GEMI
Forensic Examination 2019
Jamais Cascio
Forensic Foresight

“Forensics” is the study of the aftermath of a life, the detailed look at what happened, what went wrong, what caused the life to end. “Forensic Foresight” is the study of the aftermath of a forecast, to see what we saw correctly, what we missed, and why the future turned out so different from (or close to) our expectations.

This set of slides is a first attempt at a forensic examination of the GEMI forecast “Map of Future Forces Affecting Sustainability,” from 2007.
At a glance

**On-Target** Overall, the forecasts did a good job of framing the political climate for environmental debates at the end of the current decade.

**Hit-and-Miss** The last decade proved to be more cautious than we had anticipated. The tools were available, but the builders were hesitant.

**Off-Target** The forecasts did not recognize that the accurately-forecast political disruption would serve as a barrier to organizations’ and communities’ willingness to try something new.
The forecasts I’ve identified as “on-target” – usefully right in important factors – tend to be the forecasts around politics, mobile technologies, and risk. We were especially clear-eyed on the potential for “decentralized authorities” to play an outsized role in environmental (and other) debates, and on the role the “digital native” generation will play in pushing civic engagement.

Overall, the forecasts did a good job of framing the political climate for environmental debates at the end of the current decade.
On-Target

- People: Extreme longevity shifts perceptions of risk and opportunity
- People: Polarizing extremes
- Regions: Decentralized authorities compete for voice and influence
- Built Environments: Extreme urbanization
- Built Environments: Increasing vulnerability will drive climate refugees and reshape migration
- Built Environments: Digital natives define the next generation of civic engagement
- Nature: Fragmented state practices
- Markets: The intersection of economics and ecoscience creates chaos before clarity
- Markets: Eco-brands and offerings expand markets
- Markets: Smart networking enables new activism
- Energy: Energy infrastructure (in)security
- Energy: Alternative energy up, demand down
- Longevity: Although the longevity aspect is not in the forefront, the description of behavior is spot-on.
- Extremes: Accurate depiction of how political differences have manifest.
- Decentralized: “A maelstrom of voices” and misinformation – another one dead-on.
- Urbanization: Appropriate emphasis on new forms of infrastructure and communications based on mobile systems.
- Refugees: Although not explicitly named by mainstream analysts, it’s clear that climate and environment play a growing role in driving refugees and forced migration.
- Engagement: Correct to underscore the role of youth and digital media as shaping politics and civic action.
- Fragmented: Diversity and inconsistency of developing world environmental policies accurate; Bolsonaro in Brazil may be engaging soon in “greenmail.”
- Chaos: Diverse analytic perspectives on the connection between economics and ecosystems, emphasizing “field in flux.”
- Eco-brands: Very accurate, both in terms of market niches for eco/organic/low-impact goods and of backlash against elitism (e.g., “coal-rolling” vs. Priuses).
- Networking: Role of social networking as a platform for market activism, particularly around environmental issues, has definitely pushed ahead.
- (In)security: Vulnerability of grid and energy infrastructure (as well as the environmental consequences of grid and energy infrastructure) quite visible (c.f., Standing Rock protests, PG&E role in California fires).
- Alternative: Growth of solar and wind power has far exceeded the industry predictions of ten years ago.
Hit-and-Miss

The forecasts I’ve identified as “hit-and-miss” – forecasts that get some things right, but fail to identify important aspects – tend to be those describing collective actions of some sort. We did a good job of illuminating the new technologies and processes that would enable change, but proved too optimistic in our expectations that these changes would happen.

Overall, the last decade proved to be more cautious than we had anticipated. The tools were available, but the builders were hesitant.
Hit-and-Miss

- People: Sustainability defines a new citizenry
- People: Links between environment and health grow
- Regions: Geo-politics adopts eco-politics
- Regions: Think local, act global
- Regions: Higher (by)product standards
- Built Environments: Rise of the eco-driven city-states
- Built Environments: Built environments get smart
- Nature: Collaborative science and open-source environmentalism
- Business: Financial reform will tackle intangibles
- Business: A score of scorecards
- Energy: Reinsurers as regulators
- Energy: Do-it-yourself infrastructures create opportunities and gaps
- Energy: Immersive media helps reframe of energy strategies

- Citizenry: Eco-friendly, low-impact, local and organic have become much more popular, but sustainability tools and real-time monitoring of goods, services, and household flows have not emerged.
- Health: Although there’s more consciousness of environmental connections to health, there’s no specific eco-health perspective or literacy.
- Geo-politics: Environmental issues have definitely taken on a greater role in global systems, but have not become a standard part of international diplomacy.
- Local: Environmental localism has increased, but there have been no lasting attempts to integrate across ecologies, and it hasn’t taken on a clear political voice.
- (By)product: Increased detection and monitoring has definitely boosted awareness of environmental chemical and waste stream pollution. Lifecycle analysis hasn’t taken a dominant role, however, and waste consciousness hasn’t fully emerged.
- City-states: Local and regional governments have taken on a leading role in political environmentalism, often doing so to attract talent. But it’s more frequently at a regional/state level than at a city level.
- Smart: Sensors and monitoring have definitely seen greater use, but they tend to be external and dedicated rather than embedded in materials, and offer very limited sharing.
- Collaborative: Bottom-up mapping and data-sharing is happening, but few structured open-source strategies and policies have yet emerged.
- Financial: Global finance is more likely to take environmental conditions into account, but it’s by no means a dominant issue, nor has it tied into any large-scale transparency movements.
- Scorecards: Although rating systems have become more widespread and, in some cases, broadly recognized, intangibles and alternative indicators have not become part of rating systems.
- Reinsurers: Reinsurance companies continue to talk about climate and environmental issues, and to push insurance companies to act, but have not truly taken advantage of their position to drive policy and behavioral changes.
- Infrastructures: Although lightweight infrastructure has spread swiftly, the new strategies for implementation and investment have yet to take hold.
- Media: Immersive media for decision-makers and deeper understanding of impacts of energy choices have both become more prevalent, but no substantive intersection of the two realms has happened.
The forecasts I’ve identified as “off-target” – forecasts that fail to see important aspects of or roadblocks to the development of the issue – tend to be those that anticipated a greater willingness to experiment or to try new ideas than actually happened. We were particularly eager to see the deployment of new approaches to design and institutional behavior, such as those involving the commons or biomimicry.

Overall, the forecasts did not recognize that the accurately-forecast political disruption would serve as a barrier to organizations’ and communities’ willingness to try something new.
Off-Target

- People: Self-interest is aligned with collective good
- Regions: Eco-tools build on bottom–up context awareness
- Built Environments: Open-source practices help diffuse sustainable building
- Nature: Eco-markets face challenges
- Nature: Eco-management practices and regulations proliferate
- Nature: Nature becomes the guide to design
- Markets: Design-based manufacturing foments a factory revolution
- Business: Green is green, toward value-creation
- Business: Employees as a driver of corporate sustainability
- Business: Consumer collectives organize around low-impact commerce
- Business: Natural systems redesign business interactions

- Self-interest: Cooperative strategies and “new commons” remain part of consultants’ toolkits, but have not translated into institutional change.
- Eco-tools: No “green panopticon” has emerged to scrutinize products and behaviors.
- Open-source: Building and urban development practices remain fairly hide-bound, and no innovations around biomimicry, etc., have taken hold.
- Challenges: Eco-trading exchanges for carbon, water pollution and air pollution, along with conscious attempts at valuation of services, have not happened.
- Regulations: This remains more in the realm of talked-about rather than in the realm of actually-done.
- Nature: Despite the best efforts of biomimetic design proponents, biological models have not taken on a dominant role. Where used, they’re subsumed into existing conceptual structures.
- Factory: 3D printing has not yet triggered a manufacturing revolution. It remains a “just over the horizon” revolution.
- Value-creation: Although sustainability has become a corporate headline, environmental and stakeholder sustainability has not become “more sophisticated, measurable and mainstream.”
- Employees: Health care is not treated as a commons, and the US has not adopted European models of work.
- Collectives: Collective purchasing, neighborhood buyer groups, etc., have not truly taken hold outside of China.
- Redesign: Biomimicry of system design has had even less of an influence than biomimetic design, except in the narrow realm of robot coordination.
On Balance...

The forensic results of this forecast offer an illustration of a question often faced by both futurists and environmentalists: if the tools are available, will they be used? Most of the technological developments set forth in the GEMI forecast did in fact emerge, but only some of them were used as expected. There proved to be little desire, whether among individual citizens or political and economic institutions, to use new systems (technological or social) that would require a re-thinking of our behavior. The new tools that did find a foothold were largely those that gave groups and individuals a new (or louder) political voice, even if this new voice would not always be used in ways to benefit the environment.

All of this is most readily visible in the “Hit-and-Miss” category. In nearly every case, the forecast was correct in the anticipation of a tool or process development, but did not see the unwillingness of government, businesses, or the public to use these innovations to their full extent. We seem happy to see more, willing to say more, but uninterested in doing more.

Some of this might change in the decade ahead. The risks and costs of environmental and climate crises have become even more inarguable, and – generally speaking – governments, businesses, and civil society all seem to be more willing to entertain the idea of change. The 2007 GEMI forecast managed to identify some ideas and actions that would be in the mainstream by 2017, but also served as an aspirational guide for where we can go next.
THIS IS FINE.