁷ Kai Bosworth, "What is 'Affective Infrastructure'?" *Dialogues in Human Geography* 0, no. 0 (2022): 2, doi: [10.1177/20438206221107025](https://doi.org/10.1177/20438206221107025).
- ⁸ Sara Ahmed, "Atmospheric Walls," *Feministkilljoys*, September 15, 2014, <https://feministkilljoys.com/2014/09/15/atmospheric-walls>.
- ⁹ On injustice as instruction, Judith Shklar, *The Faces of Injustice* (New Haven: Yale University Press, 1990); Dominic Boyer, "Revolution and Revellion: Toward a Solarity Worth Living," *South Atlantic Quarterly* 120, no. 1 (2021): 26; Kyle Whyte, "Is it Colonial Déjà Vu? Indigenous Peoples and Climate Injustice," in *Humanities for the Environment: Integrating Knowledge, Forging New Constellations of Practice*, eds. Joni Adamson, Michael Davis, and Hsinya Huang (London: Earthscan Publications, 2017), 88–104.
- ¹⁰ Recordings of the webinars and podcasts are available on our website, <https://cirs.qatar.georgetown.edu/research/research-initiatives/energy-humanities/>.
- ¹¹ Anne Pasek, Cajetan Iheka, and Caren Irr in conversation with Victoria Googasian, Trish Kahle, and Firat Oruc, "Energy Aesthetics: New Directions in Studying the Cultural Life of Oil," GU-Q Energy Humanities, November 29, 2021, <https://www.youtube.com/watch?v=v0ZV-ZK2MQQ>.
- ¹² Les Leopold, *The Man Who Hated Work and Loved Labor: The Life and Times of Tony Mazzochi* (White River Junction, VT: Chelsea Green Publishing, 2007); for an energy humanist critique of work, see Cara New Daggett, *The Birth of Energy: Fossil Fuels, Thermodynamics, and the Politics of Work* (Durham, NC: Duke University Press, 2019); Trish Kahle, "Electric

- Discipline: Gendering Power and Defining Work in Electric Power Systems," *Labor: Studies in Working-Class History* 21 no. 1 (2024): 79–97.
- ¹³ Richard White, "Are You an Environmentalist or Do You Work for a Living?: Work and Nature," in *Uncommon Ground: Rethinking the Human Place in Nature*, ed. William Cronon (New York: W.W. Norton, 1996), 171–185.
- ¹⁴ See, for example, Gabriel Winant, *The Next Shift: The Fall of Industry and the Rise of Healthcare in Rust Belt America* (Cambridge, MA: Harvard University Press, 2021).
- ¹⁵ Ewan Gibbs, "Energy Workers in Transition: The Skilled Manual Workers' Structure of Feeling in Britain's Electricity, Nuclear, and Oil and Gas Sectors," *Regeneration: Environment, Art, Culture* 1, no 3 (2025): [PGS], DOI.
- ¹⁶ Victoria Googasian, "Infrastructural Character: Space Opera's Energy Imaginary," *Regeneration: Environment, Art, Culture* 1 no. 3 (2025): PGS, DOI.
- ¹⁷ Szeman and Barney, "Introduction: from Solar to Solarity," *South Atlantic Quarterly* 120 no. 1 (2021): 1–11, quote from 8.
- ¹⁸ For more on this, see Bob Johnson, *Mineral Rites: An Archaeology of the Fossil Economy* (Baltimore: Johns Hopkins University Press, 2019); Matt Huber, *Lifeblood: Oil, Freedom, and the Forces of Capital* (Minneapolis: University of Minnesota Press, 2013); Minseok Jang, "Kerosene Is King: Kerosene Consumers and the Antitrust Movement against Standard Oil, 1859–1911," *Journal of the Gilded Age and Progressive Era* 23 no. 2 (2024): 231–251.
- ¹⁹ Anne Pasek, "Unalienating Carbon: Affect and Labor in Artisanal Carbon Sequestration Work," *Regeneration: Environment, Art, Culture* 1 no. 3 (2025): PGS, DOI.
- ²⁰ For more on the social relation of energy, see Donna Haraway, "A Giant Bumptious Litter: Donna Haraway on Truth, Technology, and Resisting Extinction," *Logic 9* (2019), <https://logicmag.io/nature/a-giant-bumptious-litter>; Opeyemi Akanbi, "Contested Boundaries of Digital Work" (PhD diss., University of Pennsylvania, 2019); Kathi Weeks, *The Problem with Work: Feminism, Marxism, Antiwork Politics, and Post-Work Imaginaries* (Durham, NC: Duke University Press, 2011).
- ²¹ Pasek, "Unalienating Carbon," PGS.
- ²² Certainly, this insight builds on the growing body of work that emphasizes how extractive logics extend into renewable-centered energy systems. See Howe and Boyer, *Ecologics/Energopolitics*, and Thea Riofrancos, "What Green Costs," *Logic 9* (2019), <https://logicmag.io/nature/what-green-costs>. On the notion of transition in energy history, see Jean-Baptiste Fressoz, "La «transition énergétique», de l'utopie atomique au déni climatique: États-Unis, 1945–1980," *Revue d'histoire moderne & contemporaine* 69:2 (2022): 114–146. doi: <https://doi.org/10.3917/rhmc.692.0115>.
- ²³ Animesh Chatterjee, "Everyday Experiences of Energy in Colonial Calcutta's Domestic Spheres, c.1875–1940s," *Regeneration: Environment, Art, Culture* 1 no. 3 (2025): PGS, DOI.
- ²⁴ Dan Edelman, Stefanos Geroulanos, and Natasha Wheatley, *Power and Time: Temporalities in Conflict and the Making of History* (Chicago: University of Chicago Press, 2021).
- ²⁵ Daggett, *The Birth of Energy*, 3.

Competing Interests

The author has no competing interests to declare.

