# THE RHETROIC OF COLLABORATION: EXAMINING THE INCLUSIVE AND EXCLUSIVE RHETORIC IN THE ENVIRONMENTAL POLICIES OF JAPAN AND THE UNITED STATES

A thesis presented to the faculty of the Graduate School of Western Carolina University in partial fulfillment of the requirements for the degree of Master of Arts in English.

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# ABSTRACT

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In 2005, Tokyo was the dioxin capital of the world, a likely carcinogen and emitted byproduct of burning plastic (Braun n.p.). In an effort to reduce the city's environmental impact and community health risk, the Tokyo Metropolitan Government instituted "Tokyo's Big Change: The 10-Year Plan" in 2006 (Nagata n.p.). The 10-Year Plan and Tokyo Vision 2020, the environmental plan subsequently installed by the TMG after the 2011 tsunami and earthquake following the Fukushima disaster, are comprehensive plans that both outline eight major goals on the path to environmental sustainability, urban progress, and economic growth through ecological civility, industrial involvement, and inspired citizen participation ("Tokyo Committed"n.p.; "Creating the future" n.p.). My goal with this research is to examine the societal involvement and rhetorical framework of the 10-Year Plan and Vision 2020, and compare this to current environmental policies and practices in the United States, such as the Clean Water Act, the President's Climate Action Plan, and the Environmental Protection Agency's press release regarding greenhouse gas emissions.

The environmental, economic, and cultural implications and success of the 10-Year Plan and Vision 2020 exemplify its significance as a case study of the collaborative spirit and the progress that can be achieved on a national, and even global, level through communally and commercially inclusive communication On a larger level, my research aims to identify a collaborative model of sustainability that utilizes the economic and cultural environments present within reform rather than holding reform hostage as a declaration of authoritative power. By examining the 10-Year Plan, Vision 2020, and Japan's Fun to Share programs and comparing them with the United States' Clean Water Act and President's Climate Action Plan, I aim to uncover a path to sustainable collaboration, at both the local and national levels, that utilizes communal, industrial, and environmental support as the foundation for progress. Moreover, I hope that my research helps change the current narrative of environmental reform from the dichotomous environment against economy view perpetuated by vacillating political regimes to a symbiotic approach that emphasizes the cultural significance of rhetorically collaborative environmental and economic processes.

# INTRODUCTION

> *Under this communalist perspective, the teaching of technical or scientific writing becomes more than the inculcation of a set of skills; it becomes a kind of enculturation. We can teach technical or scientific writing, not as a set of techniques for accommodating slippery words to intractable things, but as an understanding of how to belong to a community. To write, to engage in any communication, is to participate in a community; to write well is to understand the conditions of one's own participation—the concepts, values, traditions, and style which permit identification with that community and determine the success or failure of communication.*
>
> *—Carolyn Miller, 1979*

While Miller's remarks about technical writing are nearly four decades old, they are perhaps more applicable today than when they were originally penned. With ever-growing industry, technology, and population come the consequential byproducts of progression, namely wasted resources and communication that can pose destructive environmental effects. Miller's seminal essay "A humanistic rationale for technical writing" not only laid the groundwork for technical writing as an inclusive scholastic field, but also demonstrates the significance of technical writing in communal and cultural identity. It is a tool of understanding and belonging that utilizes experienced cultural truths. As Miller notes:

> Good technical writing becomes, rather than the revelation of absolute reality, a persuasive version of experience. To continue to teach as we have, to acquiesce in passing off a version as an absolute, is coercive and tyrannical; it is to wrench an ideology from belief. Much of what we call technical writing occurs in the context of government and industry and embodies tacit commitments to bureaucratic hierarchies, corporate capitalism, and high technology. If we pretend for a minute that technical writing is objective, we have passed off a particular political ideology as privileged truth. (616)

Technical writing, then, is a medium of epistemic experience that seeks to unite the "examination and understanding of one's own activity and consciousness" with "a more fruitful appreciation and critical understanding of two central forces in our culture, science and technology themselves" (Miller 617). My work examines both the collaborative inclusion and exclusion of economic and communal entities in environmental policies, particularly focusing on rhetorical analyses of the Tokyo 10-Year Plan, Tokyo Vision 2020, Japan's Fun to Share Program, the Clean Water Act, and the President's Climate Action Plan. These policies rhetorically present both the collaborative problems and solutions of local and national level environmental reforms.

In 2005, Tokyo was the dioxin capital of the world, a likely carcinogen and emitted byproduct of burning plastic (Braun n.p.). In an effort to reduce the city's environmental impact and community health risk, the Tokyo Metropolitan Government instituted "Tokyo's Big Change: The 10-Year Plan" in 2006 (Nagata n.p.). The 10-Year Plan and Tokyo Vision 2020, the environmental plan subsequently installed by the TMG after the 2011 tsunami and earthquake following the Fukushima disaster, are comprehensive plans that both outline eight major goals on the path to environmental sustainability, urban progress, and economic growth through ecological civility, industrial involvement, and inspired citizen participation ("Tokyo Committed" n.p.; "Creating the future" n.p.). My goal with this research is to examine the societal involvement and rhetorical framework of the 10-Year Plan and Vision 2020, and compare this to current environmental policies and practices in the United States, such as the Clean Water Act, the President's Climate Action Plan, and the Environmental Protection Agency's press release regarding greenhouse gas emissions. The environmental, economic, and cultural implications and success of the 10-Year Plan and Vision 2020 exemplify its significance

as a case study of the collaborative spirit and the progress that can be achieved on a national, and even global, level through communally and commercially inclusive communication.

## Methodology

While a handful of books and papers mention the efforts of the TMG to transform Tokyo into an environmentally sustainable city, this research is limited to the environmental results; the rhetorical framework and communication of these policies has largely been ignored. My research into the collaborative aspects of the 10-Year Plan and Vision 2020 analyzes the potential application of these collaborative rhetorical frameworks to current environmental policies and practices in the United States. I believe that the 10-Year Plan and Vision 2020 show the power of collaboration between disciplines, and can serve as a model to increase social understanding and participation in environmental, economic, and cultural processes[1]. Moreover, the 10-Year Plan and Vision 2020 exemplify the symbiotic relationship between knowledge and power as described by scholar Bernadette Longo in *Spurious Coin*, which details the history of science, industry, and technical writing. As Longo's work demonstrates, properly communicated knowledge powers the economy and increases the value of that economy. Miscommunications or erroneously reported knowledge, though, degrade this economy. The same can be said in environmental reform; while collaborative reform harnesses the knowledge of industry, environmental, and communal stakeholders to create informed truths that improve societal well-being, non-collaborative reforms leverage authority for political clout, which ultimately damages the communication between environmental and industrial stakeholders at the expense of public wellbeing. Concisely, non-collaborative reforms degrade the coinage of environmental policy;

[1] Note: As this is a relatively new topic that has yet to be written about, my research utilizes some translated newspaper articles and translated information obtained from the Tokyo Metropolitan Government's website.

rather than augmenting communal and industrial education and partnership, non-collaborative reforms hinder lasting environmental progress and communal well-being by essentially minting partial truths enflamed with biases that pit environmentally-sound practices against industrial gains. These practices place governmental enforcement agencies in the precarious position of choosing between big money industries and environmental welfare.

The 10-Year Plan and Vision 2020 utilize the power of Tokyo's living assets as a cradle-to-cradle approach to urban sustainability (McDonough and Braungart 165). In this regard, the 10-Year Plan and Vision 2020 are rhetorical landmarks in policy and power; both utilize the collective life that was once killing Tokyo as a means of rebirth through the collaborative symbiosis of disciplines and authoritative influence. On a larger scale, both policies also exemplify Miller's ideal of communal belonging and Professor Tom Tyler's theory of social cooperation – which argues for public buy-in via trust and acceptance in order for governmental policies to succeed – and use this shared identity of positive change across environmental, industrial, and communal sectors to inspire further collaboration. Tyler's observation that "People will only change their behavior when they feel that there is a reasonable risk of being caught and punished for wrongdoing. . . they are evaluating whether they believe that the authorities are effectively managing the problem of crime and social order," hits on two key points necessary for both collaboration and sustainability: deterrence and trust (71). While policies must be consistently enforced to deter wrongdoers for fear of punishment, authorities must also gain the trust of the stakeholders involved. My research focuses on these two areas of environmental policy, using reforms in Japan and the United States as case studies, to highlight the overwhelming need for rhetorical collaboration in policies.

To guide my research, I will analyze these reforms using the following questions:

- What entities are included and excluded from this reform?
- What does this reform intend to accomplish and for whom?

These questions will serve as my compass of sorts in my research, as they guide my analysis of environmental reforms to its epistemic origins: who is benefiting from these reforms, and why? Though basic, these questions are the foundation of Miller's essay for inclusion, Longo's knowledge economy, and Tyler's cooperation theory. Using these works, my research analyzes the intent and feasibility of reform rather than merely measuring its reported success, which is based largely on dollar amounts, self-reported statistics, and the political agenda inherent within reforms. On a larger level, my research aims to identify a collaborative model of sustainability that utilizes the economic and cultural environments present within reform rather than holding reform hostage as a declaration of authoritative power. By examining the 10-Year Plan, Vision 2020, and Japan's Fun to Share programs and comparing them with the United States' Clean Water Act and President's Climate Action Plan, I aim to uncover a path to sustainable collaboration, at both the local and national levels, that utilizes communal, industrial, and environmental support as the foundation for progress. Moreover, I hope that my research helps change the current narrative of environmental reform from the dichotomous environment against economy view perpetuated by vacillating political regimes to a symbiotic approach that emphasizes the cultural significance of rhetorically collaborative environmental and economic processes.

# CHAPTER ONE - THE TOKYO 10-YEAR PLAN, TOKYO VISION 2020, AND JAPAN'S FUN TO SHARE PROGRAM: EXAMINING COLLABORATIVE APPROACHES TO REFORM

> *'Making sense' within a framework of contests for knowledge legitimation is not merely a 'kind of collaboration.' From a critical point of view, making sense for the victor is not making sense for the vanquished, who might ask why their knowledge must be silenced.*
>
> *—Bernadette Longo, 2000*

In *Spurious Coin*, Longo details the convoluted cultural history of technical writing, the relationship between scientific knowledge and power, and the discord between the various types of knowledge creators and technical writers, which ultimately affects the knowledge economy's value and coinage process. Longo's historical account of technical writing in the United States specifically acknowledges the collaborative gap inherent within competitive frameworks: the victor's version of knowledge is legitimized as one of the "spoils of war," while the opponent's knowledge is discarded as inherently inferior (Longo 15). This binary approach to knowledge legitimization privileges a single view regardless of the parties affected and stakeholder involvement. Instead of perpetuating this trend of conquest, Japan has used its recent environmental policies to unite disparate leaders. Rather than focusing on a singular framework from the victor's agenda, as discussed in the next chapter, Japan's reforms emphasize collaborative involvement and wellbeing by connecting environmental and industrial leaders with political and financial resources to involve and educate communities. As discussed further in this chapter, reforms such as the Tokyo 10-Year Plan, Vision 2020, and Japan's Fun to Share program prioritize collaboration to benefit communal wellbeing. Indeed, one of the tenets throughout these reforms, and in Japan's Basic Environmental Plan is participation: "to build a society where all parties, including the central and local governments, corporations, citizens, and

private organizations, participate voluntarily and actively in environmental conversation activities, cooperate, and share burden fairly" ("The Basic Environment Plan" n.p.). To build a sustainable society, we must first build a sustainable foundation for that society, including the regulations we use to serve and protect societal needs. The Tokyo 10-Year Plan, Vision 2020, and Japan's Fun to Share program embody this sustainable approach to reform and serve as case studies in my research.

## Transforming Tokyo: From a Wartime Rebuilding Environmental Disaster to a Collaborative Leader in Cultural Reform

The long history of Tokyo, Japan is an interwoven tapestry of resilient valor and humble origins. The venerated economic entity has battled the beasts of war, erased the scars of bombardment and restored a flourishing population rivaling major metropolises worldwide. The brightest achievement, though, lies not in Tokyo's venerable lineage, but in the city's rejuvenating future. The Tokyo 10-Year Plan comprises environmental responsibility with thoughtful economic and cultural inclusion, placing Tokyo at the forefront of the collaborative era. Moreover, the 10-Year Plan reinforces the meaning of Tokyo's name, "Eastern Capital," and firmly plants Tokyo's environmental reform on the forefront of collaborative progress ("History of Tokyo" n.p.). This reform carefully considers the rich history of Tokyo's environment, culture, and economics, and is a landmark in closing the collaborative gap in environmental reform.

World War II found Tokyo as a major target for air raids. The city was shelled with explosives over one hundred times while the country was enveloped by the total destruction of two mushroom shaped clouds, the world's first atomic bombs ("History of Tokyo" n.p.) Scarce vestiges of the once booming city remained, covered with ash as the city was reduced to embers.

Much of Tokyo's populace fled to the countryside to escape the death-struck city, dwarfing Tokyo's 1945 population to half of that five years earlier ("History of Tokyo" n.p.).

With Japan's surrender in August of 1945 came Allied occupation of the country, a previously alien notion in Japanese history ("History of Tokyo" n.p.; "Background" n.p.). Under Allied control, the new Constitution of Japan was created and implemented before the country regained full sovereignty in 1952 ("History of Tokyo" n.p.). The 1950s became a time of postwar rehabilitation for Tokyo as the Japanese government emphasized the development of manufacturing industries and infrastructure ("History of Tokyo" n.p.). As a result of such prioritization, Japan was able to transform subsequent devastation into the world's second-largest economy in 1966 in what is widely described as the "economic miracle" ("Japan" n.p.). The 1964 Summer Olympic Games in Tokyo broadcasted the city to a global audience, stunning international spectators with the city's amazing economic turnaround less than twenty years after the destruction wrought by World War II ("History of Tokyo" n.p.; "Japan" n.p.).

*Environment*

Today, Tokyo is a thriving, modern metropolis with an agglomerated population of nearly 38 million, including the administrative borders of the city line (Cox n.p.). The city is composed of 23 wards and houses a vital industrial economy competitive in international trade. However, the rapidity of Tokyo's major metropolitan developments has led to gross environmental abuse, traffic congestion, and deficient disaster preparations that still plague the city, as evidenced by the Fukushima nuclear disaster and subsequent tsunami in 2011 ("History of Tokyo" n.p.; Kiger n.p. ).

The Edo period of Tokyo's history reflected a conscious city design centered on the surrounding waterways, an objective Tokyoites in the TMG want to reestablish, as well as

emphasizing the city's greenery ("History of Tokyo" n.p.; "Eight" n.p.). A 2006 estimate showed about 486,000 roadside trees in Tokyo; the goal is to more than double this total, reaching one million trees within 10 years. Furthering the greenery effort is the creation of Umi-no-Mori – Sea Forest – out of 12.3 million tons of refuse from the Tokyo Bay Landfill (Nagata n.p.). The 88-hecatre forest is bare save for some previously planted trees. The goal is to plant a total of 480,000 trees to transform the onetime landfill into a forest sitting on Tokyo Bay. As Nagata notes, the massive increase in carbon dioxide-absorbing greenery will provide an environmental cushion for Tokyo, which is among the world's top $CO_2$ emitters (n.p.).

While Japan has set a national goal of decreasing greenhouse gas emissions six percent by 2012 from 1990 levels, as Edahiro notes, Tokyo's governor, Shintaro Ishihara, set a more ambitious goal for the city. Tokyo plans to cut $CO_2$ emissions by 25 percent from 2000 levels by 2020 (Edahiro n.p.). The objective of the TMG is to have the lowest environmental burden of any city in the world. To reach such steep standards, the "Fund to Promote Measures against Climate Change" was created with a budget of 50 billion yen, nearly $4.3 billion in U.S. dollars, in 2007 (Edahiro n.p.; "Eight" n.p.). Other measures include the use of energy-efficient alternatives, such as solar power, and the use of bio-diesel fuel, composed mainly of vegetable oil, which was introduced to Tokyo's metropolitan busing system ("Eight" n.p.). In 2009, nearly three years into the plan, Tokyo became the site of the greenest marathon in history. The Tokyo Marathon utilized hybrid cars and buses to escort athletes and bystanders while jackets and caps were fashioned from recycled polyester and water cups constructed from thinned lumber ("Tokyo Committed" n.p.).

To alleviate Tokyo's overwhelming daytime traffic congestion as workers flock to the city, the TMG announced plans to establish three loop roads constructed around 600 main points

of congestion. The roads will effectively link land, sea, and air transportation and distribution networks, reducing transportation costs and two to three million tons of $CO_2$ emissions per year. The three loop road design also enables more efficient transportation routes, critical to disaster preparedness ("Eight" n.p.).

*Economics*

Though the 10-Year Plan seems too idealistic and costly for implementation, the TMG has backed the plan with its pocketbook and various policies. To enable businesses to meet the newly imposed environmental demands, such as the reduced $CO_2$ emissions allowed, the TMG allotted 33.6 billion yen, $337 million U.S., for businesses in 2008. For all environmental projects in 2008, the TMG allocated nearly seven trillion yen, about $70 billion U.S. ("Japan" n.p.).

Enacting the 10-Year Plan received some opposition from the business sector as companies heard the unmistakable sound of checks being penned for environmental upgrades. JFE Steel Corporation, for example spent 362 billion yen, approximately $3.6 billion U.S., simply in energy savings related investments, and a whopping 507 billion yen, a little over $5 billion U.S., in improvements to reduce hazardous emissions of pollutants into the city's air and water supply. The steel producer was also forced to find a cleaner means to power its mill. In place of the traditional coke that is used in steel mills, plastic pellets created from recycled beverage labels and caps now power the mill, encouraging recycling practices and reducing the usage of coke, a derivative of coal ("Japan" n.p.).

Additionally, the TMG instituted an Emissions Trading System (ETS) in 2002, and revamped the ETS in 2010 as part of the 10-Year Plan. This enhanced ETS requires absolute caps on $CO_2$ emissions of the 1,400 facilities, representing 40percent of Tokyo's industrial and

commercial sector, required to participate. In this system, large-scale facilities must provide five-year reductions plans along with annual progress reports. Non-compliant corporations face fines, up to about $5,000 USD per occurrence, and the names of these facilities are published as a means of public denouncement. The ETS essentially forces corporations to adapt to the changing environmental regulations, or face fines, communal shaming, and potential extinction ("World's Carbon Markets" 2-3).

*Culture*

From the social sector, Tokyo has made the involvement of Tokyoites a key feature of its ambitious 10-Year Plan. Students from local schools took part in tree planting for Umi-no-Mori while pupils fortunate enough to have received grassed over schoolyards are in charge of the implied maintenance (Nagata n.p.). Citizens are encouraged to attend meetings detailing energy alternatives, such as the use of solar photovoltaic systems, and energy conservation methods (Edahiro n.p.).

Home to one of the world's fastest aging population, Tokyo aims to create an urban model, the first of its kind, designed around a rapidly aging society. To ensure senior Tokyoites remain a vital part of society, the TMG will promote an active lifestyle for elderly residents, particularly in the workforce with the creation of some 30,000 occupations specifically for the disabled. Additionally, the "Fund to Ensure Health and Welfare" will be established to promote prevention and treatment of Alzheimer's disease ("Eight" n.p.).

Besides integrating Tokyo's growing senior population into the city's diverse industries, "Tokyo's Big Change" also focuses on enhancing the metropolis' global appeal. An emphasis on Japanese tradition conflated with an air of modernism will act as the centrifuge for areas such as Ueno Park, which boasts the most cultural facilities in Japan. The goal is to boost tourism by

establishing Tokyo as the cultural center of Asia and utilizing a universal design bent on multicultural feasibility and the elimination of language barriers ("Eight" n.p.).

Recognizing the impossibility of such goals without the assistance of a willing populace, the 10-Year Plan sets out to create a society of motivated individuals pursuing their ambitions. The collective goal of bettering Tokyo reflects ambitions of a globally honored city while the formation of the "Continuing Education Scholarship" encourages former students to reenter school. Nonprofit organizations and volunteer opportunities will also be utilized and strongly encouraged to Tokyo's youths ("Eight" n.p.).

**Fukushima Disaster and Tokyo Vision 2020**

On March 11, 2011, a 9.0 magnitude earthquake and subsequent tsunami rocked Japan, particularly Tokyo, and caused power and cooling failures to the reactors at the Tokyo Electric Power Company's Fukushima Daiichi plant. To date, this disaster has caused an estimated 25 trillion yen, about $300 billion USD, in damages, and the total environmental impact has yet to be assessed ("Japan Earthquake" n.p.). According to a 2015 United Nations University article, more than 32 million Japanese citizens are still reeling from the effects of the Fukushima nuclear disaster, and elevated radiation levels remain a top concern nearly five years after the incident. While the Tokyo Electric Power Company (TEPCO) has estimated that the "total atmosphere release of radioactive material from the Fukushima nuclear disaster . . . to be less than 15 percent of that emitted by the Chernobyl accident," environmentalists such as Nathalie Gysi of Green Cross Switzerland, have found that "'the number of people affected by radiation in Japan has tripled compared to Chernobyl'" (Smith n.p.). In addition to the increased cancer risk this poses, Japan's waters remain a critical concern, as contaminated water continues to flow into the Pacific at an estimated rate of 0.3 terabecquerels of the radiative substance cesium-137 per month. At

the time of the disaster, an estimated "5,000 to 15,000 terabecquerels" spewed from the plant (Kiger n.p.). As a point of comparison for the magnitude of this disaster, "the atomic bomb dropped on Hiroshima released 89 terabecquerels of cesium-137 when it exploded" (Kiger n.p.). As evidenced from the Fukushima disaster and Japan's continued use of nuclear energy, Japan is far from an environmental utopia and still suffers from the same environmental concerns that plague developed nations, such as the United States. While environmental woes are an inevitable part of growth and industrialization, Japan and Tokyo are at least using their policies as a cultural framework for success and sustainability despite changes in political regimes.

While the name and governmental personnel from the 10-Year Plan have changed, Tokyo's cultural reform goals, rebranded as Tokyo Vision 2020 remain inherently the same: to cohesively integrate environmental and social initiatives with economic progress to promote the cultural brand of Tokyo as a supportive and advanced international beacon. Moreover, like the 10-Year Plan, Tokyo Vision 2020 focuses on eight strategies for reform that specifically prioritize interdependent environmental, economic, and cultural progress. This time around though, Tokyo has the 2020 Olympic Games as their center stage.

## Analysis of Goals

By targeting Tokyo's youth and elderly populations in the goals while providing increased daycare services and funding the return to school program for further career development, the TMG has effectively bookended its largest demographic: those who have children but are not yet elderly. Indeed, Figure 1 below shows that approximately 64 percent of Tokyo's population falls within the working-age category ("Population of Tokyo" n.p.).

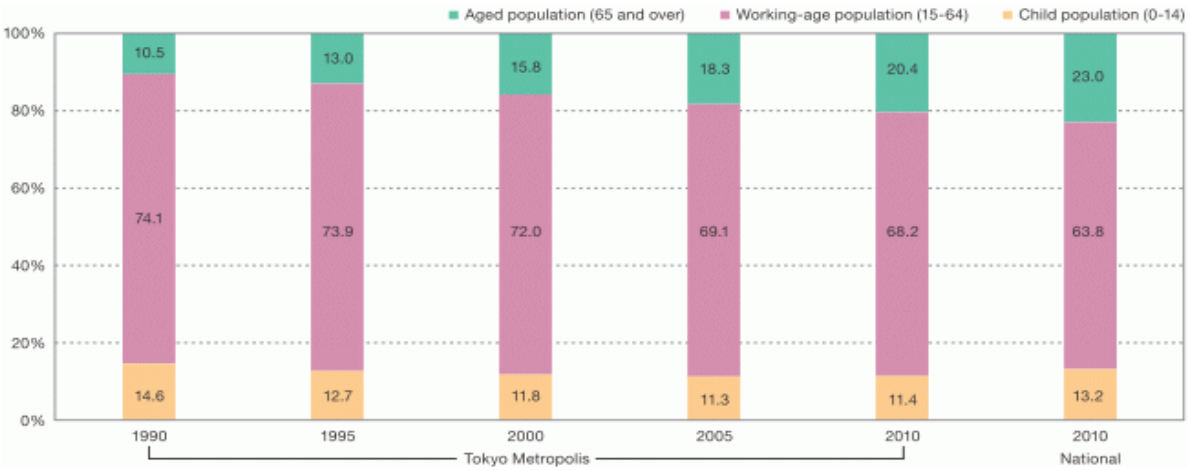


**Figure 1** - Changes in population composition by three age groups ("Population of Tokyo" n.p.)

With this data in mind, it is easy to see the angle of the TMG's goals; the onus of communal involvement in the 10-Year Plan falls on the working-age population who must keep in mind the wellbeing of their children, their parents, and themselves. Thus, by prioritizing the involvement of their largest population segment, and providing the funding for these supportive programs, the TMG effectively ensured the cultural success of its goals.

While Tokyo's environmental policies emphasize cultural participation, a look at the most recent environmental policy of the United States highlights an entirely different trend. For example, there is no mention of cultural goals, ambitions, or citizen participation in "The President's Climate Action Plan;" rather, this plan focuses on abstract environmental and industrial concepts, such as "Managing Drought," "Developing Actionable Climate Science," and "Enhancing Multilateral Engagement with Major Economies" ("President's Climate Action Plan" 2-3). Even the section entitled "Building Stronger and Safer Communities and Infrastructure" focuses only on the actions of various governmental agencies, such as the Environmental Protection Agency ("President's Climate Action Plan" 12). Whereas the Tokyo 10-Year Plan is a communally involved effort that relies on its citizens for success, the most recent environmental policy of the United States ignores its populace and instead relies on the

minority in power to create lasting change. The rhetoric used by the US places the environmental goals of its policy in a separate arena from society; while society is impacted by the enactment of this policy and its effects, "The President's Climate Action Plan" lacks the cultural progression apparent in the rhetoric of the Tokyo 10-Year Plan and Vision 2020. Indeed, as Longo notes,

> If technical communication is the mediator between technology and what we have come to term 'users,' technical communication practices work to conquer users' naïve know-how and reformulate these naïve practices into scientific discourse. In so doing, technical communication participates in a writing that conquers naïve knowledge by educating it into the technologies of scientific disciplines. Thus, technical writing participates in an economy of scientific knowledge and power within our culture. (17)

While the reported statistical success of these reforms has yet to be determined, the larger victory inherent in both the 10-Year Plan and Vision 2020 is the culture of collaboration that has been enacted through rhetorical policy. The 10-Year Plan and Vision 2020 are trademarks of Tokyo's culture rather than its fleeting political leaders; these reforms transcend the binary victor and vanquished, and the rhetoric of these reforms are the embodiment Miller's "enculturation" while exemplifying Longo's knowledge economy (Miller 617; Longo 17). Rather than pitting environmental reforms against economic initiatives that waver between political parties, Tokyo reinvented its epistemic understanding of reform and culture through rhetoric that unites public, government, and industry while advancing the knowledge economy. Technical writing, then, is a crucial part of culture and should be a unifying force of cultural progression rather than a mere piece of the binary puzzle that hinges on naïve, limiting rhetoric that has failed to incorporate communal 'users.'

**From the Communal to the National Level: Japan's Fun to Share Program**

Taking a page out of the TMG's book, Japan's Ministry of the Environment launched the "Fun to Share" climate change campaign in March of 2014. According to the Japanese Trade Union Confederation (JTUC), the Fun to Share program is the successor to The National Movement to Stop Global Warming, and

> aims to create a low carbon society by national and local governments, industrial labor and management, local society and individual Japanese working together and sharing information/technology/knowledge that will lead to the creation of stable low carbon society. The intention is to spread the movement like a chain reaction so that 'innovations in our lifestyles' can spring from Japan and move worldwide. (JTUC n.p.)

Moreover, as Eco Business reports, high school students were designated as "'communicators' to help spread the word of energy conservation" while celebrities such as Koichi Wakata, Japan's International Space Station commander gave the program his approval, stating "'I'm now 440 kilometres above the Earth at the International Space Station. The Earth floating in the darkness of space is really beautiful. But the Earth is facing a big issue of climate change. I, Koichi Wakata, astronaut of JAXA, will join in the climate change campaign, Fun to Share'" ("Japan Launches" n.p.). Not to be left out of this national initiative, organizations such as SoftBank Corporation, Hitachi Construction Machinery, AOI Pro, and the Japan Business Federation to name a few, have publicly supported the Fun to Share Program.

Like its local level predecessor, the Fun to Share Program utilizes history and culture to create a reform based solely on cooperation. Indeed, the foundation of the reform is utilizing Japan's citizens and "calls on individuals to share whatever they're doing that makes use of

everyday ingenuities or the latest technologies. In short, anything useful that is climate friendly. Seeing the changing individual lifestyles leads to saving the global environment is a realization that is already a step in the right direction" (Kawasaki n.p.). Additionally, like the 10-Year Plan, the Fun to Share program is a response to growing environmental concerns. Although Japan reached its $CO_2$ emissions goals for 2005-2009, the 2011 Fukushima nuclear power plant disaster decimated clean power generation and the goal to continue decreasing $CO_2$ emissions hit a bump. Despite this setback, though, Japan invested in LED lights to reduce power usage, and just a few years later launched the Fun to Share program.

The Fun to Share program represents Japan's continuous path to sustainable reforms. Like the 10-Year Plan and Vision 2020 within Japan's capital, the Fun to Share program similarly captures the attention of Japan's citizens by calling for active citizen participation as a primary means to its success. By prioritizing citizen participation as an integral means to achieving emissions goal, the Ministry of the Environment effectively places the Fun to Share program atop the communal priority list, which in turn makes the program a priority to business and industry leaders in Japan. Moreover, this program is designed for global impact. As Figure 2 to the right shows, even the logo for the Fun to Share program encourages participation. Environment Minister Nobuteru Ishihara has said that "The round blue shape of the logo is the Earth. The Earth is what supports our campaign. It represents our determination to consider the Earth with tremendous concern" ("Japan Launches" n.p.). With the 10-Year Plan and Fun to Share program, Japan is effectively establishing itself as a leader in sustainability by enabling its citizens and inspiring participation through collaborative reforms.


**Figure 2 –** Japan's Fun to Share logo ("Japan Launches," n.p.)

## Conclusion

My goal with this research is to demonstrate the value of the 10-Year Plan, Vision 2020, and Fun to Share program as case studies for effective communal, scholarly, and commercial collaboration to achieve goals and establish a higher quality of living. I believe that these reforms show the power of collaboration between disciplines, and can serve as models to increase social understanding and participation in environmental, economic, and cultural processes. At the beginning of my research, I established two fundamental research questions to guide my work: what entities are included and excluded from this reform, and what does this reform intend to accomplish? Admittedly, the first question is somewhat difficult for me to answer, as an outsider looking in at Tokyo's processes and policies, beyond the theoretical framework of the reforms and their ideal function. Given the approach and scope of the 10-Year Plan and Vision 2020 though, it is clear that both reforms are focused on a culturally-inclusive epistemology; rather than tackling just environmental issues, the 10-Year Plan and Vision 2020 incorporate environmental issues with economic progress and communal well-being as a city-centered approach to total reform. While the Fukushima disaster and continued use of nuclear energy highlight prominent areas of environmental concern for Japan, the theoretical framework of Japan's reforms, which my research is focused on, is quite promising as a means of collaborative and unifying technical writing, as advocated by both Miller and Longo. Moreover, Japan's Fun to Share Program is smaller in scope than the 10-Year Plan and its predecessor, Vision 2020, but shows the same fundamental emphasis on communal and industrial inclusion.

The second question, what does this reform intend to accomplish, acts as a cultural barometer of sorts in viewing the framework of each reform. In the case of Japan's reforms, the intended accomplishments are culturally-focused rather than strictly statistical. For example, the

Supportive Environment strategy of the Vision 2020 focuses on supporting "the areas of health and welfare and medical care" to "pass on a solid sense of security to following generations" ("Strategy 5" 39). Moreover, part of this strategy also aims to "strengthen the initiatives to support to the lives of residents far into the future" ("Strategy 5" 39). While this strategy contains numeric benchmarks for performance, such as increasing employment for the disabled by 40,000 new jobs by the end of fiscal year 2024, the intent of Vision 2020 is wholeheartedly cultural in its holistic and organic approaches; Vision 2020 is Tokyo's vision of their cultural, economic, and environmental future. These reforms are more than just policies to curb environmental trespasses; they are Miller's "enculturation" and Longo's currency that both aim to "see beyond our current scientific knowledge/power system" and "transform it into a system through which we can better address our complex social problems" (Miller, 617; Longo, 166). Although Japan's environmental practices are far from perfect, their reforms establish a desperately needed collaborative rapport that transcends the transient environmental and political realms, and uses technical writing as a means of inclusive cultural change.

# CHAPTER TWO - THE DIVIDED ENVIRONMENTAL PRACTICES OF THE UNITED STATES: EXAMINING THE METHODOLOGY AND ENFORCEMENT OF THE CLEAN WATER ACT, THE CLEAN AIR ACT, AND THE PRESIDENT'S CLIMATE ACTION PLAN

> *But as long as modern industry is so destructive, attempting to only make it less bad is a fatally limited goal. . . Instead of presenting an exciting and inspiring vision of change, conventional environmental approaches focus on what* not *to do. Such proscriptions can be seen as a kind of guilt management for our collective sins, a familiar placebo in Western culture.*
>
> *—William McDonough and Michael Braungart, 2002*

Until the passage of the Clean Water Act (CWA) in 1972, dumping industrial waste and raw sewage into local rivers and waterways was a common practice throughout the United States. Some waterways became so polluted, such as the Cuyahoga River in Cleveland or Lake Erie, that "'no visible life, not even low forms such as leeches and sludge worms'" were visible (Salzman n.p.). Indeed, water conditions were so horrendous that the Cuyahoga River actually caught fire on numerous occasions, and it was a fire in 1969 that caught the country's attention and demanded reform. While the published photos show the polluted river ablaze, the photos were actually from a separate fire on the river in 1952; the now infamous 1969 Cuyahoga River fire was considered quite small in comparison to other fires in the river's history, and was extinguished so quickly that no photographs were taken (Latson n.p.). Nonetheless, the image of the burning river became emblazoned in the public's mind, and that relatively small river fire has had a monumental impact on water reform. While the CWA remains one of the greatest historical environmental successes, its rhetoric, scope, and partnership are now questioned as relics of a previous era (Salzman n.p.; Deng n.p.). Indeed, while the CWA asserts the Environmental Protection Agency (EPA) as the omnipotent overseer of water quality standards, industry wastewater standards, and pollutant discharge regulations, the EPA has been an alarmingly inconsistent authority of its own regulations and enforcement standards ("History of

the CWA" n.p.). The President's Climate Action Plan (CAP) is another, albeit newer, national environmental reform that contains rhetoric that distances the public from its proposed policies despite its communal impact. Though these reforms were designed to protect public and environmental well-being, they lack consistent historical support from key stakeholders, particularly political and industrial leaders. These reforms aim to make egregious environmental trespasses "less bad" rather than addressing the root of the problem: lacking collaboration that pits environmentally sound practices that protect communal health against the prospect of economic woes due to industrial layoffs and shortsighted implementation costs, which also negatively impact communal well-being (McDonough and Braungart 9). In addition to fighting against the antiquated perception that environmental reforms have to hinder economic opportunities, the state and federal agencies tasked with enforcing these regulations are continually subjected to budget cuts and public scrutiny from lax enforcement while industry leaders tie up court cases in litigation[2] and pay lobbyists millions to advocate against stricter environmental standards. While the Clean Water Act and President's Climate Action Plan have had their respective successes when faced with industry opponents and economic naysayers, they are "fatally limited" policies that enable continued pollution by using environmental policies as a political bargaining chip rather than collaborative efforts to actually reform both environmental and economic practices (McDonough and Braungart 65). As Miller notes in "A Humanistic Rationale for Technical Writing," technical writing is not intended to be "a set of techniques for accommodating slippery words to intractable things," as is often the case in the political stratagem of policy-making (617). Rather, technical writing should be a unifying force of

[2] Such as the lawsuit that the US Department of Justice filed against American Electric Power that lasted 8 years, or the recently settled lawsuit filed by the EPA and Department of Justice against Duke Energy that took 15 years.

identification, “an understanding of how to belong to a community,” and “contribute to a more fruitful appreciation and critical understanding of two central forces in our culture, science and technology themselves” (Miller 617). Reforms should act as a rhetorical collaborative bridge between government, public, and industry rather than a binary divide between these sectors.

This chapter highlights the systemic flaws of environmental reform in the US by specifically focusing on the framework of the CWA and CAP, how polluters operate under these reforms, and how these reforms and polluters affect communal well-being and state resources. I will particularly emphasize the disparaging gap in environmental legislation regarding coal-fueled facilities and coal ash storage, borne from the misaligned framework of the CWA. Much like Tokyo’s rampant dioxin and carbon dioxide pollution that led to increased environmental awareness and collaborative reforms, it is my hope that this research into the legislative chasm that frames reforms illuminates the need for collaborative policies that bring together environmental, economic, and public interests to enhance the quality of life rather than advancing a political agenda. My emphasis on these areas in particular will expose the fundamental difference in the theoretical frameworks of the Japanese reforms explored in my first chapter, as compared to the theoretical frameworks of US reforms. It is my contention that despite the admirable intentions of the CWA and CAP, both negatively impact cultural well-being due to their reliance on partisan political support; rather than addressing cultural shortcomings in industry, environmental, and communal practices, the rhetoric of both the CWA and CAP distances the government from the public, the public from industries, and the public from responsibility and involvement in these policies that aim to protect public wellbeing.

**Lacking Enforcement: Industry Leaders Continue Polluting Practices**

Although the dangers and toxicity of coal and its byproducts have been well documented, the United States has lacked legislation regulating the use and storage of coal and wet coal ash. This is particularly concerning for the US, as an estimated 39 percent of America's energy is generated from coal, according to a 2014 study conducted by the U.S. Energy Information Administration. Moreover, the Union of Concerned Scientists notes that coal is the single largest source of air pollution in the US despite the emphasis on improving national ambient air quality standards and clean energy solutions in the Climate Action Plan ("Coal Generates" n.p.). Additionally, according to 2013 study conducted by the Political Economy Research Institute (PERI), four of the top 12 water polluters are leading power companies with active coal-powered facilities, and three of these facilities are in the top four greenhouse gas emitters ("Toxic 100 Water Polluters" n.p.). While pollution is a timeless issue of local, national, and global concern, the pattern of continued and increased pollution and environmental disasters at the hands of industry leaders is particularly alarming.

As the fifth largest energy producer, top greenhouse gas emitter, and second largest water polluter in the US, American Electric Power has been at odds with environmental reform initiatives for the better part of the last two decades (McMahon n.p.; "Toxic 100 Water Polluters" n.p.). Founded in 1906 and serving 38 states nationally, AEP has reduced its reliance on coal-fueled facilities over the past few years, but still expects to rely on its aging coal-powered plants for an estimated 51 percent of its power generation by 2020. While that figure is down from the staggering 65 percent coal power generation from 2012, it is an increase from the initial estimate of 46 percent that AEP published to conform to EPA guidelines regarding older coal facilities (Matyi n.p.). Moreover, of the 44 coal units designated as high hazard after EPA

review in 2009, 11 are owned by AEP. Similarly, AEP's industry rival Duke Energy, the nation's leading energy producer, owns 12 of the high hazard coal units examined in the EPA's 2009 review while toppling in as the 12th largest water polluter in the country ("EPA's 44 High Hazard Units" n.p.; "Toxic 100 Water Polluters" n.p.). Like AEP, Duke has also taken steps to reduce its environmental burden, such as scheduling older, hazardous plants for closing and installing sulfur dioxide scrubbers to reduce emissions, but little has been done by these polluters, or the EPA for that matter, to curb coal ash pollution and clean up the communal waters decimated by the energy industry. To put water pollution in perspective, the EPA estimates that

> 72 percent of all toxic water pollution in the country comes from coal-fired power plants, making coal the number one source of toxic water pollution in the US. What's more, four out of five coal plants in the US have no limits on the amount of toxics they are allowed to dump into our water. Coal plants across the country are disposing of toxic heavy metals like arsenic, selenium, boron, cadmium, mercury, and lead in our waterways, polluting our drinking water, fishing areas, and local rivers and streams. Research has shown that exposure to these dangerous chemicals can lead to birth defects, cancer, and even death – meaning that limiting these pollutants will not only clean up our water, but will also save lives. ("Toxic Metals" n.p.)

Despite this startling evidence of industrial negligence that has proven detrimental to public health, Bill Price with the West Virginia Sierra Club comments that "Sadly, even the EPA has acknowledged that protections are woefully out of date" ("WV Groups Secure Coal Pollution" n.p.).While the CWA has revitalized the waterways of many industrial communities, it is limited to a controversial and often questioned definition of "navigable waters" that has led to a power

struggle between political parties, industry stakeholders, and environmental agencies. The CWA itself fails to define "navigable waters," merely stating in section 101 that "it is the national goal that the discharge of pollutants into the navigable waters be eliminated by 1985" (3). Though various amendments and sections have been added to the CWA, it has yet to clearly define what qualifies as "navigable waters," and the confusion surrounding the CWA's scope has distanced both public and private sectors from supporting the policy. A February 2015 Forbes article accurately expresses the tension and divided support of the CWA and continued water pollution regulations, stating that "federal agencies want to give themselves almost boundless power over a vast amount of private property" in regards to recent attempts to redefine US waterways under the CWA (Leef n.p.). Moreover, the article later states "Congress likes to write vague laws that leave the hard part to bureaucrats who don't have to worry about being voted out of office if their rules do a lot of harm" (Leef n.p.). The comments of Price from the Sierra Club and Leef from Forbes display the discord between political and economic stakeholders affected by the CWA, as both feel misrepresented by the reform. Furthermore, these comments echo McDonough and Braungart's assessment of "fatally limited," cradle-to-grave environmental reform that focuses on "one-size-fits-all tools and systems," and "expects to use materials and chemicals and energy" as has always been used in the past (165). As explored in the next section, this archaic method of reform that ignores societal and industrial changes only hurts communal well-being rather than enhancing it.

**Examining the Cost of the Collaborative Gap: Communities in Danger**

> *The high cost of the system stems from the need to create and maintain a credible threat of punishment and, relatedly, compelling evidence of performance effectiveness. People will only change their behavior when they feel that there is a reasonable risk of being caught and punished for wrongdoing, both when they are personally considering rule-breaking and when they are evaluating whether they*

> *believe that the authorities are effectively managing the problem of crime and social order in their community.*
>
> *—Tom R. Tyler, 2011*

As Tyler notes in his 2011 work *Why People Cooperate*, there has to be a realistic, authoritative threat of punishment to curb wrongdoing and command social order in the community. Additionally, Tyler emphasizes the importance of communal support for policies, as a system without both established order and communal support is "fatally limited" in its scope and effect. Tyler states that "government depends upon the goodwill and buy-in of most of the members of the community most of the time… They need to create and implement public policies with an awareness of how the public views those policies" (140). The section below focuses on communities that have been and continue to be negatively impacted from legislative oversights and gaps within reforms such as the CWA. These communities highlight the human impact of reforms and emphasize the need for collaboration underlined in Tyler's work.

*Kingston, TN*

Despite concerns from environmental groups, including the EPA in 2006, regarding the unprecedented above-ground coal ash embankments at the Tennessee Valley Association's Kingston plant,—the largest government owned facility of its kind— the TVA declared its facility safe and continued business as usual for the coal-powered plant (Dewan, 2008). Two years after these concerns were brushed off, on December 22, 2008, the earthen retaining wall of the Kingston plant unexpectedly collapsed. The toxic contents of the 84-acre ash fill spewed into the nearby Emory River and across over 300 acres, killing hundreds of fish, uprooting trees, and decimating approximately two dozen homes, as shown in Figure 3 below (EarthJustice, 2014).

**Figure 3 –** Fifteen homes were destroyed as a result of the collapse of an earthen retaining wall at the Kingston Plant (Dewan, n.p.)

Environmentalists have estimated that over 525 million gallons of wet coal ash has polluted tributaries of the Tennessee River, which serves as the vital water supply to millions (Chattanoogan, 2008). While water samples from areas surrounding the spill have passed EPA guidelines, the possibility of detrimental health effects due to millions of gallons of toxic materials being released remains a lasting concerns. Moreover, a report released by the EPA in 2007 "found that fly ash, a byproduct of the burning of coal to produce electricity, does contain significant amounts of carcinogens and retains the heavy metal present in coal in far higher concentrations" (Dewan n.p.). The TVA, though, did not think the spill warranted public safety warnings. TVA spokesperson Gilbert Francis Jr. even said "'Most of that material is inert. It does have some heavy metals within it, but it's not toxic or anything.'" The heavy metals in coal ash that Francis refers to include "arsenic, lead and selenium," and have been known to "cause cancer and neurological problems" (Dewan n.p.) Perhaps more alarming than Francis' comment regarding the nontoxicity of heavy metals is his blatant denial of ecological harm from the spill. Indeed, despite multiple reports and television coverage "of a large fish kill downstream of the spill," Francis and the TVA maintained that no fish had perished from the spill (Dewan n.p.). Additionally, the cost of cleaning up the spill has been overwhelming, totaling over $1.2 billion and still counting eight years after the incident (Dewan n.p.; "On 5th Anniversary" n.p.). As early as 2000, the EPA considered imposing stiffer federal regulations regarding coal ash storage, but decided against

these controls when faced with aggressive opposition from industry leaders and the Clinton administration. In considering these stricter regulations, the EPA asked Edison Electric Institute to estimate the industry cost of coal ash cleanup, assuming the EPA's new regulations would redefine coal ash as a hazardous substance. Edison estimated that such a large level cleanup effort would cost the industry $5 billion (Dewan n.p.). Eight years later, a single spill costs over 20 percent of the industry's estimated cleanup total, excluding the ecological and communal damage that resulted from the spill.

*Eden, NC*

On February 2, 2014, the southeastern US faced yet another coal ash spill when the pipe beneath Duke Energy's Dan River Power Station ruptured. While this spill was significantly smaller in magnitude than the 2008 Kingston tragedy, the spill sent approximately 30,000-39,000 tons of coal ash and "24 million gallons of wastewater" surging into the Dan River, as displayed in Figure 4 to the right ("Southeast Coal Ash Waste" n.p.). More alarming for citizens and environmentalists alike have been the developments that have come to light since the spill, which ruined a deal that Duke was attempting to reach with the North Carolina Department of Environment and Natural Resources (DENR). Though Duke had been warned about the pipe that erupted multiple times, including in 1986, 1996, 2001, and 2006, they failed to replace the pipe and had been seeking a deal with the DENR "over a lawsuit brought by environmentalists charging the company with allowing its 33 coal ash ponds in the state to befoul North Carolinians' groundwater. The lawsuit settlement would've

**Figure 4-** Coal ash sludge pulled from the bottom of the Dan River following the Duke Energy spill (Catanoso, n.p.)

fined Duke $99,100, without any accompanying requirement to clean up the pollution" ("Duke Energy Fined" n.p.; Spross n.p.). As with the Kingston disaster, the Dan River spill has threatened the well-being of wildlife and humanity alike, but has also brought to light the negligence of government organizations in enforcing the CWA. The DENR failed protect North Carolinians' vital groundwater and failed to protect the interest of its citizens; rather, the DENR simply sought a fine from Duke Energy before the spill drew major media attention, and ignored the potential ramifications of repeated environmental trespasses.

*Asheville, NC*


**Figure 5** – The overwhelming amount of coal ash in the Asheville plant is rivaled only by its proximity to the river, on the left (Carolina Public Press, 2014)

In the wake of these environmental travesties, Duke Energy's Asheville plants are particularly concerning. Indeed, in the aftermath of the Kingston spill, the Asheville plant's 90 acres of wet coal ash storage, shown in Figure 5 to the left, have loomed large for environmentalists lobbying for stricter legislation. The Asheville plant is 6 acres larger than the affected ash storage area of the Kingston plant, which caused the largest coal ash spill in the nation's history and was estimated to be 30-40 times larger than the Exxon Valdez oil spill in Alaska. Moreover, the plant was examined by EPA officials in 2008 and labeled as a high hazard area, which "indicates that a dam failure is likely to cause loss of human life" (Dewan n.p.; "Southeast Coal Ash Waste" n.p.). Furthermore, while the water quality standards of nearby waterways have met all EPA guidelines

since the Kingston spill, various samples taken from by the French Broad Riverkeeper during the 2011 study conducted by Duke University have confirmed elevated toxin levels outside of the EPA's range of drinking water standards (Vengosh and Dwyer, n.p.). A spill similar to the Kingston disaster would not only devastate the delicate ecological habitat of the French Broad Watershed, it would also diminish Asheville's booming tourism, which is the city's top form of economic income and brings in approximately $783 million annually for Buncombe County ("Buncombe County Tourism" 3). Moreover, the French Broad's environmental wellbeing affects more than just Asheville and the surrounding areas. According to the United States Geological Survey, pollution from the French Broad reaches the Tennessee River sub-basins, which supply drinking water to millions ("Water Quality" n.p.). Not only does the French Broad serve 87,000 Asheville citizens, thousands of tourists, and an abundance of aquatic species, but it also affects communities and ecological habitats connected by tributaries.

In January 2013, samples taken by the French Broad Riverkeeper showed elevated levels of coal combustion waste from the nearby Duke Energy coal-fueled power plant, adjacent to the French Broad River ("Asheville Coal Waste" n.p.). Additionally, well samples of ground and drinking water near the French Broad contained elevated levels of toxic metals while samples from a stream on the power plant's land had elevated levels of arsenic ("NC Riverkeepers" n.p.). The Asheville plant, adjacent to the French Broad River, is the site of two decades old, unlined wet coal ash ponds that stretch over 90 acres. The Western North Carolina Alliance estimates that leakage from the older storage pond could be up to one million gallons per day, while a 2011 study conducted by Duke University found that "coal ash waste flowing to the French Broad River in Asheville contained arsenic levels more than four times higher than the EPA drinking water standard, and selenium levels 17 times higher than the agency's standard for aquatic life"

(Lucas-Duke n.p.). While the EPA has linked elevated levels of these contaminants to cancer, intestinal and kidney issues, liver damage, and neurological disorders, the larger threat to human and aquatic wellbeing is the potential collapse of the two decades old dams that are currently holding over 2.25 million tons of toxic wet coal ash ("Arsenic Compounds" n.p.). Furthermore, the older of the two dams, built in 1964, was the only coal ash impoundment in the nation that received a poor-below standards rating from the EPA in 2009 (Igleman n.p.). As Figure 6 below shows, toxicity levels in the French Broad River have been escalating since the coal-fired Asheville plant added scrubbers, which were designed to reduce emissions, according to Duke Energy ("Coal Plant Scrubbers" n.p.; "Duke Energy Actions" n.p.). If left unmonitored, the aging dams and increasing water toxicity levels pose significant threats to the surrounding populace and ecological habitats, and could result in death, destruction, and millions of dollars in cleanup efforts.

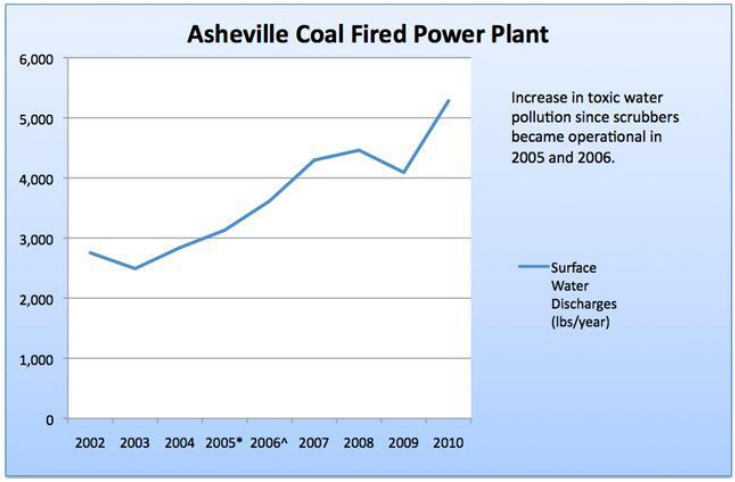


**Figure 6 –** Toxic water pollution has increased since the installation of scrubbers to the Asheville plant ("Coal Plant Scrubbers" n.p.)

Continued point source pollution from industry and lax enforcement of the Clean Water Act threatens not only the ecology of the French Broad but also the health of the surrounding area. Hartwell Carson, the French Broad Riverkeeper, estimates that there are 137 permits to discharge wastewater into the French Broad. Of these permits, Kelly Martin with the Sierra Club says that Duke Energy "doesn't have a license to discharge polluted wastewater from its leaking coal ash ponds along the French Broad River" ("Asheville Coal Waste" n.p.). Moreover, Carson

is highly critical of the earthen dams that hold back millions of tons of toxic wet coal ash, stating "Earthen dams leak and this outdated and irresponsible disposal system is allowing pollutants to seep into the French Broad River" ("Asheville Coal Waste" n.p.). Amelia Burnette of the Southern Environmental Law Center and Donna Lisenby of the Waterkeeper Alliance have similarly criticized the lack of regulations governing coal ash storage. The Asheville coal ash storage ponds both lack protective liners and leachate collection systems, meaning that decades of coal ash collection has been steadily leaking into the surrounding French Broad and groundwater basin, and the ash coal storage ponds are situated directly on top of buried streams that feed into the French Broad River ("Southeast Coal Ash Wate" n.p.).

**Examining the Legislative Paths**

While the Clean Water Act marked a victory for environmentalists nationwide when it was first introduced, gaps in enforcement and strained agency resources have led to plateaued environmental gains. As environmentalist Clifford Rechtschaffen notes from his 2004 study, "In the absence of enforcement, laws alone pack little punch. In the case of the Clean Water Act, the federal government relies on state agencies to enforce many of the key provisions of the law" (1). Rechstschaffen later goes on to say that such reliance on understaffed and underfunded state agencies to enforce the Clean Water Act has proven "woefully inadequate" (1). Moreover, an article by The New York Times found that while more than a half million water pollution violations have occurred since 2004, "the vast majority of those polluters have escaped punishment" (Duhigg n.p.). Additionally, the article notes that "state officials have repeatedly ignored obvious illegal dumping, and the Environmental Protection Agency, which can prosecute polluters when states fail to act, has often declined to intervene" (Duhigg n.p.). Although the concerns raised by Rechtschaffen's study and Duhigg's article are not confined to

the US,—indeed, the Fukushima disaster and subsequent concerns over water safety have raised similar risks throughout Japan—the continued pressure on state and federal agencies to regulate and enforce environmental policies with limited resources is overwhelming. Moreover, this continued pressure has resulted in lax enforcement of industrial pollution trespasses, and has shown to be more than these regulatory agencies can handle.

In December 2014, the EPA announced that it had finalized national regulations in the Disposal of Coal Combustion Residuals from Electric Utilities, the first federal regulations ever to be instituted on coal ash. These regulations seek to limit the risks of "coal ash disposal . . . the rule sets out recordkeeping and reporting requirements as well as the requirement for each facility to establish and post specific information to a publicly-accessible website" ("Final Rule" n.p.). By forcing companies to report findings on a publicly-accessible website, these groundbreaking regulations place information at the fingertips of the public, although the corporate-reported information itself is questionable. In response to these regulations, Sierra Club director Mary Anne Hitt commented that "While EPA and the Obama administration have taken a modest first step by introducing some protections on the disposal of coal ash, they do not go far enough to protect families from this toxic pollution" (Cama n.p.). Like its Clean Water Act predecessor, these regulations are to be enforced at the state level, though handed down to state agencies by the EPA. Furthermore, "The EPA also decided not to go as far as classifying coal ash as hazardous, saving utilities billions of dollars in commonplace costs and disappointing environmentalists," and instead "coal ash will be subject to disposal rules similar to trash" (Cama n.p.). Moreover, in examining the CWA itself, Emergency Powers Section 504(a) states that

> Notwithstanding any other provision of this Act, the Administrator upon receipt of evidence that a pollution source or combination of sources is presenting an

> imminent and substantial endangerment to the health of persons or to the welfare of persons where such endangerment is to the livelihood of such persons, such as inability to market shellfish, may bring suit on behalf of the United States in the appropriate district court to immediately restrain any person causing or contributing to the alleged pollution to stop the discharge or pollutants causing or contributing to such pollution or take such other action as may be necessary. (216)

Although Section 504 advocates against pollution sources that endanger public health or livelihood, it places accountability on the legal system to take action, and this displacement of accountability has resulted in lengthy and expensive court battles that strain the limited financial resources of environmental agencies who are opposing profitable industries. Though the courts are the correct channel for due process for both civil and criminal suits, the Emergency Powers section of the CWA fails to mention any amendment efforts to curb further pollution sources that may result in similar cases. Essentially, the rhetoric of the Emergency Powers section distances federal responsibility from amending the CWA to further protect public wellbeing while enabling further pollution; enacting these 'Emergency Powers' then is to engage in potentially years' worth of court cases and legal fees in the hopes of changing the rhetoric of CWA to recognize emergent situations and protect against future harm, but with no guarantee of change. To echo Hitt's comments, these regulations are insufficient to protect public and ecological health from continuing harm. Rather, they distance regulatory and industry leaders from accountability and enable continued pollution. For example, while Duke Energy has faced its share of lawsuits and was recently fined $102 million and "pleaded guilty . . . to nine criminal violations of the Clean Water Act for polluting four major rivers for several years with toxic coal ash from five power plants in North Carolina," Duke still has open power plants that are actively

polluting waterways, and the CWA still lacks legislation regarding coal ash (Zucchino, n.p.). Though the CWA has enabled the prosecution of corporations such as Duke Energy and has been a rhetorical landmark to show that "'big corporations are not above the law, and polluters who harm our environment will be held accountable,'" its rhetorical effectiveness has been reduced to hindsight (Zucchino n.p.).

Despite these noticeable gaps in these new regulations, the EPA's decision to at least place regulations on coal ash storage and disposal reflects the growing public concern over coal ash and its hazards, and mirrors the public concern that led to the CWA. Indeed, much like the burning Cuyahoga River in Cleveland, which brought national attention to lacking water safety standards and gave rise to the CWA, the coal ash pollution problem in the US highlights the lacking legislation regarding coal ash storage and subsequent leachate water contamination that risks public and ecological health. Moreover, the recent coal ash spills and concerns demonstrate the overwhelming need for collaborative technical writing in reforms. As Longo notes, "When scientific workers can be shaped by the social power of technical writing, they become like the writing itself, instruments of knowledge production and appraisal in a stabilized economic system" (3). The greatest power of these reforms is their ability to unify communities and disciplines through writing, and knowledge production is a critical product of this unification. Without this holistic unification, reforms are simply one-dimensional versions of partisan technical writing that Longo characterizes as "the spoils of war" and Miller calls "intellectual coercion;" they ignore the humanistic aspect of technical writing, the wide-reaching communal effects of reforms, and the subjectivity inherent within writing (Longo 15; Miller 613). Rather than unifying scientific and humanistic disciplines, these reforms privilege a singular view and politicize these views as competing parts of a divided knowledge economy. For example, while

the CWA has been an environmentally successful reform in terms of reducing pollution, its scope is limited to a loose and often debated definition of "navigable waters" that tends to be redefined with each swing in political power (Neuhauser n.p.). Longo later explains that the cultural role of technical writing as a stabilizing implement in the scientific knowledge economy has been inadequately researched. She states that

> After years of research, technical writing professionals cannot fully answer questions about how technical discourse participates in culturally grounded contests for knowledge and power. We cannot explain why ideas and practices that were legitimate less than 100 years ago are no longer legitimate. We do not understand how technical writing provides a currency for scientific knowledge. How can communication researchers uncover institutional systems of discourse formation that will help us address these uncovered issues? We can begin by examining how a research model based on critical theory provides a vocabulary and framework for researchers to discuss issues of knowledge and power. (4)

Indeed, this is the very issue that plagues reforms like the CWA; while politically present in environmental discourse, the CWA has a diminishing cultural role with scant knowledge production and increasing political discord. For instance, Section 102 (e) of the CWA's Research and Related Programs Declaration of Goals and Policy states that "Public participation in the development, revision, and enforcement of any regulation, standard, effluent limitation, plan, or program established by the Administrator or any State under this Act shall be provided for, encouraged, and assisted by the Administrator and the States" (4). Despite this declaration for public participation, the rhetoric of the CWA does little to actually encourage public participation, although this participation is a stated goal of the Act. As Longo notes, we do not

understand how to utilize technical writing as a form of currency in the knowledge economy, nor do we understand the cultural value of this communication (4). Instead of valuing this communication as a form of currency, the rhetoric of the CWA distances the public from participation in this knowledge economy by leaving the extent and role of the public undefined. The significance and goals of public participation in the CWA is not outlined in a separate program or distinct role, but merely "shall be provided for, encouraged, and" have "minimum guidelines" (4). Ultimately, this fading epistemic recognition is rooted in environmental reform history rather than cultural currency; it is a rhetorical relic of the way things *were* done rather than a beacon of how things *can be* done.

**The Climate Action Plan**

On a national level, the President's Climate Action Plan (CAP) is highly ambitious and aims to bridge the collaborative gap between policy, business, and environment. In short, it is a national bundle of progressive plans, such as the Clean Power Plan, that champions clean, renewable energy as a means to improve national health and industry by creating a clean energy infrastructure for generations to build upon ("Climate Action Plan 2nd Anniversary" 17). While the collaborative sentiment is appealing, the scope of this project lacks the necessary collective backing to achieve its goals. For example, the CAP sets out to "reduce US GHG emissions [greenhouse gases] by 17% below 2005 levels by 2020 if all other major economies agreed to limit their emission as well " (Leggett n.p.). Indeed, the caveat at the end of this CAP initiative emphasizes the collaborative uncertainty within this reform. Additionally, these goals are designed to support the American family and aim to "protect the health of American families," boost the economy, and decrease the financial burden of the average American family ("Clean Power Plan" n.p.). Despite these goals, the EPA's budget was cut by $718 million, roughly 9

percent, in 2015, and the EPA is currently operating with about $1.2 billion less than President Obama had originally requested in his budget projections. This means that for yet another year, the EPA is being asked to do more with fewer resources, and, as the CAP outlines, national health and sustainable economic infrastructure are relying on every penny (Henry n.p.). Budget cuts have been a common theme in environmental reforms despite growing concerns over climate change and increased health hazards. Indeed, according to journalist Charles Clark of the Government Executive, the EPA's budget has been slashed for the fifth year in a row. Consequently, the EPA's staff has been reduced to its lowest total since 1989 (Clark n.p.). Local agencies are feeling the pinch too, despite growing expectations of stricter environmental regulation enforcement. Take the North Carolina Department of Environmental Resources (NCDENR) for example. As Graham Kates, Deputy Managing Editor of The Crime Report, notes, "Between 2009 and 2014, the NCDENR's regulatory staff was slashed more than 37 percent, from 4,691 employees statewide to 2,936" (n.p.). Additionally, Kates found that corporate trespasses on environmental regulations rarely result in investigation or punishment (n.p.). As of 2014, "More than 64,000 facilities are currently listed in agency databases as being in violation of federal environmental laws, but in most years, fewer than one-half of one percent of violations trigger criminal investigations, according to EPA records" (Kates n.p.). Although the CAP is step towards collaborative reforms, it lacks the necessary financial backing to build a sustainable environmental reform foundation. Without the necessary resources for agencies such as the EPA and NCDENR to help the American family, as stated as part of its goals, the CAP is essentially political fodder. As Tyler points out,

> The high cost of the system stems from the need to create and maintain a credible threat of punishment and, relatedly, compelling evidence of performance

> effectiveness. People will only change their behavior when they feel that there is reasonable risk of being caught and punished for wrongdoing, both when they are personally considering rule-breaking and when they are evaluating whether they believe that the authorities are effectively managing the problem of crime and social order in their community. (71)

While the President's Climate Action Plan has honorable intentions, it lacks the foundational financial resources and industrial cooperation to enforce regulations and foster progress. Without this buy-in, reforms such as the CAP are epistemologically limited in their ability to provide "a currency for scientific knowledge," as Longo notes (4).

## Conclusion

The largest barrier to success with the Clean Water Act and the President's Climate Action Plan has been incorporating stakeholders and key political figures to agree upon and disseminate resources for implementation and sustainable support. Both reforms rely on federal and local agencies, such as the EPA and NCDENR, for enforcement despite the annual budget cuts faced by many environmental agencies. Moreover, the public has been widely excluded from these reforms that directly impact public and ecological health, economic trends, and tax dollar allocation. Although the Japanese environmental reforms discussed in chapter one are hardly flawless, they do establish a collaborative pipeline of support clearly lacking in the frameworks for the CWA and CAP.

# CHAPTER THREE - COHESION, ACCOUNTABILITY, AND SUSTAINABILITY: WHAT HAVE WE LEARNED AND WHERE CAN THIS TAKE US?

> *Underlying our policy analysis is the view that government depends upon the goodwill and buy-in of most of the members of the community most of the time. This means that government authorities must be sensitive to the appearance of fairness, as well as to its reality. They need to create and implement public policies with an awareness of how the public views those policies. . . when it makes policies, the government needs to be cognizant of more than just the objective quality of those policies; it also needs to be aware of how their creation and implementation is viewed by the public at large.*
>
> *—Tom Tyler, 2011*

As noted in Tyler's cooperation theory, governmental policies need public buy-in to succeed, and gaining public buy-in means gaining public trust and acceptance (140). While the Clean Water Act and President's Climate Action Plan incorporate various levels of industrial and political input, they lack the communal aspect addressed in Tokyo's 10-Year Plan and Japan's Fun to Share program. This chapter focuses on the policy models analyzed thus far and how they compare to the theoretical approaches of Tyler, Longo, and Miller. Additionally, this chapter examines the long-term sustainability of the current US model of environmental policy and posits a new collaborative model based on the theories of Tyler, Longo, and Miller.

## Environmental Policies in Japan and the US: What's Working and What Needs Work

When the TMG first introduced the 10-Year Plan in 2006, it was presented to Tokyoites as a full-scale change from the lifestyle they had grown accustomed to. The crowded highways and transportation systems, dioxin-fueled smog clouds, and scarce greenery that had come to define Tokyo gave way to a more communally-focused design that emphasized expanding the city's greenery, alleviating traffic congestion, and reducing $CO_2$ emissions ("History of Tokyo" n.p.; "Eight" n.p.). While these items seem standard for environmental policy, the TMG took the 10-Year Plan a gigantic step farther; they included public wellness

programs such as “The Fund to Ensure Health and Welfare, “The Continuing Education Scholarship,” and “The Fund to Promote Sports and Cultural Exchanges” in the 10-Year Plan’s budget. By prioritizing communal wellbeing, the TMG integrated environmental health with communal health. Moreover, industry is central to the 10-Year Plan, and the TMG allotted 33.6 billion yen, $337 million U.S., to help businesses achieve the new environmental standards (“Japan” n.p.). The TMG has employed a multipronged environmental policy that also addresses communal and industrial involvement to establish trust and cooperation, the building blocks of successful collaboration. As Tyler notes,

> it is the procedural justice of government actions/trustworthiness of government authorities that generalizes to shape views about law and government (Tyler, Casper, and Fisher 1989). Hence, when it makes policies, the government needs to not only be sensitive to the objective quality of those policies but to how their creation and implementation is viewed by the public. (82)

It is not only the outcomes achieved and dollars spent that matter in policy, but also, and more significantly, the thoughtful design and execution of these policies that influence public opinion, trust, and cooperation. Specifically with the 10-Year Plan and Vision 2020, the TMG used its citizens as an impetus for creation and implementation; the TMG launched the 10-Year Plan as “Tokyo’s Big Change” followed by Tokyo Vision 2020, and used the rhetoric of both reforms to involve Tokyoites, both in activities such as tree plantings and athletic events, and in the policies themselves, such job creation initiatives, educational and childcare support, and health and wellness programs. In short, the 10-Year Plan and Vision 2020 utilize rhetoric to gain communal cooperation and support as a means of leading healthy, positive change.

Conversely, the CAP is a heaping amalgamation of policies and programs that talk about communal change without incorporating the actual community. For example, although one of the initiatives in the CAP is to build "stronger and safer communities" as a means of "preparing the United States for the impacts of climate change," this section of the CAP only acknowledges elected officials as members of the "state, local, and tribal leaders task force on Climate Preparedness and Resilience" ("Climate Action Plan" 2). Moreover, this section fails to address specific methods of policy implementation. Although the CAP Progress Report mentions that "up to $600,000 in training and technical assistance" will be allocated "to help drinking water, wastewater, and storm water utilities in more than 20 communities bolster their climate change resilience and readiness," there is no further mention of specific implementation plans ("Progress Report" 6). Additionally, the communities deemed deserving of these funds and the elected officials of the Climate Preparedness task force are operating within an extremely limited collaborative scope. For example, while the Fun to Share program is fundamentally rooted in the idea of interconnected networks of experience and sharing,—a rather broad collaborative scope that utilizes community members, students, and industries across the country to further the program—the Climate Preparedness task force of the CAP is limited to the preferences of its task force, comprised of elected officials that are already involved in government rather than community members, who are left to observe and make judgements about the process and outcomes from which they were excluded. While this is one section of the CAP, other sections do little to encourage participation, and even its full name, the President's Climate Action Plan, is limiting compared to the unifying cultural sentiments of the Tokyo 10-Year Plan and Tokyo Vision 2020.

The CWA is in a similar situation when it comes to inspiring collaboration. Indeed, with all of the budget cuts to state and federal agencies tasked with enforcing the CWA despite dwindling resources that enable lax enforcement, the CWA has become virtually a pointless policy. In discussing cooperation with authorities, Tyler comments that:

> The high cost of the system stems from the need to create and maintain a credible threat of punishment and, relatedly, compelling evidence of performance effectiveness. People will only change their behavior when they feel that there is a reasonable risk of being caught and punished for wrongdoing, both when they are personally considering rule-breaking and when they are evaluating whether they believe that they authorities are effectively managing the problem of crime and social order in their community. (71)

According to Tyler's theory, then, the CWA is essentially perpetuating systemic failure and environmental attacks. Though companies such as Duke Energy and American Electric Power, for example, have had to shell out millions as a result of their spills and noncompliance, their fines pale in comparison to their profits. These companies will continue polluting and endangering communities because the "reasonable risk of being caught and punished for wrongdoing" is negligible (Tyler 71). Moreover, returning to Tyler's comments regarding policy creation and implementation, the CWA again fails "to not only be sensitive to the objective quality of those policies but to how their creation and implementation is viewed by the public" (82). Whereas policies such as the 10-Year Plan and Fun to Share prioritize public involvement and approval in policy "creation and implementation" as a means of gaining public buy-in and collaborative support, the CWA and CAP isolate communal wellbeing and involvement as an unnecessary burden in authoritatively controlled systemic policies.

Although Japan's environmental policies are far from perfect, they at least acknowledge and prioritize communal involvement and wellbeing. Like Tyler, Longo's work recognizes the need for collaboration within our epistemological framework:

> Discourse becomes a struggle mediated by culture. Technical writing participates in that struggle by working to assign value to scientific knowledge, thereby minting the currency for its economy. Devalued knowledge, like a counterfeit coin, will not circulate widely in this economy; highly valued knowledge will circulate widely as the genuine coin. (15-16)

Without these collaborative efforts, the rhetorical and cultural value of policies such as the CWA and CAP are akin to counterfeit coinage; they merely damage the knowledge economy rather than aiding in its growth through valued and circulated knowledge.

**Creating a Sustainable Plan**

While the realm of policy creation and implementation is infiltrated with and essentially run by expertly-examined and verified statistics that are then used to justify goals and determine success, these measures simply fail to encompass and support the full effects of enacted policies. Statistics are an ill-fitted and ill-advised replacement for communal involvement, and are often used to legitimize the political victor's version of knowledge, in an outdated "spoils of war" ritual, while the "opponent," typically stakeholders who have been completely excluded from the creation and implementation process despite the far-reaching effects of policy enactment, is kicked to the side as inferior (Longo 15). This antiquated form of policy design establishes a clear hierarchy of prioritization and essentially characterizes policy enactment as a competition rather than enculturation. As Miller elaborates, technical writing is form of communal belonging:

> To write, to engage in any communication, is to participate in a community; to write well is to understand the conditions of one's own participation—the concepts, values, traditions, and style which permit identification with that community and determine the success or failure of communication. (617)

Rather than using policies as an extension of overt, unquestioned authority with a constant struggle for supremacy, Miller's ideals advocate for a shared epistemology rooted in collaborative communication. In this format, success is defined not by arbitrary numbers, but by participation and social buy-in.

Additionally, Miller states:

> Science understood as apodictic demonstration demands acknowledgement, an act of submission by the audience. Science understood as argument asks for assent, for an act of will on the part of the audience. Good technical writing becomes, rather than the revelation of absolute reality, a persuasive version of experience. To continue to teach as we have, to acquiesce in passing off a version as an absolute, is coercive and tyrannical; it is to wrench ideology from belief. Much of what we call technical writing occurs in the context of government and industry and embodies tacit commitments to bureaucratic hierarchies, corporate capitalism, and high technology. If we pretend for a minute that technical writing is objective, we have passed off a particular political ideology as privileged truth. (616)

Since the birth of environmental policy, the US has blindly accepted scientific findings as irrefutable, absolute, unbiased truths and has used these findings to create, implement, justify, and evaluate policies. These policies force dichotomous submission or opposition, foster discord, and polarize stakeholders. In this environment, policies are merely an extension of tyranny,

forcing a singular truth in the name of unquestionable science and bureaucratic power. This format of policy-making is degenerative rather than sustainable.

To create a sustainable system of policy creation and implementation, we must acknowledge the subjectivity of science and technical writing, and use this subjectivity to our advantage. Rather than designing policies to appease the "tacit commitments to bureaucratic hierarchies, corporate capitalism, and high technology," we can use polices as a form of "identity" and "enculturation" (Miller 616, 617). Subjectivity, then, becomes a uniting force for change. For example, when designing the 10-Year Plan and subsequent Vision 2020, the TMG involved, schools, businesses, the working class, the elderly, and leading researchers to create a plan that involved all aspects of society. Moreover, by involving these parties, the TMG prioritized collaborative buy-in and ensured future progress through this engaged buy-in. As Longo notes, in our knowledge-powered economy, "technical writing mints the coin of the realm. . . Power and knowledge systems work to bring order to knowledge" (76). If we examine the theories of Tyler, Miller, and Longo, the way forward in governmental policies is clear: knowledge and cooperation require communal buy-in, which in turns requires trust in governmental authorities and motives. The community must be involved in policy creation and implementation that directly affects their livelihood and wellbeing. As the 10-Year Plan, Vision 2020, and Fun to Share Program demonstrate, environmental policies extend beyond the realm of politics and industry; they are rhetorical reforms that influence all aspect of communal wellbeing, and were designed to support and progress this wellbeing. Only when we address the far-reaching rhetorical effects of reforms and include communal, economic, scholastic, and governmental stakeholders can we create reforms that are truly regenerative and sustainable.

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