

The Family Circuit

A New Narrative of American Domesticity




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0. Abstract

As the world endures and approaches a string of energy crises, both financially and environmentally, this project aims to critique and challenge society's relationship with energy by provoking individuals to examine their current habits of energy consumption, consider the future implications of these actions, and question their willingness to make sacrifices for a cleaner environment. This is accomplished through the development of a fictional society in the near future in which individuals are required to produce all the electrical energy that they need or desire to consume. Within the daily narrative of a fictional family of five, the details and events of their everyday lives have been extrapolated to create a liminal world where mundane, yet peculiar diegetic prototypes create tense situations, uncomfortable behaviors, and unforeseen consequences. Plot devices manifested include distributed government information in the form of an energy harvesting catalog, product infomercial, energy bill, and a home monitoring brochure. The narrative emphasis and human driven context aspires to foster a new lens of speculation, imagination, and discovery regarding the production and consumption of energy.

What if you were required to produce all the energy you desire to consume?

[illegible]A white silhouette of a person's head and shoulders is centered in the lower half of the page. Above the head, three white circles of varying sizes are arranged in a vertical line, resembling thought bubbles. The background is a dark, textured grey.

Scientists in the Environmental Protection Agency's 2013 annual report on U.S. greenhouse gas emissions attribute the changing composition of the earth's climate to human activities. The burning of fossil fuels, deforestation, and other sources are high contributors to these concentrations of greenhouse gases in our atmosphere (EPA, 2013). Research on American public attitudes and opinions towards climate change show the majority views climate change as real, human action as the problem, and personal energy conservation as part of the solution (Gardner & Stern, 2008). Yet a 2010 study indicates that people have relatively little knowledge and understanding regarding energy consumption and the comparative use of energy in familiar activities (Attari, Dekay, Davidson, & Bruine, 2010). Many predict our current rate of global consumption will lead to the exhaustion of fossil fuels by the end of the 21st century. Therefore, who will and how, contribute to a reduction of fossil fuel use and participate in sustainable future energy solutions?

2. Background



2.1 Foundational Research

“Energy conservation means being too hot in the summer and too cold in the winter!”

Ronald Reagan

A Brief History

2.1.1

The United States consumes approximately 19% of the world's energy as an industrialized society, and can be broken down by use into four major sectors of the economy: industrial (32%), transportation (28%), residential (21%), and commercial (18%) (EIA, 2013). While all four sectors consume energy at the point of end use produced by the electric power sector, the residential sector, defined as homes and apartments contains the greatest potential for individual direct control over personal energy consumption. Both natural gas and electricity are the most consumed energy sources in the domestic context, the former being primarily used for space heating, while electricity, which is also used for heating and cooling, lights our homes and runs almost all of our appliances.

A widely used form of energy, electricity is an actually secondary source of energy derived from the conversion of primary energy sources such as solar, nuclear, and coal. Though the electrical phenomena had been studied since antiquity, it wasn't until 1879 that electricity was first sold in the United States (EIA, 2013). Beginning with the introduction of light bulbs into homes, electricity's integration into domestic life was not without challenges for the industry. Technical obstacles such as uneven load distribution due to lighting only being used at night, was a key problem encountered as inconsistent temporal distribution throughout the day was inefficient and thus financially impractical (Nye, 1990). As an initial counter solution, the industry began a push for the development of electrical appliances that could replace existing gas alternatives, such as the electrical stove which was one of the first to be embraced within the domestic sector. Though beginning to fill daily usage gaps, the stove for example was only used to cook lunch

or dinner, leaving an electrical gap at breakfast. As a result, the industry began a push for not just developing new electrical appliances, but also creating a need for them through ardent marketing campaigns - for example, the electrical toaster to fill the morning gap (Forty, 1992).

As manufacturing and industry encouragement of electrical devices increased, marketing campaigns reflected society's electricity preconceptions and shifting domestic context. Electricity was initially regarded by many with superstition and fear, thus, marketing emphasized positive health benefits of electricity (Forty, 1992). Perhaps the most interesting and influential campaigns concerned the myth of the mechanical servant, which ultimately redefined the role of the housewife and even the architectural layout of the home (Forty, 1992). Electrical appliances were advocated as time savers, so that the housewife no longer had to spend time on laundry, and instead (ironically) had time for other domestic responsibilities.





Consumption Patterns

Yet even with the gradual embrace of electrical appliances following the turn of the century, they were still very expensive, resulting in their ownership being more about owning than using (Nye, 1990). This is commonly known as conspicuous consumption, or the spending of money on and the acquiring of luxury goods and services to publicly display economic power. Though a century ago, similar external pressures are still faced by domestic consumers, placed upon by society and industry marking that have a large impact on not only our energy consumption, but also our energy conservation. A notable shift between then and now is a move from conspicuous consumption to conspicuous conservation, an economic term coined by siblings Alison and Steve Sexton describing the recent phenomenon of people engaging in activities that are environmentally friendly in order to obtain or signal high social status (Lechtenberg, 2011). An example is politicians who place small windmills on the roofs of their homes, yet because the wind is not always blowing, it is common for these windmills to require more energy to power them in order to maintain appearances than the actually energy they generate. My favorite example is seen in South Park's Smug Alert, a parody of West Coast American conservation efforts, including a the strong reference to Toyota's Prius, famous for its atypical and thus recognizable design. Sexton and Sexton point out that the strong visual distinctiveness of the Prius places a considerably higher value on owning the car as you earn a green conservation halo with the purchase (Lechtenberg, 2011). Though, as some might rebuke conservation efforts rooted in self-interest, I wonder if the productive results of the 'Keeping up with the Joneses' mentality ingrained in conspicuous conservation, is better than no conservation at all with the effects of climate change tangible evident.

2.1.2

Environmental Conditions

The environmental impacts of global warming can be seen all over the globe through unequivocal patterns such as warmer temperature trends, rising sea levels, increase of extreme weather, and a climb in greenhouse gases (Blunden & Arndt, 2013). As defined by Burn: An Energy Journal, global warming refers to the increasing temperature of the surface of the Earth, a specific form of climate change caused by human action ("The Connection Between", 2012). The rising temperature is thought to be largely due to the releasing of man-made greenhouse gases, such as carbon dioxide, into the Earth's atmosphere. This in turn intensifies the atmosphere's trapping of, instead of reflecting, electromagnetic radiation from the sun. While the atmosphere naturally traps gases to keep the Earth warm enough to be habitable - without this organic process the surface temperature of the Earth would be around 60°F colder - scientists refer to the alarming climate changes over past century as an "enhanced greenhouse effect" (EPA, 2013). Furthermore, even if CO2 emissions were to cease immediately, the amount of carbon dioxide in the atmosphere generated by humans since major industrialization will already affect the Earth's climate for future centuries (Schiermeier, 2012).

Conditions in the Arctic are one example of the disturbing effect of climate change and need for global action. Since the 1970s, the minimum extent of Arctic sea ice has decreased by more than 40%, with 2012 breaking the previous record set in 2007 by more than 200,000 square miles or 517,998 square kilometers (NCADAC, 2013). Since ice is a natural reflector of sunlight, the less area covered by ice serves to expedite further melting of the warming Arctic waters (Kerr, 2012). Some projections estimate that the Arctic Ocean will be 'ice-free' by 2016, meaning less than 1 million square kilometers

of ice cover (Kerr, 2012). Furthermore, as glaciers in Greenland and Antarctica continue to melt, sea levels are estimated to rise between 26 and 82 centimeters by 2100, increasing the risk of flooding along many coastlines (Schiermeier, 2012). Climate changes such as these in the Arctic have not gone unnoticed, prompting public pleas for immediate action.

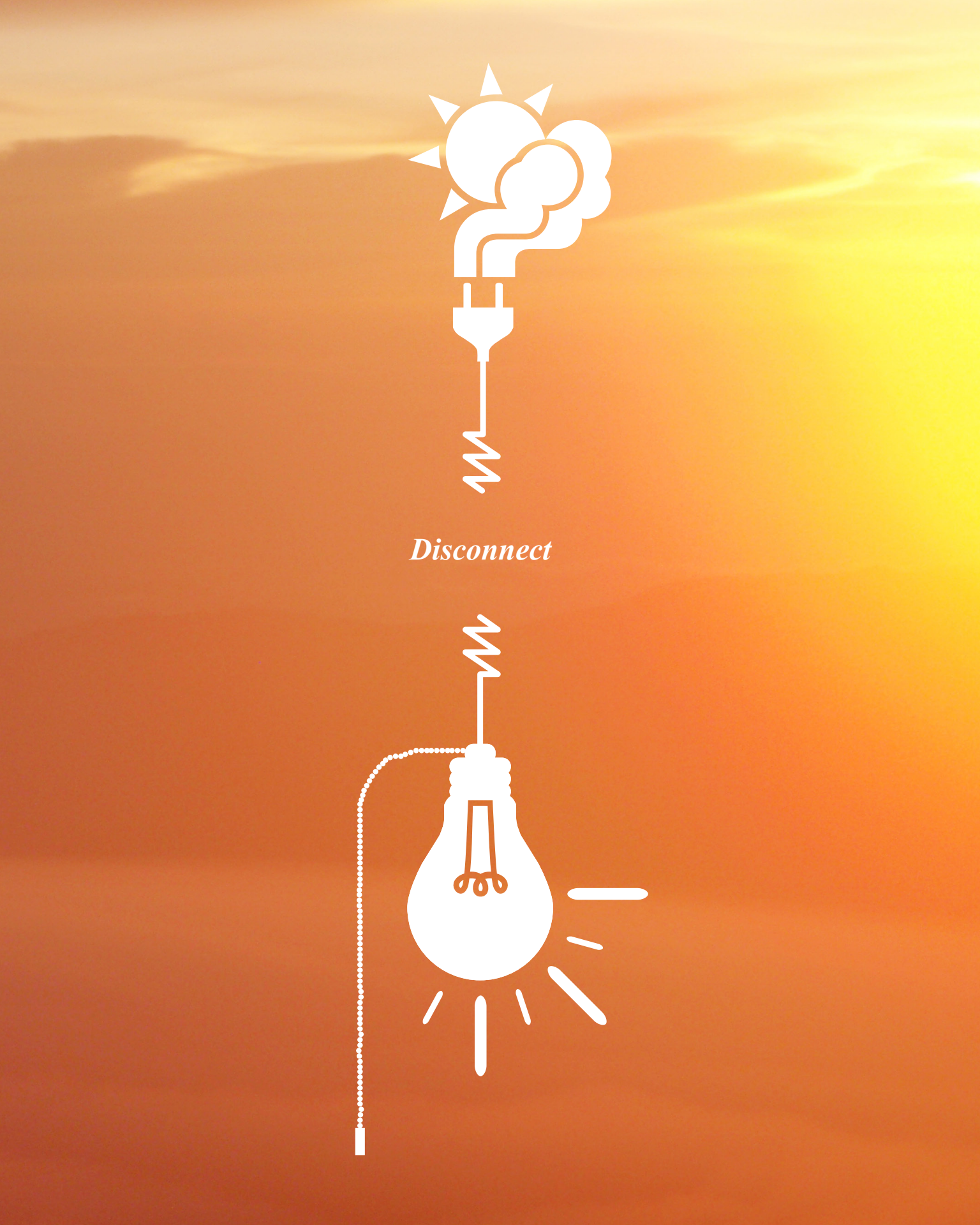
Three internationally recognized strategies in response to global warming are 1) climate engineering, 2) adaptation, and 3) mitigation. The strategy of climate engineering contains two primary sub solutions: carbon dioxide removal and solar radiation management. Climate engineering plans often involve radical ideas, such as Geo-engineering the oceans with iron to encourage algae growth, which in theory would reduce atmospheric greenhouse gas concentrations but coincidentally could have unintended ecological effects. As for the second strategy, adaptation to the existing and future consequences of climate change is an inevitable necessity, but it does not curtail further damage to the atmosphere. The third solution, mitigation, is the only strategy that addresses the root causes of climate change. Mitigation involves proactive efforts to limit the magnitude of climate change, strongly relying on the reduction of human emissions of greenhouse gases. Yet, as environmental activists and organizations lobby for stricter CO2 emission policies and more responsible personal energy conservation, there is a gap between our immediate actions and their global consequences.

2.1.3

Switching to use energy efficient light bulbs can reduce energy usage by 70% and result in a financial savings of 20%, but these figures lack a direct relationship between the individual and the environment, both in relative vagueness and financial focus. Despite a financially attractive incentive for the individual, it can even be difficult to estimate the economic return and justify the initial, more energy efficient, purchase (Gardner & Stern, 2008). Furthermore, the average householder inaccurately believes the most potential for energy conservation lies in curtailment versus efficiency, which is usually not the case (Gardner & Stern, 2008). So while it is clear that voluntary behavior change is critical for a long-term mitigation strategy towards climate change, I believe the knowledge gap, as described above, must be addressed to effect positive action. The gap is both a result of an individual lack of motivation to change existing habits, as well as an excuse to not take responsibility for environmental damage (Dowd, Ashworth, Carr-Cornish, & Stenner, 2012).

The Theory of Reasoned Action (TRA) and the Theory of Personal Belief (TPB) provide interesting insights into the discrepancy between earnest attitudes and existing lack of behavioral change, with or without strong energy knowledge. Even though consumer interest in environmentally friendly behavior is increasing, there is a lack of consistent rise in performance (Tangari & Smith, 2012). TRA emphasizes that deliberate actions are based on individual beliefs enhanced by norms imposed by society, which draws the conclusion that without meaningful support from one’s peers, individuals are less likely to act (Dowd et al., 2012). Additionally, TPD highlights behavioral change through both an experiential understanding of the ease or difficulty

to perform an action, and a comparative analysis of an individual’s current state versus an observation of another’s more desirable outcome (Dowd et al., 2012). An important conclusion I have drawn from both these theories is the accompanying needs of experiential learning, insight into potential implications, and the ability to weigh options relative to future consequences. As the extensive scope of energy is overwhelming and indefinite, provoking the individual to critically view their personal relationship with energy can create productive reflection and potential changes in energy conscious behavior.



2.2 Personal Interest

From a personal perspective, my primary interest in energy is rooted within my family's involvement in the energy industry. My father has worked in the coal industry for almost forty years, and my brother for the last five years. Throughout my entire life, discussions on energy, from governmental regulations to the logistics of mining to stories of personal working relationships, have been standard topics at the dinner table. This has provided me with valuable insights into the industry at a variety of levels. Growing up, prior to gaining in knowledge of the negative environmental impacts of fossil fuels, I always appreciated the opportunities afforded to my family through my father's career. As a classic example of the American Dream, my dad's foothold and my stability happened to be provided by the energy industry. In addition to my knowledge of his life path, through him I have also been exposed to others who have and do rely on the energy industry to support their way of life.

Growing up less than an hour from the Great Smoky Mountains National Park, I have always been an avid outdoor enthusiast and hiker. My love for nature and gradual education regarding the negative environmental impacts of fossil fuels have spurred conflicting views regarding the energy industry. While I see and understand the global damage of the environment, my upbringing has provided me with a unique lens. Both while visiting home and living abroad, I am exposed to very broad views on energy as well as polarity in practices. Within these observations, an important conclusion I have formed is that people are very quick to place blame while offering solutions that 1) do not require them to change their existing habits and 2) do not contain both local and global contextual considerations. From this, I believe there are universal gaps in knowledge

regarding the full complexity - environmentally, economically, and socially - of the energy industry; but more importantly have found a strong interest in the tendency of people to expect someone or something else to change. This has led me to question individual motivations, capability to balance emotional and rational decision making, and willingness to make personal sacrifice for a greater good.

I wonder - What are you willing to do to save the environment? Are you willing to drink the well water from a fracking location? Would you lay off an entire mining community the day before Christmas because of a corporate environmental violation? Do you know how much electricity you consume and where it comes from? Do you know whether an airplane, train, or truck consumes more energy in the transportation of goods? Would you boycott all transportation methods currently relying on oil? Would you make more sustainable solutions if your consumption was publicly visible? Are you willing to accept higher gas prices? How much money would it take to allow oil drilling on your property? What's your price?

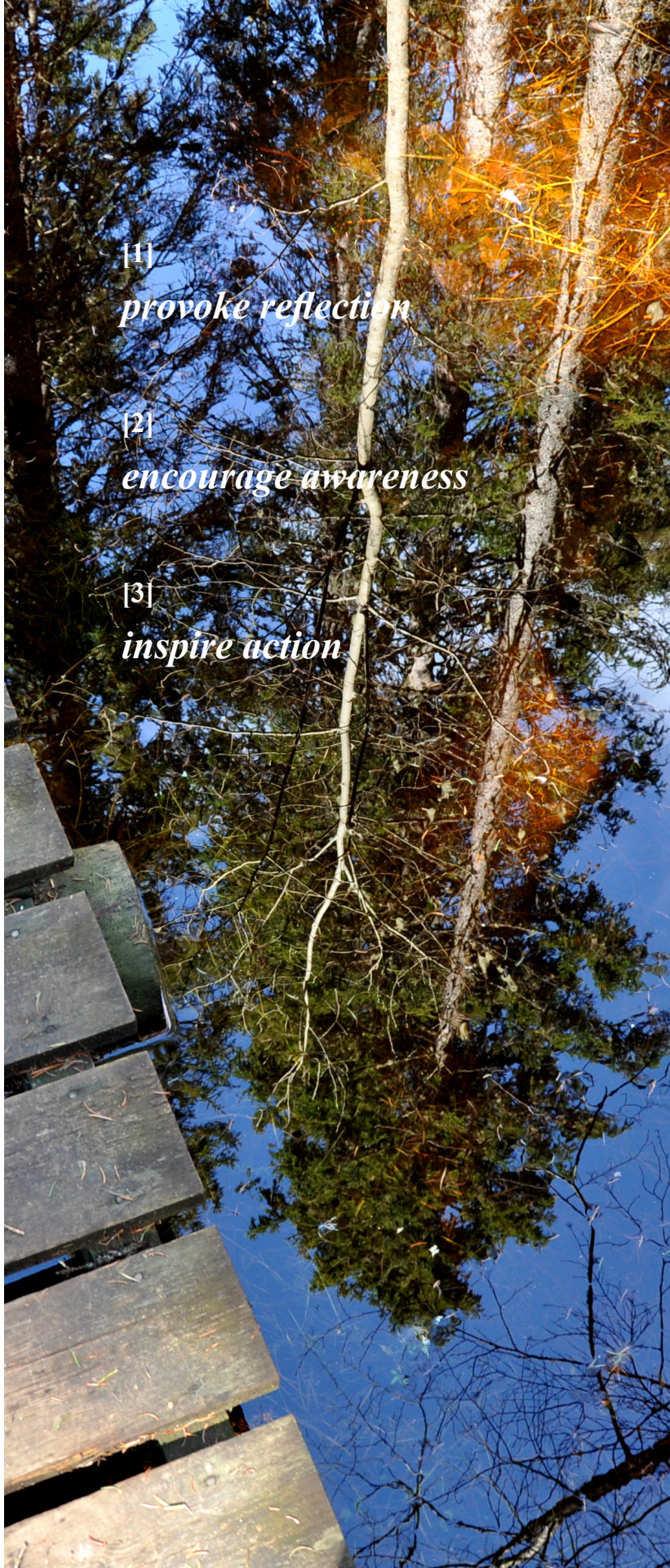
Do people really practice what they preach and are they willing to change?

2.3 Goals

The primary goals of my degree project are to 1) provoke reflection, 2) encourage awareness, and 3) inspire action regarding individual energy consumption. Within the design of speculative products and scenarios, I aspire for my audience to be able to draw parallels with their current lifestyle and everyday choices, stimulating reflection and insight. As people consider their behavior I hope to inspire a quest for knowledge of their role in the complex energy network and the positive and negative potential impacts of their habits.

As I intend to provoke individual contemplation and not advocate specific energy solutions, I therefore aim to remain policy neutral. Creating a fiction narrative that targets a wide range of political and environmental viewpoints will accentuate the role of the individual, thus stimulating critical and constructive thinking, rather than focusing on specific partisan assertions. I do not wish for my degree project to cater to any political agenda but rather foster dissensus as a way to generate productive discussions and proactive behaviors.

Additionally, this project does not intend to educate people about the energy industry, imply that a full understanding is necessary to effect positive change, promote excessive exercise as a sustainable solution, or get entangled the plausibility of a specific technology. My intention is not for people to simply visualize energy their consumption through data or infographics, but rather to facilitate individuals to reflect upon their relationship to energy and comprehend a trade-off dilemma.

- 
- [1] *provoke reflection*
 - [2] *encourage awareness*
 - [3] *inspire action*

3. Method

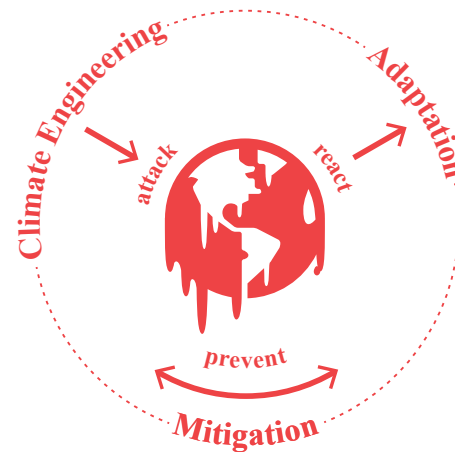


3.1 Analysis & Opportunity

The impacts of climate change and global warming are evident and can be felt around the world. While rarely discussed as independent solutions, three recognized strategies in response to global warming are 1) climate engineering, 2) adaptation, and 3) mitigation. Climate engineering involves purposeful intervention in the Earth's climatic system with the aim of counteracting global warming. The intended benefits of climate engineering are speculative and risky. Because it consists of scientific manipulation of complex systems such as the atmosphere and oceans, there is the potential for a slippery slope of unintended consequences that could have disruptive and harmful effects on the Earth's ecosystems. Adaptation, the minimization of the negative impacts of climate change, is necessary to reduce the vulnerability of people, communities, and biological systems. Though, since the amount of human generated CO2 already in the atmosphere will affect the Earth for future centuries regardless of sustainable actions, adaptation is an imperative reaction but not a resolution. Mitigation, the reduction of emissions to prevent the increase of global warming, is the only strategy focused on the root cause of climate change. Within mitigation lie two important changes in global behavior: 1) the reduction of our existing fossil fuel consumption that is the key source of CO2 emissions, and 2) integration of clean and sustainable future energy solutions. Therefore, as the average global citizen is at the core of these two environmental needs, tackling the problem of global warming lies within the facilitation of individual behavioral change.

I believe the voluntary behavioral change of energy consumption habits by the average global citizen is hindered by the following: 1) the individual's lack of awareness of electricity use in addition to the

immediate and future consequences of consumption, and 2) the lack of understanding of the individual's role within the larger energy network. Therefore, a design opportunity lies within the individual's relationship with energy to encourage reflection, reveal future implications, and expose their role in a larger system.



[1]

fossil fuel reduction

[2]

clean energy solutions

3.2 Context

My thesis will primarily be centered around energy consumption in the United States, because I am American and am familiar with its energy industry, and as a large and industrialized nation, the US consumes roughly 19% of the world's energy (EIA, 2013).

I am specifically focusing on the residential, or domestic context because within my 'what if,' I believe here lies the strongest design opportunity where individuals have the most potential for direct control of their own personal consumption. The residential sector can be defined as consisting of homes and apartments.

Natural gas and electricity are the most consumed energy sources in the domestic environment. Natural gas is used mainly for space heating, and electricity, which is also used for heating and cooling, is responsible for powering our lights and running most of our appliances and personal devices (EIA, 2013). Therefore, my project will only focus on end use electricity consumption.

The average American household, according to recent US census data, consists of the head of household, a spouse or significant other, and between one and two children (EIA, 2013). Therefore, the users, or protagonists of my thesis, will be closely related to these statistics.

“To most Americans, the risks and consequences of energy consumption are vague and distant”

BURN: An Energy Journal
Exploring for Oil and Gas in the Arctic

3.3 Design Approach

“By putting people in totally new situations that’s really how we discover something about ourselves.”

Philip Zimbardo
Freakanomics: Fear Thy Nature

This project uses a synthesis of Critical Design, Adversarial Design, and Design Fiction, with a heavy focus on the latter, to explore our individual relationship with and understanding of energy. The chosen design approach seeks to challenge society to question their current habits of energy consumption, and willingness to make everyday sacrifices to ensure a sustainable future. I believe rooted within these three neighboring approaches is an emphasis on design speculation and the provoking of audience reflection. Since the concept of energy is vague and relative to most people, further distanced by the vastness of the energy industry and prominent financial focus, these design philosophies are relevant in seeking to establish a provocative starting point for which to spark reflection and discussion of individual energy practices rather than searching for a grand, Utopian energy solution, which would be unachievable for any one individual.

Critical Design was my initial starting point when approaching the project. Building off the tradition of Italian Radical Design and pioneered by Dunne & Raby, Critical Design aspires to provoke the audience to reflect on societal preconceptions through the design of speculative artifacts. The term itself was first introduced in Hertzian Tales by Anthony Dunne, and though frequently expressed as an attitude versus actual design technique, in my opinion, Critical Design is a significant player as a design method that diverges from immediate problem solving and instead has the ability to create an initial foundation of social and cultural critique that can lead into or inspire change or even solutions. Despite this prescribed focus away from affirmative design, I believe Critical Design is only one thread in a mesh of design methods and thus can also overlap, merge, and even more aggressively diverge from other approaches

such as user-centered design.

Inspired by Carl DiSalvo’s work and research, I was also influenced by Adversarial Design, an alternative approach to Design for Democracy, and a corollary approach within the Critical Design field. Based on the democratic model of agonistic pluralism, which emphasizes the positive effects of political contestation, Adversarial Design uses design to reveal conditions of power while creating a space for productive conflict. DiSalvo asserts that many Design for Democracy projects are governed by the democratic principle of consensus, avoiding the acknowledgment of the necessity of discord. His explanation of the difference between ‘designing for politics’ and ‘political design’ - rooted in the distinction between politics and political - was inspiring to the direction of my thesis topic. In his paper Design, Democracy and Agonistic Pluralism, DiSalvo states, “design for politics strives to provide solutions to given problems with given contexts, political design strives to articulate the elements that are constitutive of social conditions (DiSalvo, 2009).” As the primary aim of my degree project is to critique society’s relationship with energy in hopes of inspiring change, and not promote any specific means of climate change, I found Adversarial Design influential.

My point of departure from Adversarial Design and into the realm of Design Fiction was the grounded within my view of Adversarial Design’s reliance on the specificity of personal choice, resulting consequence, and exposure of power. Clearly seen within Usman Haque’s Natural Fuse project, the expressed Adversarial Design framework includes the individual artifact linked within a larger system, incorporation of a playful and experiential

engagement of resistance, avoidance of a single ethical stance, and the resolution of contest left open. I initially realized during research and more formally concluded during ideation that the foundation of my project is not rooted within logical, systematic, and specific instances of direct personal conflict confounding the audience to generate active public dialog. Instead it strives to create a layered world in which the audience can wander and discover narrow windows of personal connection that allow them to relate, imaginatively fill in the gaps, consequently reflect on the potential of their own position within this fictional context, and hopefully draw conclusions and discussions on their existing role in everyday life.

Formally coined and operationalized by Near Future Laboratory's Julian Bleecker in a 2009 essay, though previously used by writer Bruce Sterling, Bleecker's defining of Design Fiction was rooted within his curiosity of the potential role of fiction as a another resource or tool to inform and shape design, and inspire a sense of possibility in the things we do and use (Bleecker, 2013). He was asking,

“How can the integration of storytelling, technology, art and design provide opportunities to re-imagine how the world may be in the future? How does the material act of making and crafting things - real, material objects - shape how we think about what is possible and how we think about what should be possible (Bleecker, 2009)?”

Simply put, Design Fiction is a speculative approach that uses fictional scenarios as a framework to explore and envision provocative ideas that “reflect upon today and extrapolate into tomorrow (Bleecker, 2009).” Living within the liminal space of fact and fiction, while allowing a reciprocal informing of

the real and imagined, Design Fiction enables an independence from disciplinary constraints and thus fosters a new lens of speculation, imagination, and discovery. This indistinct departure from the regime of reality results in the ability to explore the unknown while simultaneously taking a contorted glance on open issues of today without being limited by viability, and stimulating contestation of the status quo and societal implications of alternatives.

From discussions on Design Fiction, three prominent elements I have extracted to employ within my thesis are the emphasis on the importance of the story, the diegetic prototype, and the power of the mundane. At the heart of Design Fiction lies the potential of a well crafted story for which ideas and designs can live and grow, while ultimately providing the foundation for independent circulation of these ideas and designs. By putting the narrative's characters and struggles in the foreground, this creates a compelling and human driven context for which gadgets can live. This emphasis on the story, followed by integration of objects, is perhaps best expressed by Bleecker in his Design Fiction: A Short Essay on Design, Science, Fact and Fiction, when he states, “You don't fetishize about the instrument; rather you emphasis the rituals and the drama - the social elements that stories are always about (Bleecker, 2009).” For objects never actually exist without context, whether real or imaginary, and thus there is a strong significance to be placed in the crafting of a rich narrative of characters and their dramatic tension, rather than the idealized potential of a future gadget.

Once the story is created, Design Fiction employs the use of David Kirby's notion of the diegetic prototype, or cinematic technologies or principles that only exist in the fictional world, yet are fully operational as everyday objects. The diegetic prototype relies on the story to contextualize its technology, and the story relies on the prototype as a plot device to enrich and move the narrative forward. As Kirby states, “Diegetic Prototypes have a major rhetorical

advantage even over true prototypes: in the diegesis these technologies exist as ‘real’ objects that function properly and people actually use (Kirby, 2009).” This focus on the normality of diegetic prototypes within the fiction, as they would actually be, brings emphasis to the potential and significance of the using mundane within Design Fiction.

Nick Foster's design approach, the Future Mundane, formally furthers the notion employing the mundane, celebrating and extrapolating the boring, as a tool within Design Fiction. Foster breaks down his approach into major elements: 1) background talent, 2) accretive space, and 3) broken space (Foster, 2013). The first emphasizes the reality of reality, that most people, objects, and events exist in the background. His second element, accretive space, contests common singular aesthetics of the future, citing natural human tendencies to accrue things. Lastly, Foster, points out for all the fantastical inventions brought into the world, we also create loads of average bits and bobs, and disappointingly insignificant and broken things. To me, a key aspect of the Future Mundane, especially in relate to Design Fiction, is the initial relatability of the mundane, and thus the resulting positive pervasiveness of an idea, design, or societal critique that contains the foundation for audience growth and reflection.

While I cite the core of my design approach within the formal definitions of Design Fiction and accompanying influences of Critical and Adversarial Design, I believe my own personal view and approach of the synthesis of these three can be succinctly summed up by a quote by Philip Zimbardo,

“By putting people in totally new situations, that's really how we discover something about ourselves (Zimbardo, 2013).”

Zimbardo is the American Psychologist famous for the 1971 Stanford Prison Experiment in which he put a selection of grad students in a prison environment for two weeks, half playing prisoners and half playing guards. The situation got so out of hand due to the ‘actors’ fully embracing their roles that the experiment was shut down after six days. While I in no way have nor ever intended to do something that extreme, and also see the potential interpretation of the quote to imply my disregarding of the importance of the mundane recently referenced; for me, Zimbardo's quote epitomizes the power of self discovery simply by stepping into another's shoes, a different role, or an unfamiliar environment. The essence of the design approach of my thesis lies in creating an unobtrusively space that anyone can play and act with, hopefully viewing themselves and others through a new lens, and ideally experiencing the joy of discovery within ourselves along the way.

4. Research



[illegible]

In order to investigate what might be considered the normative, or ideal, condition, members or

9

4.2 Insights & Principles

My research areas lead me to the following research insights and formulation of corresponding design principles. All puns intended.

[1]

Pro-choice

physically explicit options & choices

A literal lack of, or the conscious awareness of tangible choices, has the potential to further distance our relationship with energy. As I began my research self studies it was immediately noticeable the quantity of subconscious choices I make throughout the day to use electricity. This might include frequent and plentiful interactions with lights that are often either turned on by habit instead of need, or sensor based in communal spaces where an option to turn on or off does not exist, to invisible electrical technology such as heated public sidewalks that regularly go unnoticed or never acknowledged at all. Without conscious awareness of these habitual and hidden actions, it is difficult to recognize and quantify our electricity usage. Automation within smart home technology advertises an increase in individual control through integration with personal devices, yet I believe this virtual delegation and systematic framework of individual settings, further enhances the gap within our relationship with energy as we entrust something smarter to manage our home. Interestingly, when interviewing an off grid cabin owner in northern Michigan, he stated, “We also wanted as much control over what is running as possible, getting rid of automation was actually a strategy - we wanted as much control as possible over electrical usage.” Therefore, the resulting design principle, Pro-choice, rests in creating physically explicit options and choices to

strengthen our relationship with energy.

[2]

Need for Greed

creation of conflict

Frequent uses of electricity are often rooted within personal desires that save time, provide efficiency, and require less effort. Within both my self documentation and cultural probes, electricity usage was rarely needed, there was often a non electrical alternative, yet it was still used as a desired convenience. Smart Home technology makes these conveniences even more accessible, indirectly encourage the continuous and furthered use of appliances. Additionally, off grid motivations appeared to be more commonly rooted in saving money or escaping government control, rather than an importance placed on environmental concern. In conclusion, to provoke reflection and raise awareness regarding individual energy consumption, a potential creation of conflict lies with personal desires and motivations of electricity use.

[3]

Road to Know Where

exposure of source & consequence

Similar to our subconscious use of electricity, lies the lack of knowledge or visibility regarding both the initial source of energy and the potential consequence of extended use. Moreover, this lack of visibility creates a lack of accountability and responsibility as electricity appears to be out of our hands. No documentation from both the self study (embarrassingly) or cultural probe extended

the end source of energy further than an electrical outlet. Smart homes exacerbate this lack of visibility by further distancing the user from the source as responsibility is transferred to an intermediate, often physically separated technology. Therefore, an opportunity lies within the exposure of source and consequence for the user to reflect on the larger implications of their energy usage.

[4]

Chain Reactions

interdependent technology

During the tediousness of self documentation, the contingently related links of electrical technology to complete a simple objective, such as making dinner, provided an interesting insight into the reliance on multiple actions for the fulfillment of a single desire. As previously mentioned, smart homes can rely on middle-man technology for optimal control, placing another electronic device into the equation. Smart grids on the other hand promote their use of redundancy to still provide power to the rest of the grid in case of a smaller failure. In conclusion, interdependent technology and associated sequences of actions play a key role in fulfilling our electricity needs and desires.

[5]

Status Symbol

formation of a public

While there are the obvious literal status symbols connected to electricity use, such as visible indications or messages, the figurative display of sustainability status also plays a prominent role in an individual’s relationship with energy. When asked about expressed societal response, an off grid cabin owner stated his friends have expressed, “Envy and a bit of awe, the reactions have been universally positive. I think a lot of people hold a modern off-

grid structure in a positive light.” This is a clear example of the potential for the formation of public through community status and artifacts that can bring the conditions and consequences of an issue into view.

[6]

Off Grid, On Line

disconnect to reconnect

During my research, an interesting pattern emerged between the paradox and reciprocity between shutting off and turning on. An obvious example is the online accessibility of the off grid community, who heavily lies upon the internet to share ideas and information regarding the lifestyle. As one of my off grid interviewers said, “I wanted to provide information on what I did so someone else could at the least get ideas of what was possible and at the most use my designs as aids in building their off-grid set up.” Furthermore, many off grid individuals blogged about the struggles of feeling social disconnected and therefore heavily relied upon the online community to reconnect. Lastly, in non off grid lifestyles, we often rely on apps, alarms, and other programs to keep us disconnected from social media or remind us when to reconnect. Therefore, there is the resulting design principle of the paradox between being off grid and on line.

[7]

An I for an I

potential for balance & conflict resolution

In the documentary No Impact Man, activist Colin Beavan and his family pledge to live a zero impact for a year while living in Manhattan. Though the documentary seeks to convey an overarching message of no-impact living as a worthwhile, enriching lifestyle, for me, a key moment occurs when a friend questions their authenticity. Referencing their

luxurious Manhattan apartment, Beavan’s wife’s well paying job that makes the lifestyle change possible, and their long years of a ‘high impact’ lifestyle, the friend makes an extremely valid point - the credit received for the environmentally friendly actions you do publicly and presently, do not discount what you do privately or have done previously. I believe this epitomizes the common misconception that suffering and sacrifice are solutions to either make up for past actions or required in the pursuit of a great good. As a result, there lies the potential for balance and conflict resolution within the design principle An I for an I.

During ideation, I choose to disregard the Road to Know Where and Off Grid, On Line. Within the former, I felt the integration of source and consequence to broadly reopened the scope of the project and wasn’t a necessity for my primary goal of instigating self reflection. The latter I felt wasn’t strongly applicable as when I moved into the creation of my design fiction narrative, found it important for my protagonists to be functional members of society.

[1]

Pro-choice

physically explicit options & choices

[2]

Need for Greed

creation of conflict

[3]

Road to Know Where

exposure of source & consequence

[4]

Chain Reactions

interdependent technology

[5]

Status Symbol

formation of a public

[6]

Off Grid, On Line

disconnect to reconnect

[7]

An I for an I

potential for balance & conflict resolution

5. Results



5.1 Inspiration



Corner Convenience, Near Future Laboratory



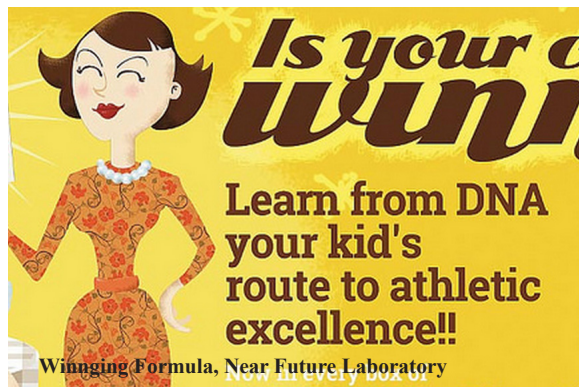
Natural Fuse, Usman Haque



Is This Your Future?, Dunne & Raby



75 Watt, Revital Cohen & Tuur Van Balen



Winning Formula, Near Future Laboratory



Food and the Future of It, Matt Brown



Smell, Auger Loizeau



Energy Parasites, Eric Paulos



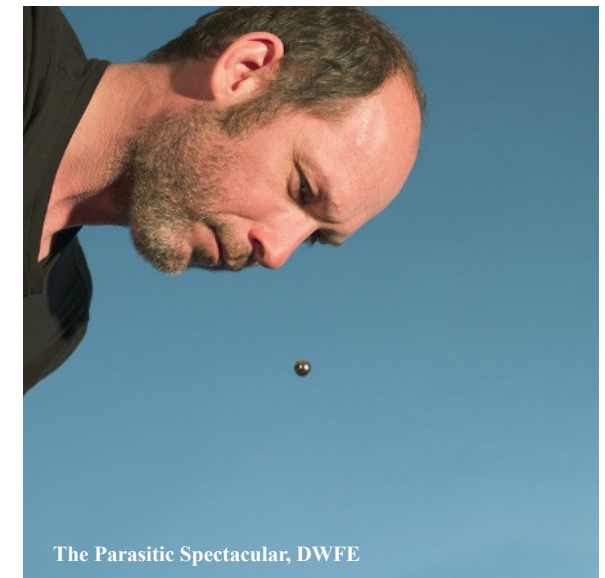
Shameless, Sarah Emery



The Superstitious Fund, Shing Tat Chung



Energy Futures, Thomas Thwaites

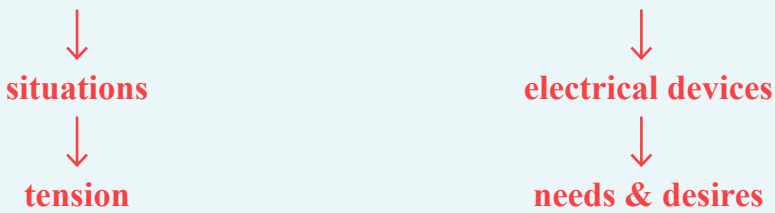


The Parasitic Spectacular, DWFE

5.2 Ideation



What if you were required to produce all the energy you desire to consume?



Workshop & Worksheets

5.2.1

Upon moving into ideation, my first step was the return back to the core provocation of my thesis, “What if you were required to produce all the energy you desired to consume?” Within this statement, two primary behavioral components can be extracted: 1) the production of energy, and 2) end use consumption. Digging deeper into these essential ingredients in specific relation to the domestic context, production can be considered actions, routines, or situations; and consumption can be regarded as electrical devices, appliances, or other household objects of use. As the primary goal of my project is to provoke reflection through a compelling human driven context where character struggles reside in the story’s foreground, within actions I was interested in extrapolating moments of domestic tension; and within electrical devices I was interested in uncovering associated personal desires and aspirations. After defining this clear separation of components, I held a workshop in regards to the former, and distributed an individual worksheet in regards to the latter.

Referencing my previously defined project scope of the domestic context, for the ideation workshop on domestic tensions, I created a house with strategic spaces and electrical objects. I also created a family, and strategically invited five peers from school to role play an average American family. They actors were assigned the roles of father, or head of household; mother, or spouse; daughter, or older sibling; son, or younger sibling; and dog, or family pet. On the table I placed a printed copy of the fabricated house, character cards, and emotional prompts. Once assigned their role, participants were asked to name their characters, describe potential traits, and stay in character for the duration of the workshop. Even though I myself redefined the characters later,

having the participants define them themselves was important to get them ingrained in the role as well as building rich stories of tension during the workshop.

As the ensuing structure of the workshop consisted of my distribution of emotional cards and their discussion of potential situations that might be occurring within specific spaces and between specific characters, to kickstart the atmosphere, I purposefully opened the workshop with an intentional moment of tension. As the event took place during an evening, in addition to providing a standard fika (Swedish sweets), I also promised to bring beer. Though, after introducing the workshop, I informed the participants that since the ‘children’ were technically under-aged, they would not allowed to drink without their parents permission. This technique proved quite successful in igniting initial fervent discussions as positions of power emerged and authority was challenged.

As a result of the two hour workshop as a whole, a handful of domestic themes and tense situations were either confirmed or emerged.



Sample of quotes:

“You’re always in the bathroom taking your ‘showers’...”

“We don’t want our family to look bad in front of all the other families with our drug abuse.”

“Well, you’ve gained a little...”

“So would you make more energy if the people that got married didn’t get along?”

“Walter likes scouts, outdoor things with his friends. So I just drive him out there and leave him. Find your way home.”

“Are you going to think about it yourself Gunnar, or consult me?”

“We could make electricity... through sex...”

“What will happen will be like Pavlov’s dog. If you have sex, you’ll think, ‘Fuck, now I have to do laundry.’”

“That’s really awkward, our sharing a room.”

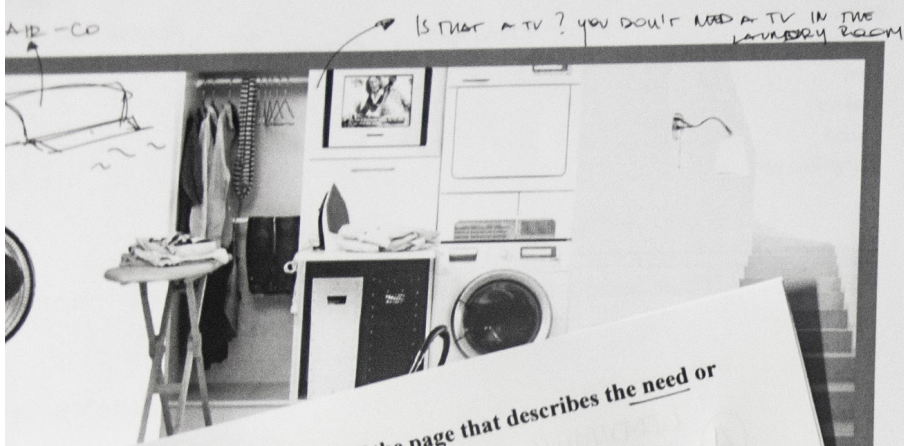
“You are a teenage girl so you are probably moody all the time. I’m a 10 year old boy whose sister is pissed and parents have stuff to do. So maybe I’m mean to the dog.”

“She’s a teenage, she [mom] could say whatever and she would believe it. She’s 16, she isn’t super confident.”



During the same week, the individual desk worksheets related to electrical device use were handed out to twelve peers. Each worksheet contained an image of one room from the house I mapped out. As the goal of the worksheet was to investigate associated needs and desires, I asked participants to complete four tasks relative to the given room: 1) draw any missing objects, 2) associate electrical objects with a need or desire, 2) draw a non electrical alternative, and 4) draw how you might harvest energy with your body. The last question was not directly on par with the primary worksheet goal, but I felt could lead to initial ideas related to the context they were given. While not as insightful as the workshop, the worksheet was useful in highlighting objects and desires I overlooked, as well as providing some interesting initial energy harvesting solutions.

the image any electrical objects you think are missing or should be included.



electrical objects listed on left side of the page that describes the need or object.

bjects to the room, please write their name in the blank spaces. Feel free to use a ample list, or a word of your own.

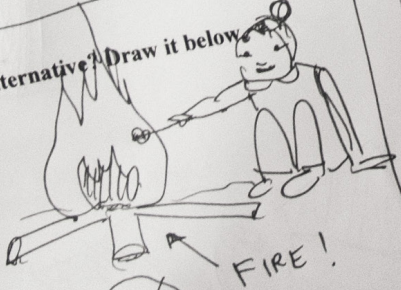
NEEDS/DESIRES

- pleasure
- efficiency
- temperature
- entertainment
- social
- communication
- security
- medical
- power
- hunger
- control
- wealth
- privacy
- love
- esteem
- health
- physiological

nutrition
ion
ort, warmth
ence
adiation. vitamin-killer
ency, effort-reducing
ing, social
wealth (feel rich if it's full)
taste, texture
reativity
s vision
toaster oven: ~~water~~ speed, efficiency, small batches.

Pick one (or more) objects from the list. Is there a non electrical alternative? Draw it below

THE BIG SPOON!



1) Draw on the image any electrical objects you think are missing or should be included.

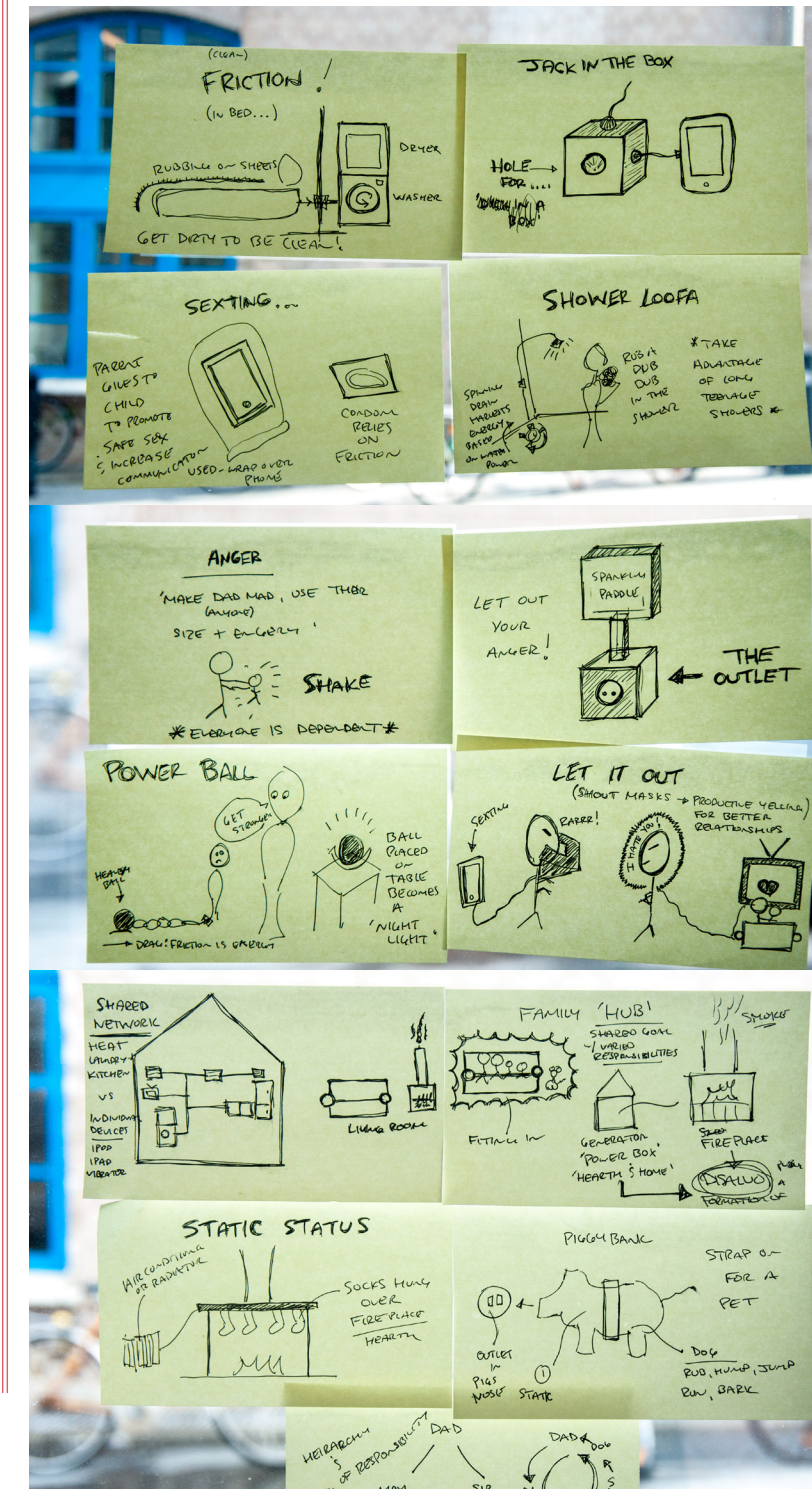


the list. Is there a non electrical

Following the workshop and worksheets, I began to sketch out potential energy harvesting products and scenarios based on the emerged themes. In a series of sprints, I sketched and listed singular ideas, then evaluated them in relation to my design principles. I most commonly referred to was the principle of Chain Reactions. While initially defined as interdependent technology, I realized it made more sense being thought of as contingent and sequential events specifically related to the characters. For example, as the mom cleans the dishes and realizes there is no hot water available, she consciously sways her hips to seduce her husband so they can harvest energy from sex. Thinking of characters and actions as dependent on one another highlighted the importance for me to take time stepping away from the ideas in and of themselves and instead ask “why and what is going on in the story?”

Furthermore, as a large portion of my ideas revolved around negative or personal situations, I realized even more the importance of putting the ideas aside and formally defining my characters and family. The ideas on their, while provocative, did not yet sit in a context where they could provoke empathy or difficult mental challenges within the audience. Referring back to my notes on Design Fiction, I formally set my ideas aside and started creating a story. Beginning with the characters, I slowly outlined a family in which each character has a at least one strength, weakness, and desired electrical object. Additionally, I began creating back-stories for origin of their quirks to make them ironically more normal, as well as capable to generate sympathy and empathy from the audience. The character traits would be also important to serve as plot devices, or MacGuffins, to drive the story forward and give purpose and desire to their actions. Lastly, while

creating the characters, I began connecting them back to initial energy harvesting ideas and while I slowly outlined the world in which they live.



5.3 Final Design

The Family Circuit: A New Narrative of American Domesticity

My final concept, *The Family Circuit: A New Narrative of American Domesticity*, is a fictional near future in which the Power family lives in a society where they must produce all the energy they desire to consume. Set in 2018 in the energy self sufficient town of Newtown, government regulations and personal motivations in regards to energy production and consumption, result in cycles of events that cause tension, drama, and new peculiar behaviors. Within the narrative, everyday energy harvesting objects and their correlated accessories and propaganda, exist as real and normal technology that moves the story forward.

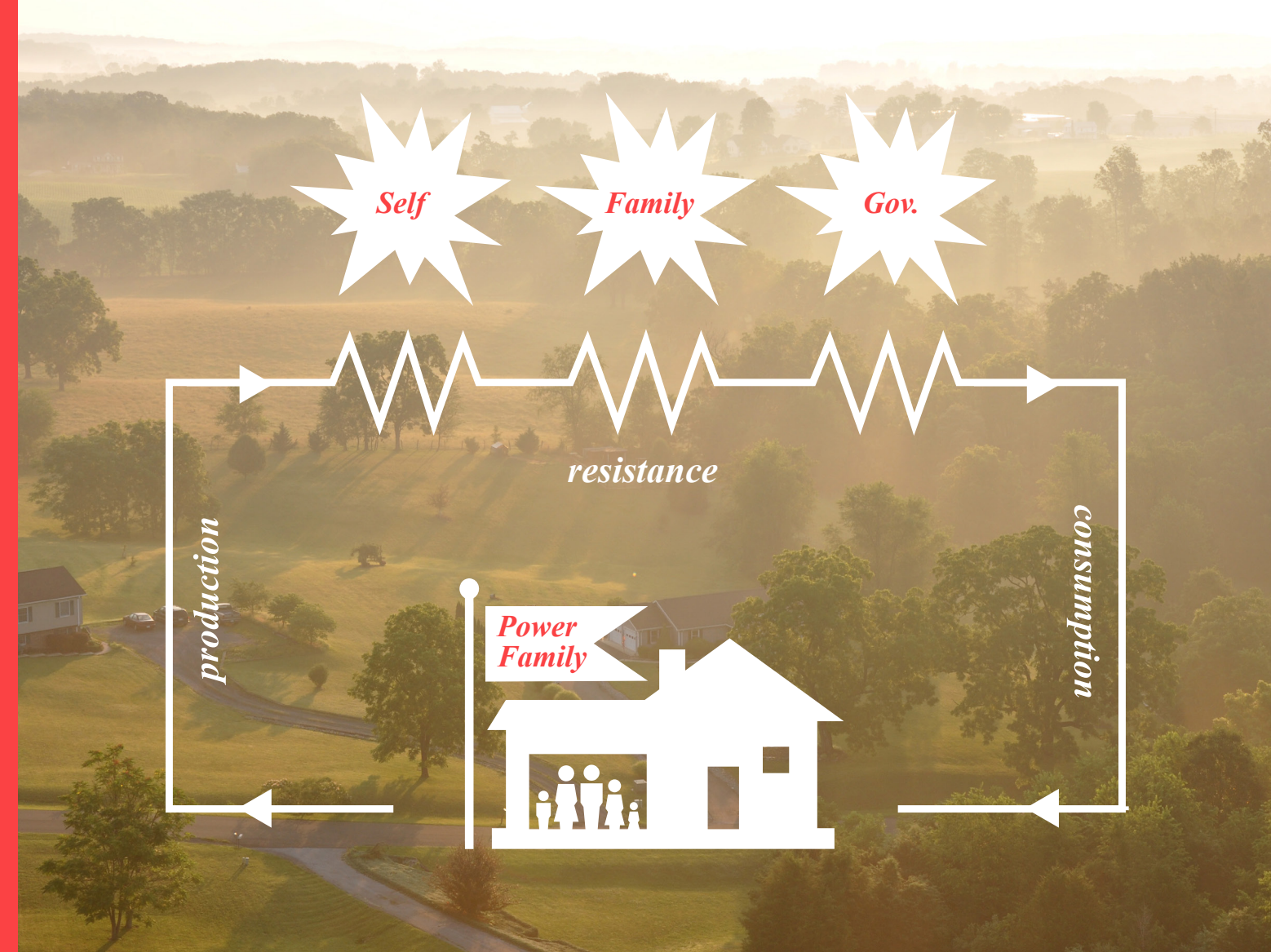
As described in my design approach, a heavy project focus was placed on the construction and details of the narrative to create a compelling and human driven context for the integration of props, objects and gadgets. The narrative is composed of standard story components, including a setting that defines the world; characters that have strengths, weaknesses, and quirks; and a plot that unravels sequences of tension and drama. I consciously constructed the narrative with familiar story components both as a structure for myself and with the intent on making the project accessible to an audience.

Within the fictional near future, the context extends and extrapolates the normal, ideally balancing the fine line between far-fetched and believable. First and foremost, I believe a liminal world creates an unobtrusive and nonthreatening

opportunity for the viewer, as society is just different enough to not feel like a personal attack on the audience, yet similar enough to place oneself in the shoes of a character. Creating a stage for anyone to play and act within was an important goal while writing. Secondly, both context and believable characters, set the scene for very relevant rituals and dramas to arise. Lots of attention was given to the back stories and personality traits of the characters to allow the audience to empathize and understand their motivations and actions.

Using the characters and plot devices, I suggest a potential narrative - or family circuit - with a clearly defined action, climax, and resolution; This potential sequences of events is a interdependent loop that might occur within the defined context. By presenting a chain of events, I invite the audience to imagine how they would conduct themselves within these situations, as well as witness the development of potentially odd rituals and curious behaviors. During the plots, the desires, strengths, and weaknesses of the characters serve as one form of plot device, or a MacGuffin, driving the plots forward to achieve a desired goal or object, typically related to energy consumption. Print and video information distributed by the government - such as a product catalog, energy bill, home monitoring brochure, energy harvesting products, and a television infomercial - serves as both didactic anchorage and diegetic prototypes to enhance, explain, and progress the plot.

5.3.1



The family characters are both protagonists and antagonists as they seek to fulfill their own motivations while inhibiting and using each other as well. The government is also an antagonist, which has established rules of energy production and consumption, as well as monitors and informs the characters of their performance.

Lastly, my final concept contains a deliberate integration of humor through obvious puns, subtle political references, and the breaching of uncomfortable personal boundaries. While I believe humor within design can run the risk of either overshadowing the project or just plain falling flat, it

also has the unique ability to make user experience even more inviting, and ideally, enjoyable.

Project videos available at:
www.kareyhelms.com
vimeo.com/kareyhelms

DISCLAIMER: *The Family Circuit: A New Narrative of American Domesticity* is a work of fiction. Names, characters, places, and incidents are a product of the my imagination. Any resemblance to actual people, places, or events is either purely coincidental or a deliberate act of hopeful humor. Please read with chilled beverage and a grain of salt. All puns intended.



During the 2016 free electrons, the two major political parties had nothing to be positive about as the Clean Party, a new independent faction, surged to power. Though a clear victory, it wasn't without friction. A prior declaration of climate change as fact, was indeed an inconvenient truth, jolting public opinion into waves of alternating currents. This extreme polarity and variable resistance was eventually only to be bridged by the Clean Party, whose fresh political platform favored a 'none-of-the-above' energy policy. With a subtle flip, they switched the focus from developing every source of American-made energy, on to sourcing every energy made by Americans. This obvious advocacy of a renewable energy solution that would create ampere work for citizens, was complemented by a strong focus on the current, generating a movement away from strategies of the future. The Clean Party's widely acclaimed propaganda campaign was successful at amplifying a spike in volts, and featured slogans such as:

“Fixing tomorrow today!”

“The power of YOU!”

“Why wait, mitigate!”

Following the new presidents induction into office, he appointed Dick Tator, a former senator, to create and develop Newtown, the first fully self-sufficient master-planned community. Established under the banner of the New Suburbanism design movement, Newtown follows the guiding principles of environmentalism and smart city growth, placing an unprecedented focus on a return to the American Dream of social mobility through hard work. Literally. By utilizing the everyday effort of its own inhabitants as a clean, reliable, and efficient source of energy - social mobility, or urban sprawl, is consequently achievable for all.



Newtown proper is administered by Smarter Home and Grid, also known as **shag.**, a local association presided over by founding father Dick Tator. While firmly grounded under the Clean Party platform and esteemed nationally for its efficiency and capacity, **shag.** strives for Newtown to be a positive fusion of individual energy production and consumption. In his opening State of the Fusion address, the President charged citizen support for **shag.** with the memorable electrifying speech,

“I have a vision of Newtown as a powerful community. Continuous effort is our key to unlocking this potential energy. For without energy, there is no power. To sustain this vision, we have shag., and together with your input and helping hands, can give birth to a new era.”

Smarter Home and Grid, **shag.**, is under the supervision of the United States Department of Energy, and controlled by a political appointee of the President of the United States. Since **shag.**s formation two years earlier in 2016, Dick Tator has been and still is the Active Chair and Democratic Controller, responsible for implementation, compliance, enforcement.

Following international standards of good governance in conducting public affairs and managing public resources, **shag.** operates under the following seven guiding principles:

[1]
Local

What Happens in Newtown, Stays in Newtown

All electricity produced by and for the citizens of Newtown is solely entitled to be used by or for the citizens of Newtown. Energy localism is the keystone principle in the collaborative effort to build a more locally based, self-reliant energy economy. Sustainable energy production, distribution, and consumption are integrated into enhance the economic, environmental and social health of Newtown. Local energy intensifies community vibrancy and stimulates local power while establishing a unique sense of community spirit.

*Allocation of resources is subject to change as the **shag.** deems appropriate in the best interest of the people.

[2]
Participatory
The 110% Guarantee

Citizens of Newtown are guaranteed 110% of all electricity production. 100% of all electricity produced in public spaces is given back to the people to power community spaces and services used for recreational, religious, and governmental purposes. 10% of all privately produced electricity in the home is given back to the individual citizens to use as they desire. The 110% guarantee is a mandatory civic pledge is extremely beneficial in enabling local producers to support local consumers and public objectives.

[3]
Sustainable

Three R's: Recruitment, Reputation, & Regulation

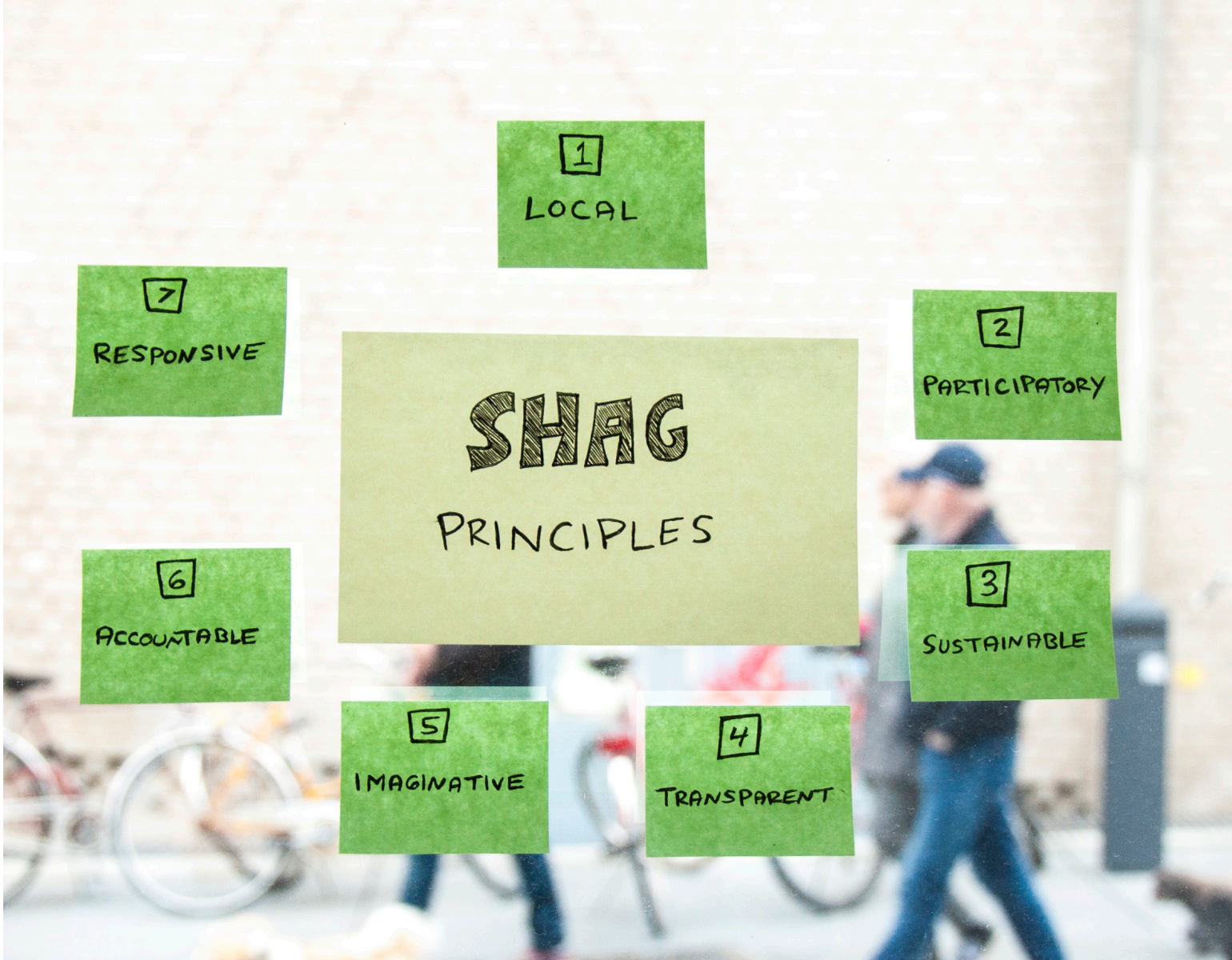
The remaining 90% of all privately produce energy is allocated evenly - 30%, 30%, 30% - into the three departments of Recruitment, Reputation, and Regulation. The privately produced energy allocated to the Department of Recruitment is sold internationally to fund efforts to engage with new potential residents of Newtown, an essential component to sustain community growth and energy production. Recruitment entails actively seeking individuals who are disillusioned, overtly passionate, and desiring a higher purpose. Energy allocated to the Department of Reputation will also be sold internationally. Reputation profits are used for propaganda - locally, nationally, and globally - to sustain the Clean Party status and **shag.** vision. Lastly, energy allocated for the Department of Regulation is distributed among all government employees enlisted to sustain compliance and high community standards.

[4]
Transparent
Open Source Energy

The source of all energy produced and consumed is to be open and accessible to all citizens of Newtown. Following **shag.**'s open government doctrine that gives citizens the right to access all documents and proceedings for effective public oversight, both weekly online and print status updates are distributed to every household in a civil effort to inform and motivate. It is important for personal energy production and consumption to be aware of potential performance improvements through routine comparison.

[5]
Imaginative
A New Current(cy)

shag. strongly believes in the leveraging the emerging creative industries, with a strong focus on, but not limited



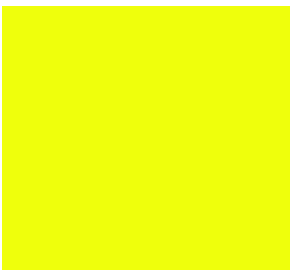
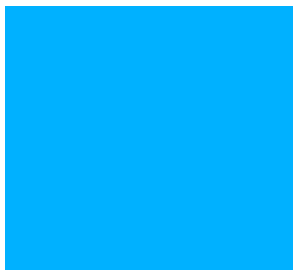
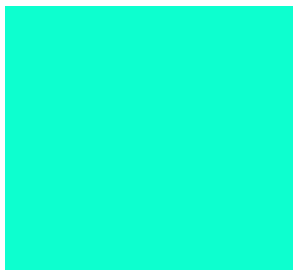
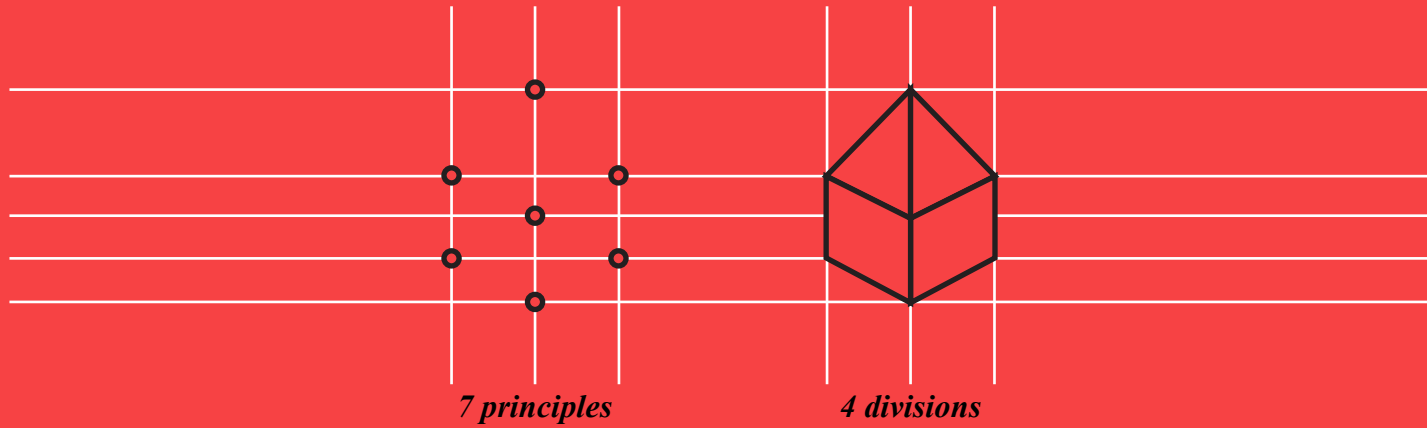
to, the arts and sciences. Inspired by the cutting edge inventions and technological progressions that have made Newtown possible, **shag.** aspires to be a community role model through the invention and implementation of a new currency - energy. As the sole legal tender of Newtown, this new financial model will adequately represent and reward human work.

[6]
Accountable
Cooperation Responsibility

shag. strongly believes in individuals being held responsible for the cooperation in energy production and consumption.

[7]
Responsive
Fair Day's Law

shag.'s Fair Day's Law facilitates the fair ability for ever citizen to be responsive and adaptable to all situations and needs.



shag. is divided into four governing entities that operate within a system of parallel sovereignty, operating under the seven guiding principles. The four offices are:

Office of Enforcement & Oversight

www.shag-power.com

shag. Power oversees all energy production and consumption within the town of Newtown. Utilizing a modernized electrical grid with intelligent information technology to closely monitor community energy operations, *shag. Power* ensures participatory behaviors of producers and consumers through regular enforcement and oversight. Energy statistics of Newtown community members are distributed weekly to inform citizens of net energy production and consumption to collect potential deficits, foster healthy competition between neighbors, and exhibit social welfare through redistribution.

Office of Individual & Family Affairs

www.shag-home.com

shag. home advocates the development of home environments that smartly anticipate and communicate family energy needs. Connected to the Internet of Things, through close home energy production and consumption monitoring, *shag. home* provides personalized reports, technical assistance, instructional materials, and suggested mechanisms to help maximize the development of your home energy environment through the weekly *shag. Home* brochure.

Office of Information & Culture

www.shag-news.com

shag. News has a broad canvas of responsibilities based on the impetus of keeping the citizens of Newtown informed, inspired and involved with the production and

consumption of energy. Through an extensive outreach program involving a dedicated mass media campaign, *shag. News* provides Newtown with frequent weather updates so every citizen can accurately rely on their own energy production, information on new product trends and analysis, and cultural community events to facilitate fun energy production outside the home.

Office of Innovation & Technology

www.shag-it.com

shag. IT conducts research, develops technology and helps build a network of intellectual resources. *shag. IT*'s primary focus is the Energy of Things - a weekly government issued catalog of home energy harvesting products available for purchase. Intelligently tailored to each family members everyday activities, movements, and behaviors from information provided by *shag. home*; *shag.IT* is committed to creating a responsive selection of products that are adapted every issue to individual family needs. Though invented, designed, and created by individual members of the community, *shag. IT* meticulously connects every product to the Internet of Things to continue to accurately monitor family life for optimal service and continued product development.

Otto Power

Age: 43

Strength: *Sees positive in all things negative.*

Weakness: *Commits negative actions with positive intention.*

Otto Power was born in 1975 in a small coastal city to a military family of eight, where “all you need is less” was often followed by “familiarity breeds contempt,” both of which left him slightly confused while simultaneously instilling a creeping sense of personal failure. During middle school, as the family began frequent relocation across international borders due to his father’s quickly advancing career, Otto gradually gained confidence as he acquired a keen eye for detail in his authentic appreciation for the divergent. This slowly translated into placing extreme value in purposeful imperfections and accidental defects. He therefore spent a significant portion of his free time meticulously mending well worn clothing with mismatched fabrics, resulting in a unique wardrobe of polka-dot patches.

During the epitome of adolescence, at an acclaimed art gallery, Otto exhibited an intimate selection of deformed silver spoons rescued from friends’ homes and local restaurants. Titled “My Wounded Soldiers,” the collection resulted in a prestigious college art scholarship. He henceforth received a B.S. in Imaginative Engineering before landing a highly coveted job in Silicon Valley as a Creative Technologist for a startup that was developing an infant gene therapy application called Parental Precision. Sponsored by several major toy manufacturers and avant-garde pharmaceuticals, Otto’s specific role in the ostentatious venture was coding an algorithm for a prenatal personality generator to be used by expecting parents during the first trimester. As this particular

component of the service emphasized exactitude within the chosen genetic manipulations, Otto’s spontaneous decision late one night to incorporate a random quirk generator as a hidden feature was unfortunately unappreciated. Though initially unnoticed for over a year, when a billion dollar class action lawsuit hit the startup as the first generation of modified babies began speaking with incompatible yet distinguishable regional accents - saying the ‘Bahston mah’ or the ‘New Yorkah ovah deh’ - he was immediately fired without severance pay.

Following a long year of unemployment, Otto eventually landed a job as a Senior Incident Designer at the newly formed Conduct Laboratory - a government consultancy for the Behavioral Development Bureau, a newly formed department by the Clean Party. As the backbone of his position involves the fabrication of political scandals to generate productive publicity, he has been trained to see the positive in all things negative.

This characteristic is manifested in the family dynamics through insulting comments sincerely intended to generate a beneficial outcome. For example, Otto tells his wife and daughter when they have gained weight, so they will generate more electricity.

Not long prior, Otto had met, wooed, married, and impregnated Lotta Power - a former gesture therapist who was instantly attracted to Otto’s abnormal wingspan and hence suggested spooning capabilities. They also shared a mutual interest in the word applicator. He couldn’t resistor!

Lotta Power

Age: 37

Strengths: *Expert multitasker and team oriented.*

Weaknesses: *Looks for reassurance*

5.3.3

for minimal accomplishments but distrustful when received.

Lotta Power is a stay at home Pinterest Womanipulator: in which she coaches pinterest enthusiasts on strategic creation of misleading boards and unsystematic pins to prevent Google or even friends from forming an accurate stereotype. Her distrustful attitude toward society was instilled after a 23 and me test informed her she was 4 and half% Nigerian, leading to an eventually identity crisis in her late 20s. She initially went through intense counseling that featured a strong focus on mindfullness, which resulting in her now only talking in the 3rd person, often leading to very confusing misunderstandings. As a method of self therapy, she developed a secret obsession with conspiracy theories and now enjoys learning Russian and formulating theories on who killed JFK. She believes everything should and could have multiple motives, and views her powers of persuasion as a hidden talent in training her family for mental warfare. This has resulted in her convincing their son Max Power that his collection of dinosaur figurines come alive at night, followed by her secretly hiding them throughout the house while cleaning.

Robin Power

Age: 17

Strength: *A picture paints a thousand words.*

Weakness: *Relies heavily on technology to communicate.*

As a stereotypical member of Generation Z, Robin Power is an identity hungry digital native that prefers to communicate through texting and emoticons. She is an entrepreneur as the founder of Suburban Dictionary, as well as a new mother with 9 month old daughter Minnie.

Max Power

Age: 12

Strength: *Either all or nothing in.*

Weakness: *Either all or nothing in.*

Like his sister, Max is also a stereotypical member of Generation Z, and is independent and absorbed in technology. He moonlights as an ambient music DJ based out of his bedroom which he treats as a massive control center.

Minnie Power

Age: 9 months

Strength: *TBD.*

Weakness: *TBD.*

Minnie Power is the 9 month old daughter of Robin Power.



My final designs are the fabrication of subtle details, peculiar objects, and strange situations that occur within the narrative. These designs include a **shag. Home** brochure, a **shag. Power** energy bill, a **shag. News** weekly weather forecast, a **shag. IT** catalog, a **shag. IT** product, a **shag. News** infomercial, and five snapshots or freeze frames taken from the life of the power family.

The designs are presented in the context of physical mail on the Power family's breakfast room table in an effort to extrapolate a boring everyday morning.

[1]
Energy Bill
Distributed by **shag. Power**

The **shag. Power** energy bill displays information regarding energy production and consumption relative to the town of Newtown, its other inhabitants, and of individual household members. If more energy is being consumed rather than produced it communicates the consequences. By making every family's production and consumptions habits conspicuous to the community at large and internally to each other, shame and competition can be fostered. All aspects serve as plot devices to didactic anchoring.

[2]
Brochure
Distributed by **shag. Home**

The **shag. Home** brochure contains general information on **shag.**, recommended energy harvesting products based on home activities and individual habits, and tips and tricks on a spotlighted

product already owned by the receiving family. Akin to targeted advertisements, through smart home monitoring and behavioral analyzing, the **shag. Home** brochure knows more about each family than the members themselves might, and makes suggestions that indicate what else might be going on in your life. The brochure is a critique of the smart home, an irony of sustainable living suggestions, a commentary on big business marketing and government propaganda, designed to look like a graphic template. Its role within the narrative is to facilitate conflict as a plot device and serve as a didactic anchorage for the larger story.

[3]
Catalog
Distributed by **shag. IT**

The **shag. IT** catalog, or The Energy of Things, is a platform for user submitted energy harvesting products to be sold through the government. The catalog is sent weekly and tailored to each family's lifestyle patterns and activities. Though not manifested physically, all products within the catalog are considered diegetic prototypes as they are implied and described as fully operational, everyday objects that are not precious or abnormally special within the context. Special attention was given to the proximity of products on each spread, as the catalog displays fictional and factual energy harvesting products and technology. The relationship between the products is aimed to confuse the viewer and provoke a question of reality. Both the concept and the design of the catalog heavily references the Whole Earth Catalog.

[4]
Infomercial
distributed by shag. News

The **shag. News** infomercial advertises the energy harvesting dishwasher gloves, further emphasizing the peculiar transformation of the mundane but also suggests underlying government motives and potential misuse. It serves to give more depth and context to the diegetic prototype. During the infomercial, Mister Hands energy harvesting dishwasher gloves appear and are described to be an ordinary, family friendly product. Though, within the spoken narrative during the infomercial, there is a strong sexually underlying subliminal message and hints to curious behaviors that result from use.

[4]
Product
distributed by shag. IT

The selected product to highlight from **shag. IT** is the energy harvesting dishwasher gloves. They lay on the table and are also referenced in the catalog, infomercial and family freeze frames. The serve as a diegetic prototype and were chosen to more strongly profile in the story and scene because of their extreme normality and utter boringness. As they would most likely already live within the household as an accrued object, and are only slightly twisted to become a nuanced component of everyday life and narrative plot device.

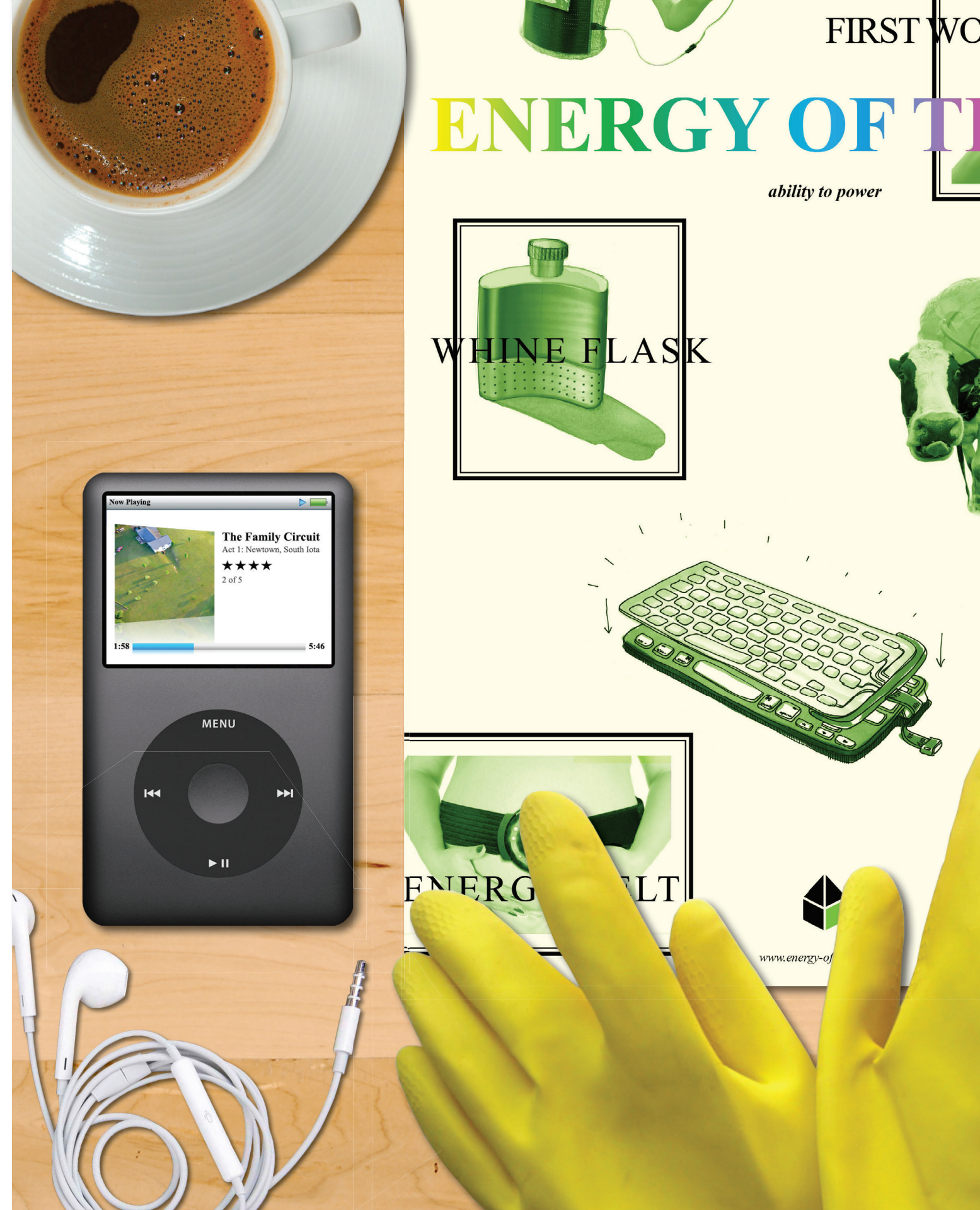
[8]
Radio Show
distributed by shag. News

The **shag. News** radio show provides a more detailed and specific insight into Newtown and the lives of the Power family. The radio show is aimed specifically at exhibition and online viewers, providing a platform

for people to listen to the narratives, rather than read them. The radio show reformats content from the written narratives into a podcast modeled off of NPR's This American Life.

[7]
Freeze Frames
photographs from the Power family

The family freeze frames, or snapshots serve as 'photo captions' from life with the Power family, providing insight into bizarre behaviors, strange habits, and object misuse that arise. The chosen moments to highlight are misuse situations of the dishwasher gloves (Mister Hands), the pacifier (Pacify Her), and the shag carpet (Carpet Footprint). These products were chosen to highlight because of their familiarity and mundane nature in addition to their role in the resulting plot and other props.





Otto Power
314 Hyper Drive
Newtown, SI 15926-5359



Otto Power
314 Hyper Drive
Newtown, SI 15926-5359

22/05/18

1 of 1

DUE DATE	AMOUNT DUE
22/06/18	363kWh
ACCOUNT NUMBER	
12345678 - 8765432 - 1111	

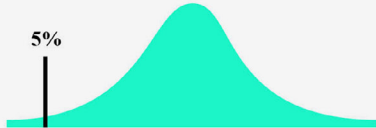
FAMILY CONSUMPTION RANKING

- 1) Carl Burator
- 2) Otto Power
- 3) S. Cargo



FAMILY PRODUCTION RANKING

- 1) Tim Burr
- 2) Izzy Able
- 3) Slim Chance



HISTORICAL DATA

Last Month Consumption Percentile: 91%

Last Month Production Percentile: 6%

2018 Average Weekly Consumption:
1200kWh

2018 Average Weekly Production:
859kWh

HOUSEHOLD CONSUMPTION SUMMARY

Common Consumption	
Top End-Use: Space Cooling	212kWh
Otto Power	
Top End-Use: Television	30kWh
Lotta Power	
Top End-Use: Dishwasher	36kWh
Robin Power	
Top End-Use: Smart Phone	14kWh
Max Power	
Top End-Use: Personal Computer	89kWh
Sharon Power	
Top End-Use: Smart Rocker	3kWh
Other Consumption	978kWh
Total Consumption	1362kWh
Total Production	999kWh
Total Owed	363kWh

PAYMENT INSTRUCTIONS

Under the strict stipulations of the Smarter Home and Grid Office of Enforcement and Oversight, defecient energy owed to the city of Newtown, South Iota, must be generated within one week. All energy not generated will be subject to a 10% interest charge and deducted in 5% daily increments from the central home energy system.

shag. Power oversees all energy production and consumption within the town of Newtown. Utilizing a modernized electrical grid with intelligent information technology to closely monitor community energy operations, **shag. Power** ensures participatory behaviors of producers and consumers through regular enforcement and oversight. Energy statistics of Newtown community members are distributed weekly to inform citizens of net energy production and consumption to collect potential deficits, foster healthy competition between neighbors, and exhibit social welfare through redistribution.

www.shag-power.com

shag. principles

Following international standards of good governance, **shag.** operates under the following seven guiding principles:

- 01 LOCAL: What happens in Newtown, Stays in Newtown.
- 02 PARTICIPATORY: The 110% Guarantee
- 03 SUSTAINABLE: Recruitment, Reputation, Regulation
- 04 TRANSPARENT: Open Source Energy
- 05 IMAGINATIVE: A New Current(cy)
- 06 ACCOUNTABLE: Corporate Responsibility
- 07 RESPONSIVE: Fair Day's Law

shag. divisions

To effeciently govern and serve in the best interest of the citizens, **shag.** is separated into the following four divisions:

- 01 Office of Enforcement & Oversight
www.shag-power.com
- 02 Office of Individual & Family Affairs
www.shag-home.com
- 03 Office of Innovation & Technology
www.shat-it.com
- 04 Office of Information & Culture
www.shag-news.com



A proud product of the Clean Party.

All recommendations and for products presented are based on our own research and findings. As a citizen of the City of Newtown you are under 24 hour live/recorded video surveillance to ensure accurate and appropriate recommendations

For additional information, visit:
www.shag-home.com

City of Newtown:

To every action, there is an
equal and opposite reaction.

Charge up, plug in, turn on.
Be connected and in power.

www.shag-home.com

shag. spotlight

Every week **shag. Home** provides a spotlight focus on an existing energy harvesting product in your home, providing your family with tips and tricks for optimal utilization.

CARPET FOOTPRINT is a deep pile rug equipped with photovoltaic piezoelectric fibre that harvests energy through impact and movement; bioelectrochemical electrodes that can generate electrical current from microbes found in soil and sediment; and fibre-optic solar cells that convert solar radiation entering the home through windows and skylights into direct-current electricity.

- 01 FIERCE ACTIONS: Increase your carpet footprint by walking, running, or rolling around on any surface in your home. Generate energy from sitting, standing, or sleep on your shag carpet.
- 02 ULTRA DIRTY: No longer worry about wearing your shoes on the carpet or mats in heat rubbing around. Dirty is the new clean energy, powering all your personal electrical needs and desires.
- 03 ALWAYS RADIATING: Take down the curtains, open the windows, let the sunshine in. Solar radiation is an effective and powerful energy resource with full capability to charge all home essentials such as central air conditioning and heating.

Technology resources: University of Bolton's Institute of Materials Research and Innovation, Trophos Energy's Bioelectrochemical Energy System, and Pennsylvania State University.

shag. recommendations

The below products are **shag. Home** approved energy production recommendations that your family should consider to achieve new levels of efficiency.

CUFF LINKS

Moving, stretching, flexing - being active in the attic? Cuff Links provides the necessary resistance, whether acting alone or with your partner, to harvest mechanical strain and physical deformation.

WHINE FLASK

In a bad mood? Secretly drinking in the attic? Harvest and hide your sob's through audio baffling and conversion technology in the Whine Flask, while material friction from subtle sips and gluttonous gulps generates an extra jolt of power.

SPUNK BED

Frequently feeling frisky? Spunk Bed accommodates all genres of activity between, below, and above the sheets. Seemingly inconvenient stains are now fresh bacterial biofuel. Pull out these sheets for a prolific night!

TYPE KIT

Self-absorbed and generally anti-social at the dinner table? Type Kit can be integrated onto all personal devices to harvest energy from the most frequent and intimate form of touch!

ENERGY BELT

Whether just bloated or gained weight, Energy Belt helps you trim down while embracing the potential energy of your excess fat.

CLEAN SWEEP

Already an efficient, effective, and affectionate housewife? Surpass your own capacity with the Clean Sweep! By methodical mopping, seductive sweeping, and crafty cleaning - create electricity for most home appliances!

shag. home advocates the development of home environments that smartly anticipate and communicate family energy needs. Connected to the Internet of Things, through close monitoring of home energy production and consumption, shag. home provides personalized recommendations to help maximize the development of your home energy environment.

ENERGY OF THINGS

ability to power

MANIFESTO

Energy is everywhere and everything. Energy is our food, our mood, our attitude. Energy is power - a paradoxical power - transforming states but never disappearing. Here and now, we supersede the liminality of ambiguity, and mobilize our individual ability to power. Energy independence requires attuned awareness, adaptive improvisation, spontaneous innovation, and transcendent revolution. The tools and knowledge that aid this crusade are sought, sold and promoted by the ENERGY OF THINGS catalog, a proud operation of Smarter Home and Grid's Office of Innovation & Technology.

"The secret to change is to focus all of your energy, not on fighting the old, but on building the new." - Socrates



www.energy-of-things.com

FUNCTION

The ENERGY OF THINGS catalog functions as a promotion and access resource. Through the catalog, consumers can evaluate and determine products, services, and solutions worth investing in and how to efficiently implement them into a self-sustainable energy lifestyle. The information presented is continually revised according to user experiences and submissions by subscribers and staff.

WARNING

"Persons attempting to find a motive in this narrative will be prosecuted; persons attempting to find a moral in it will be banished; persons attempting to find a plot in it will be shot. BY ORDER OF THE AUTHOR." - Mark Twain, 1884

DISCLAIMER

The ENERGY OF THINGS catalog is a work of fiction. Names, characters, places, products, services, events, and incidents are a combination of imagination and reality. Please read with chilled beverage and a grain of salt. Sarcasm is intentional, offense should be taken, and all puns intended.

contact@energy-of-things.com

SMARTER HOME AND GRID

Smarter Home and Grid, shag, is under the supervision of the United States Department of Energy, and controlled by a political appointee of the President of the United States. Since shag's formation two years earlier in 2016, Dick Tate has been and still is the Active Chair and Democratic Controller, responsible for implementation, compliance, enforcement. Following international standards of good governance in conducting public affairs and managing public resources, shag operates under the following seven guiding principles:

[1] **Local:** What Happens in Newtown, Stays in Newtown All electricity produced by and for the citizens of Newtown is solely entitled to be used by or for the citizens of Newtown. Energy localism is the keystone principle in the collaborative effort to build a more locally based, self-reliant energy economy. Sustainable energy production, distribution, and consumption are integrated into enhance the economic, environmental and social health of Newtown. Local energy intensifies community vibrancy and stimulates local power while establishing a unique sense of community spirit. [2] **Participatory:** The 110% Guarantee Citizens of Newtown are guaranteed 110% of all electricity production. 100% of all electricity produced in public spaces is given back to the people to power community spaces and services used for recreational, religious, and governmental purposes. 10% of all privately produced electricity in the home is given back to the individual citizens to use as they desire. The 110% guarantee is a mandatory civic pledge is extremely beneficial in enabling local producers to support local consumers and public objectives. [3] **Sustainable:** Three R's: Recruitment, Reputation, and Regulation. The remaining 90% of all privately produce energy is allocated evenly - 30%, 30%, 30% - into the three departments of Recruitment, Reputation, and Regulation. The privately produced energy allocated to the Department of Recruitment is sold internationally to fund efforts to engage with new potential residents of Newtown, an essential component to sustain community growth and energy production. Recruitment entails actively seeking individuals who are disillusioned, overtly passionate, and desiring a higher purpose. Energy allocated to the Department of Reputation will also be sold internationally. Reputation profits are used for propaganda - locally, nationally, and globally - to sustain the Clean Party status and shag vision. Lastly, energy allocated for the Department of Regulation is distributed among all government employees enlisted to sustain compliance and high community standards.

[4] **Transparent:** Open Source Energy The source of all energy produced and consumed is to be open and accessible to all citizens of Newtown. Following shag's open government doctrine that gives citizens the right to access all documents and proceedings for effective public oversight, both weekly online and print status updates are distributed to every household in a civil effort to inform and motivate. It is important for personal energy production and consumption to be aware of potential performance improvements through routine comparison. [5] **Imaginative:** A New Currency? shag strongly believes in the leveraging the emerging creative industries, with a strong focus on, but not limited to, the arts and sciences. Inspired by the cutting edge inventions and technological progressions that have made Newtown possible, shag, aspires to be a community

role model through the invention and implementation of a new currency - energy. As the sole legal tender of Newtown, this new financial model will adequately represent and reward human work. [6] **Accountable:** shag, strongly believes in individuals being held responsible for the cooperation in energy production and consumption. [7] **Responsive:** shag's Fair Day's Law facilitates the fair ability for ever citizen to be responsive and adaptable to all situations and needs. shag, is divided into four governing entities that operate within a system of parallel sovereignty, operating under the seven guiding principles. The four offices are:

Office of Enforcement & Oversight [shag, Power] oversees all energy production and consumption within the town of Newtown. Utilizing a modernized electrical grid with intelligent information technology to closely monitor community energy operations, shag, Power ensures participatory behaviors of producers and consumers through regular enforcement and oversight. Energy statistics of Newtown community members are distributed weekly to inform citizens of net energy production and consumption to collect potential deficits, foster healthy competition between neighbors, and exhibit social welfare through redistribution.

Office of Individual & Family Affairs shag, home advocates the development of home environments that smartly anticipate and communicate family energy needs. Connected to the Internet of Things, through close home energy production and consumption monitoring, shag, home provides personalized reports, technical assistance, instructional materials, and suggested mechanisms to help maximize the development of your home energy environment through the weekly shag, Home brochure.

Office of Information & Culture [shag, News] has a broad canvas of responsibilities based on the impetus of keeping the citizens of

Newtown informed, inspired and involved with the production and consumption of energy. Through an extensive outreach program involving a dedicated mass media campaign, shag, News provides Newtown with frequent weather updates so every citizen can accurately rely on their own energy production, information on new product trends and analysis, and cultural community events to facilitate fun energy production outside the home. **Office of Innovation & Technology** [shag, IT] conducts research, develops technology and helps build a network of intellectual resources. shag, IT's primary focus is the Energy of Things - a weekly government issued catalog of home energy harvesting products available for purchase. Intellegently tailored to each family members everyday activities, movements, and behaviors from information provided by shag, home, shag, IT is committed to creating a responsive selection of products that are adapted every issue to individual family needs. Though invented, designed, and created by individual members of the community, shag, IT meticulously connects every product to the Internet of Things to continue to accurately monitor family life for optimal service and continued product development.

www.shag-power.com
www.shag-home.com
www.shag-it.com
www.shag-news.com

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summer 2018

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CATALOG PROCEDURE

getting shit done

ORDERING

All products advertised in the ENERGY OF THINGS catalog are sold online only at limited quantities and availabilities. Visit www.energy-of-things.com to place an order using the individual item order numbers, located within the product description below the price. You will be asked to verify your age, religion, sustainability commitment, and ordering motivations. If you are not satisfied with your purchase, please first reread the instructions. If you are still unable to successfully operate your purchase, consult a knowledgeable friend for assistance. ENERGY OF THINGS strives to create interactive relationships with the members of the catalog, site, and correlating services. Prices, postage, and shipping costs are subject to rise without notice.

SUBMITTING

To improve the ENERGY OF THINGS, the catalog may use and promote products and services submitted by outside third parties. All third party information is only as good as the transmitted user experience, and the catalog is not liable or responsible for the accuracy, completeness, timeliness, or reliability of suggestions, ideas, feedback, comments, or any offered information. Do you have something to add to the catalog? If so, please email submit@energy-of-things.com. All submitters of products, services or pertinent information are usually awarded with a thank you tweet, email, or snail and will most likely being credited in the catalog. ENERGY OF THINGS is under no obligation to [1] maintain any submissions in confidence; [2] pay any compensation for submissions; or [3] respond to any submissions.



www.energy-of-things.com

SUBSCRIBING

Citizen of Newtown are automatically subscribed to the ENERGY OF THINGS catalog and affiliated services. The catalog is currently unavailable outside the city of Newtown, but will be soon, and for a fee that is TBD (to be determined). Please visit www.energy-of-things.com/subscribe/ to register for updates.

DONATING

The ENERGY OF THINGS catalog is a for-profit subsidiary of Smarter Home and Grid's Office of Innovation & Technology [shag, IT]. All product proceeds are allocated to technology research and development, and building a network of intellectual resources for the city of Newtown. Employees, submitters, enthusiasts, and disciples are unpaid and undervalued. Verbal, monetary, and gift donations are highly appreciated and can be processed at www.energy-of-things.com/donate/. All major credit cards accepted through PayPal.

THIRD PARTY LINKS

Both catalog and online platforms may link to, or promote, web sites or services from other companies or individuals. We are not liable for content appropriateness or data collection practices on third party sites linked to or from the ENERGY OF THINGS, therefore you access them at your own risk.

JACK-IN-THE-BOX

Jack-in-the-Box, or JIB, is a portable box made of a opaque, hard outer shell with a single hole on one side for penis insertion. The hole features a padded edge for general comfort. The inside of JIB is soft, squishy, and moist with a responsive materiality that provides optimal friction. Fiction and heat created by the penis rubbing against the inside membrane is the source of electricity generation. While the inside material allows a comfortably tight fit around the penis, excitement sensors track and collect performance data that provides useful information for self analysis. In addition, the sensors facilitate smart squeezing, a responsive mechanism that lessens the inside grip just before ejaculation, thus prolonging the experience and generating maximum electricity. All energy is stored in a removable battery easily accessed by a sliding side panel. The battery contains a USB port to allow either direct powering of an entertainment device while using JIB*, or portable battery access for later use.

All activity is automatically tracked and collected by the SHAG cloud. The JIB APP allows personal access to performance data, as well as games and social media integration. It is available at the SHAG APP store.

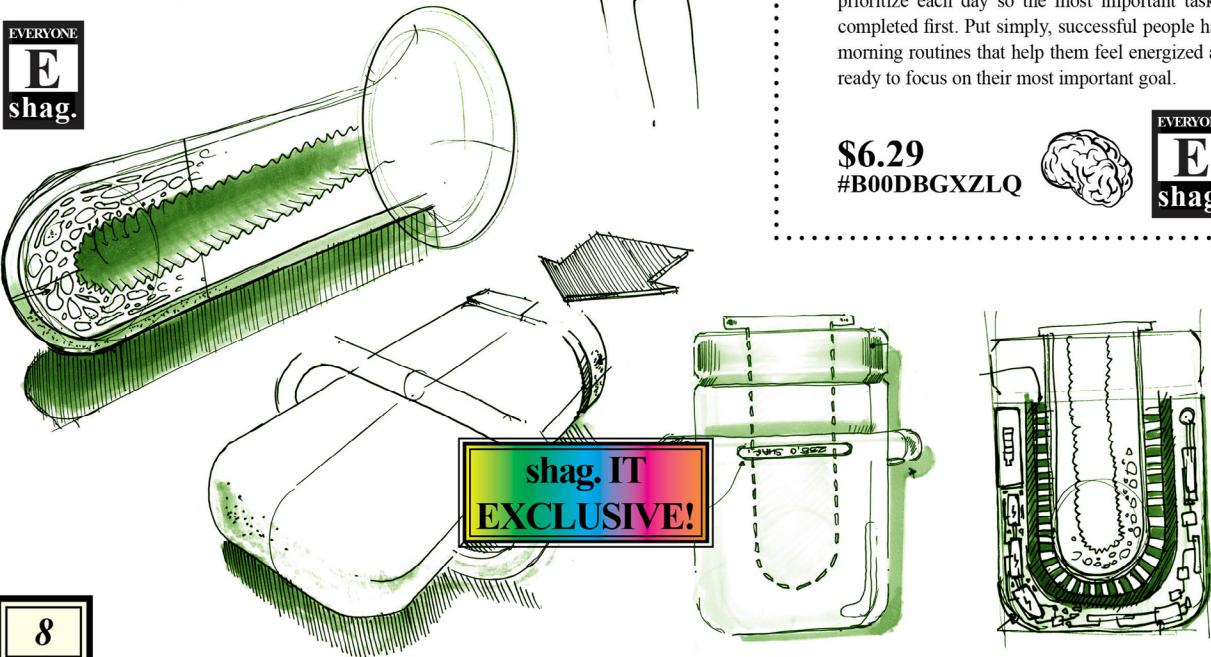
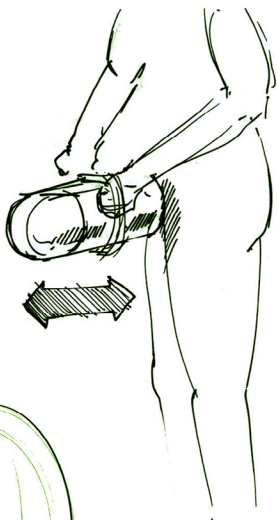
*Note: This reduces energy harvesting capabilities by 70%.

Options:
Sizes: Small, Medium, Large, X-Large
(custom sizes available)
Colors: White or Black

Included: Instructions with tips and techniques on optimal rhythm and force performance.

Illustration by Maxime Dubreucq

\$119.69
#B00DBGXZLQ



shag. IT
EXCLUSIVE!

WAKE UP SUCCESSFUL

How to Increase
Your Energy
& Achieve
Any Goal With
A Morning
Routine

S.J. Scott

WAKE UP SUCCESSFUL

Having trouble achieving your goals? The reason most people aren't successful is they fail to follow a day-by-day strategy. Instead they start each day, "hoping" they will have enough time to take action on their goals.

If you closely examine the world's most successful people you'd see they start each day in an energized state, ready to accomplish any goal. What's their secret? The *one thing* they do differently is they prioritize each day so the most important task is completed first. Put simply, successful people have morning routines that help them feel energized and ready to focus on their most important goal.

\$6.29
#B00DBGXZLQ



NPOWER PEG

The nPower PEG is a human power charger that harvests your kinetic energy as you go about your daily activities. Whether while you walk, hurry, scamper, chase, or run away; PEG captures and stores kinetic energy, providing extra power for use wherever, and whenever you need it. As a hybrid charger, PED can accept a charge from your kinetic energy and via USB, to extend the use time of your cell phone, GPS, vibrator, and other hand-held electronic devices. In times of emergency, shake vigorously for only 10 min to create enough charge for an empty PEG to make a short phone call. store.npowerpeg.com

THE POWER IS IN YOU!®

\$129.95
#8882143137



"Passion is energy. Feel the power that comes from focusing on what excites you." - Oprah Winfrey



FUJIFILM THERMOELECTRIC

Fujifilm has used the Nanotech 2013 conference in Tokyo to demonstrate some progress with the creation of a new thermoelectric conversion material. Such a material can convert temperature differences directly into electricity, which can then be stored or used immediately to power or charge some device.

<http://www.geek.com/chips/fujifilm-creates-organic-printed-sheet-that-harvests-energy-from-body-heat-1538783/>

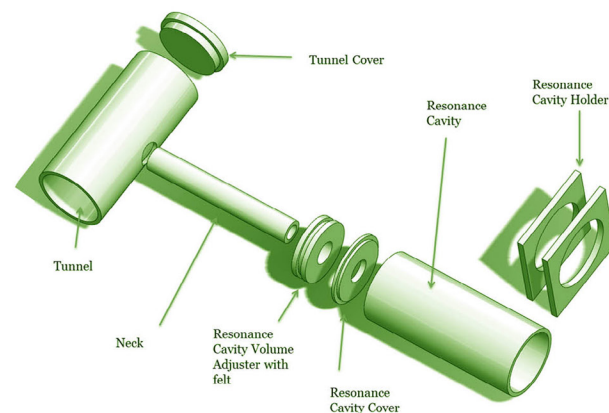
MISTER HANDS

Upon first glance, Mister Hands appear to be standard dishwashing gloves. Once slipped on, not only do you feel the snug and personalized fit as they morph to the hands for clever dexterity, but you are literally shocked with the tiny jolt of electricity that runs through your hands - an alert that they are on and working. Once slipped on, not only do you feel the snug and personalized fit as they morph to the hands for clever dexterity, but you are literally shocked with the tiny jolt of electricity that runs through your hands - an alert that they are on and working.



\$19.88
#8882143137





ACOUSTIC ENERGY HARVSTING

Acoustic energy harvesting is the process by which energy is derived from external noise sources, captured, stored, and controlled for small wireless autonomous devices. Acoustic energy harvesting is not as popular as the other types of energy harvesting method since sound waves have lower power density. However, in this age of efficiency and alternative energy sources research, acoustic energy harvesting has become something that can't be overlooked since it is one of the vastly available energy sources.

The device was modeled based on the Side Branch Helmholtz Resonator, which consists of a neck, cavity chamber, and membrane attached at the end of the chamber. The membrane is connected to piezoelectric material that converts the vibrations caused by the sound into electrical energy. This energy will then be directed to a storage device that will be capable of autonomously storing. As for the storage device, we will be using CYMBET CBC EVAL 09 EnerChip CP, an energy harvesting evaluation board that can track and measure the energy generation while at the same time having the ability to store and channel the collected energy.



10

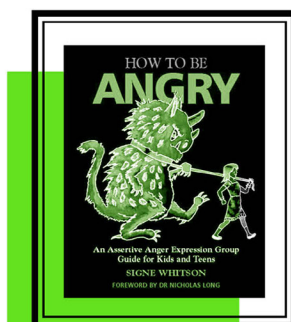
"Fear is literally an energy in the body, as are all of our emotions. When we recognize it as such we are able to visualize control over it, being able to manipulate it and to help it shift." - Carolyn Tucker

How to Be Angry: An Assertive Anger Expression Group Guide for Kids and Teens by Signe Whitson

Are you fed up with child behavior problems? Is your family life stressful and unpleasant? Are you exhausted from never-ending battles? Do you wish your child were more patient...or more outgoing...or less impulsive...or simply different from who she is?

There is a way out of your endless loop of frustration. Parent coach Nancy Rose paves the way with a remarkably effective approach: Leading with Acceptance, which draws upon real life parent/child relationships, current studies, and groundbreaking methods for understanding and accepting your child's CoreSelf traits.

HOW TO BE ANGRY



\$27.68
#1849058674



SCARE CITY PLEASURE FIELD

Scare City Pleasure Field is a theme park designed to educate citizens of all ages on the impacts of climate change and the scarcity of natural resources. Guaranteed to leave you frightened for an extended period of time, Scare City Pleasure Field was voted one of the nation's most thrilling theme parks. Enjoy roller coasters that will make you squeal, rides that will leave you dizzy, and games that no doubt never make you want to step outside again into the ruined environment.

Take the whole family today! Educational discounts available for schools, churches and large groups seeking to educate ignorant citizens of all ages.

\$19.99 / single entry
#12345678987654321



YEARS OF LIVING DANGEROUSLY

Years of Living Dangerously is a 9-part Showtime documentary focusing on climate change and natural disasters. Each episode features celebrity investigators who travel around the US and world, most likely though not confirmed, using environmentally sustainable methods of travel like eco jets, exposing the traumatic effects of global warming. Interviews with both experts and ordinary people affected by and searching for solutions, seek to raise public concern about climate change through a human centered approach, claiming to bring personal stories to the forefront while primarily replete with images of raging wildfires, vanishing glaciers, and violent floods. Though most likely produced all in good faith, Years of Living Dangerously is undeniably a thrilling, lavish production with potential to inspire polarization, denial, and pessimism.



www.yearsoflivingdangerously.com

Network: Showtime

IMDB: 8.3/10

FREE
#B00DBGXZLQ



TEMPER TRAP

Temper Trap is a responsive mask that harvests energy from sound vibrations. Worn by either angry shouters, or even just very loud individuals, Temper Trap absorbs all vocal noise and converts it into usable electricity. As Temper Trap will inhibit individuals from communicating emotion and vocal expression, its facade monitors both volume and key words, and responds by displaying coinciding images relevant to the speaker's message.

Available separately is Temper Trap Haiku, a digital add-on that translates collected noise into haikus, and emails them to the individual being yelled at.

\$129.95
#8882143137



shag. IT EXCLUSIVE!



10 WAYS TO RAISE YOUR VIBRATION

[1] **Find something beautiful and appreciate it.** Beauty is all around us, from the morning dew to the evening stars and everything in between.

[2] **Make a list of all that you are grateful for.** Making a gratitude list shifts your vibrations from focusing on what you do not have to what is already abundant in your life. Gratitude is the Attitude.

[3] **Meditate.** Sit in a comfortable position, close your eyes and breathe in and out.

[4] **Do something for someone else.** Giving to someone else shifts your thinking from "I don't have enough, so I have more than enough to give to others." Abundance is a high vibration.

[5] **Stop complaining and gossiping.** Complaining and Gossip puts you in a very low vibration. Ask yourself "Are the things you are talking about bringing you more of what you want?" If not then, Stop complaining, and start finding ways to rejoice.

[6] **Move. Exercise. Get active.** Vibration requires movement, the more you move the better your vibrations move. The happier you feel, the more you will draw happy experiences to yourself because you are operating at a different frequency.

[7] **Realize that you have more control over your life than you thought.** You are not a victim to circumstance, past, family upbringing, trauma, or anything else. You can change your life in an instant. Just realize this.

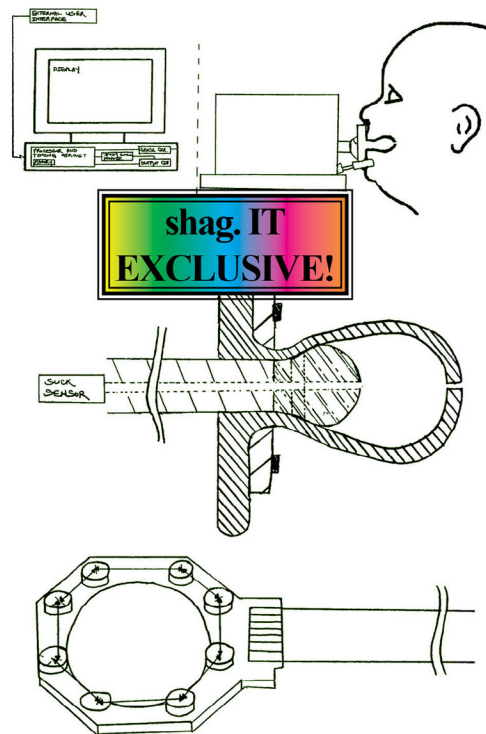
[8] **Breathe.** Just sit and try to make your breath longer, fuller, and more relaxed. A calm vibration is a high vibration.

[9] **Do Something You're Afraid Of.** Fear holds us back from being in a state of love and happiness, and facing those fears opens you up to a greater world of possibilities.

[10] **Have a meaningful conversation with a Friend.** Talk about your ideas. What do you have planned for yourself? What do you think is the nature of reality? Are we spiritual beings having a human experience? Talking about these things with someone helps to raise both your vibrations by thinking big.

Source: Mind Openerz

11



PACIFY HER

Pacify Her is an energy harvesting pacify that uses sucking motion to generate electricity. For you, your baby, or a pet - Pacify Her is a versatile energy harvesting solution that is available in a variety of sizes, styles, materials, and textures. It can also be ordered with a coatable flavor spray that can contain caffeine, calories, or sugar to get you alert and generating as much electricity as possible.

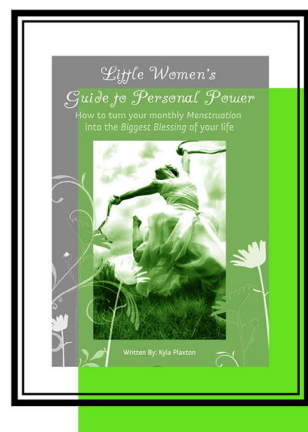
Pacify Her contains cutting edge technology that has been extensively user tested, though engineers strategically decided to focus performance over comfort.

Disclaimer: High likelihood of braces needed, as determined by user tests on rats and cats, but energy harvesting savings are predicted to easily cancel out money spent on potential medical and psychological care.

\$6.33
#5UC9ER5



LITTLE WOMEN'S GUIDE TO PERSONAL POWER



\$6.33
#5UC9ER5



12

This book is a step by step guide to empower you to look within yourself, discover your own unique little inner voice, and create a life you love.

At puberty strange things begin to happen to your body. Hair grows in places where there has never been hair before. Breasts begin to grow. Emotions seem to come and go as they please. Uncontrollable new feelings begin to arise. In addition to all these changes, you start getting your period once a month.

Growing up is inevitable. No one gives you a hand out with instructions about how to grow up. There isn't any one person who has all the answers to your questions. Who do you turn to? Who do you listen to? Who can you trust?

This book will show you how to have your little inner voice be your guide to the questions you have growing up. Listening to your little inner voice will give you the answers you are looking for to create the life you truly dream of. This access will give you personal power and self-confidence that you will have for the rest of your life.

BLOOD TURBINE

A small turbine located inside a millimeters-wide human artery could harvest enough energy from blood flow to power implanted medical devices, such as pacemakers and drug-delivery pumps. The concept has been presented by researchers at the University of Bern and the Bern University of Applied Sciences during the Microtechnologies in Medicine and Biology conference in Lucerne, Switzerland, earlier this month.

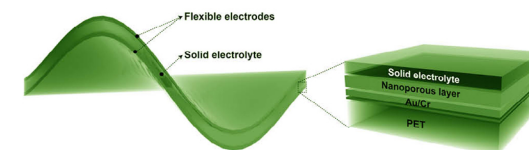
Source: <http://bit.ly/QFThKx>



IMPLANTS

Researchers from several institutions in the U.S. and one from China have together developed a piezoelectric device that when implanted in the body onto a constantly moving organ is able to produce enough electricity to run a pacemaker or other implantable device. In their paper published in Proceedings of the National Academy of Sciences, the team describes the nature of their device and how it might be used in the future. heartbeat power

Currently, when the battery inside a device such as a pacemaker runs out of power, patients must undergo surgery to have it replaced. Several devices that take advantage of the body's natural parts have been devised to allow for the creation of electricity internally so that implantable devices can run for a lifetime, preventing the need for additional surgery.

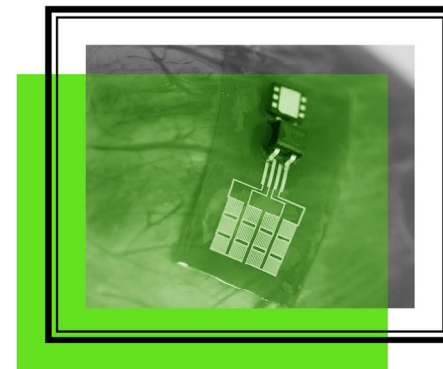
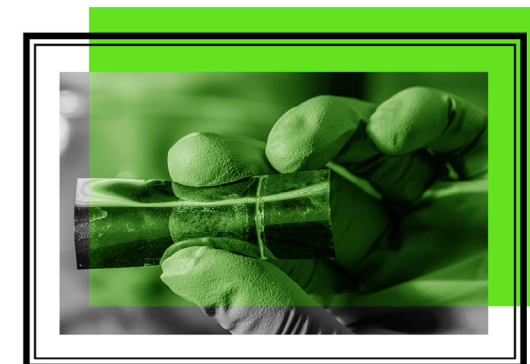


FLEXIBLE BATTERY

Rice University lab chemist James Tour and colleagues have developed a thin flexible battery ideal for portable and wearable electronics. The electrochemical capacitor is composed of nanoporous nickelfluoride electrodes layered around a solid electrolyte to deliver battery-like performance while only a hundredth of an inch thick. The device combines the best qualities of a high-energy battery and a high-powered supercapacitor but made from flexible materials, a noteworthy breakthrough as high capacity materials are usually brittle. Testing of flexibility and cyclability prove the material maintains its high performance under long-term cycling and during exposure to subjection to various bending conditions.

Source: <http://bit.ly/flexible-battery>

Image: Rice University



BOOBY TRAP

Leverage your bodacious assests for maximum energy harvesting capacity with Booby Trap. Too frequently big breasts are under utilized during physical activity and often only ridiculed for interference and resulting back strain. Booby Trap takes full advantage of the bouncing motion, converting it into electricity. Too frequently big breasts are under utilized during physical activity and often only ridiculed for interference and resulting back strain. Booby Trap takes full advantage of the bouncing motion, converting it into electricity.

Illustrator: Alastair Warren

\$69.96
#81G80085



13

Infomercial script for Mister Handies

Millions of women like yourself suffer from repetitive hand jobs, that leave you exhausted and without power. Cleaning a dirty home is a major culprit, stripping you of personal time and valuable energy.

Introducing, Mister Hands, the comfortable daytime companions that take full advantage of your every move and position.

Ergonomically designed and fit to efficiently hug your every curve, Mister Hands feature cutting edge technology, empowering you to harvesting energy from surface to surface contact, vigorous friction, heavy shaking, or just holding on tight.

While most housewives run in place or put on weight to generate electricity, you're in good shape. Mister Hands makes multi-tasking easy, utilizing your everyday routines and gestures to keep your favorite devices ping-pong, vibrating, and providing endless entertainment.







The Family Circuit: A New Narrative of American Domesticity

PROLOGUE

AD This podcast of - The Family Circuit: A New Narrative of American Domesticity - is supported by Mister Hands, the all in one housewife helper that makes it easy to wash, scrub, and polish. With cutting-edge technology, durable construction, and sterilization mechanisms, you can generate electricity while cleaning in minutes. For a free trial, visit misterhands.biz/familycircuit.

IVAN GASS Hey everybody - Ivan Gass here - You might have seen this on the news recently, that the Energy of Things catalog - a local, government run resource in the town of Newtown, South Iota - that sells and promotes personal energy harvesting tools, tips, and tricks - will be transitioned into a nationally supported program in the upcoming months. Now, the catalog was originally only intended to be temporary service, just for the residents of Newtown. As I’m assuming most listeners know, and I’ll dive into more details later, Newtown is a sustainable test city, where all citizens are required to produce all the energy they desire to consume. And the Energy of Things catalog contains all sorts of products, advice, resources, you name it - to help individuals generate - their own electricity. Today on our program - in an episode titled “You Get What You Give,” - we are going to uncover the political origins of the catalog - but perhaps more importantly - the potential implications of this self-sufficient lifestyle.

In act 1, I’ll give the history of Newtown. In act 2, I’ll introduce the Power family, and in Act 3, well, the Power family will invite us into a day in their lives.

From W-B-Clean Umeå, its The Family Circuit, distributed by Private Recordings International. I’m Ivan Gass. Stay with us.

MUSIC: The Ballad of Speck and Pebble by Delicate Steve

ACT 1: NEWTOWN, SOUTH IOTA

IVAN GASS I think we can all agree that the Clean Party’s surge to power two years ago during the 2016 free electrons was the most friction the nation has experienced in decades. After the declaration of climate change as fact - which was definitely an inconvenient truth, public opinion was no doubt jolted into waves of alternating currents. This extreme polarity and variable resistance could only be bridged by the Clean Party, with their “none-of-the-above” energy policy. This subtle flip, switched the focus from developing every source of American-made energy, on to sourcing every energy made by Americans.

SOUND: audience clapping

PRESIDENT Now, one of the biggest factors to bringing more jobs back, is our commitment to energy made by Americans. The None-of-the-Above strategy is an obvious renewable energy solution that will create ampere work for citizens.

SOUND: audience clapping

IVAN GASS Furthermore, the Clean Party’s extensive propaganda campaign was quite successful at amplifying a spike in volts, featuring slogans like:

SOUND: audience clapping

PRESIDENT Fixing tomorrow today!

The power of YOU!

Why wait, mitigate!

SOUND: audience clapping

IVAN GASS Following the president’s induction into office, he appointed former senator Dick Tator, to create and develop the test city Newtown, located in South Iota, to be the first fully self-sufficient master-planned community. Established under the banner of the New Suburbanism design movement and administered by the Smarter Home and Grid association, Newtown follows the guiding principles of environmentalism, smart city growth, and intelligent home automation - placing an unprecedented focus on a return to the American Dream of social mobility through hard work. Literally.

SOUND: audience clapping

PRESIDENT Newtown will utilize the everyday effort of its own inhabitants, as a clean, reliable, and efficient source of energy. Social mobility, or urban sprawl, will consequently be achievable for all. Moving forward, I hereby appoint former senator Dick Tator, esteemed nationally for his efficiency and capacity, to preside over the Smarter Home and Grid, or SHAG, association. SHAG strives for Newtown to be a positive fusion of individual energy production and consumption. For I have a vision of Newtown as a powerful community, a leading example for the nation. Continuous effort is the key to unlocking this potential energy. For without energy, there is no power. To sustain that vision, we have SHAG, and together with your input and helping hands, we can give birth to a new era.

MUSIC: America by Dusty Kid

IVAN GASS Sounds pretty great right? A clean, self-sufficient, sustainable city with an abundance of work. What more could you ask for? And from here its not hard to imagine how the Energy of Things catalog fits into the Newtown utopia. Not long after the creation of SHAG, their innovation and technology office launched the catalog as an all encompassing tool for the Newtown residents, to make this abundance of work easy, accessible, even enjoyable. But how do we ever really know what a place, a service, a paradigm, is like - especially before it goes national - without stepping into shoes of those walking the walk, and living the dream.

ACT 2: THE POWER FAMILY

IVAN GASS When Otto and Lotta Power heard about Newtown in early 2016, they jumped on the opportunity for their family to take part in the sustainability revolution. Though, moving their two children in the heart of adolescence (Robin Power, 15 years old at the time, and Max Power, only 10) wasn’t any easy decision or transition for the family. But Otto was already well acquainted with the trials and tribulations of moving.

Born in 1975 in a small coastal city to a military family of eight, Otto’s childhood was nothing short of interesting.

SOUND: home sounds

OTTO POWER Well, my father often said things like ‘all you need is less,’ or ‘familiarity breeds contempt,’ and I’m not convinced I even now know what he was talking about, but it definitely impacted my childhood.

IVAN GASS And by impacting his childhood, he probably actually means instilling a creeping sense of personal failure. Otto often felt lost and out of place as his family frequently relocated from country to country due to his father’s career. His own sensitivity to never fitting in, eventually translated into placing extreme value in imperfections and defects, since well, thats how he viewed himself.

OTTO POWER I guess you could call it a form of self therapy, a way to distract myself. I spent a significant portion of middle school meticulously mending well worn clothing from mismatched fabrics. I wasn’t long before I earned myself some nicknames at school - like ‘Patch’ and ‘Polka.’.

IVAN GASS Despite some childhood setbacks, he eventually received a B.S. in Imaginative Engineering before landing a highly coveted job in Silicon Valley as a Creative Technologist for a startup that was developing an infant gene therapy application called Parental Precision. Sponsored by toy manufacturers and pharmaceuticals, Otto’s specific role in the venture was coding an algorithm for a prenatal personality generator to be used by expecting parents during their first trimester. Since this particular component of the service emphasized exactitude with the chosen genetic manipulations, Otto’s spontaneous decision late one night to incorporate a random quirk generator as a hidden feature was not appreciated. Initially unnoticed for over a year, a billion dollar class action lawsuit eventually hit the startup as the first generation of modified babies began speaking with incompatible yet distinguishable regional accents - saying the “Bahston mah” or the “New Yorkah ovah deh.” He was immediately fired without severance pay.

OTTO POWER It was pretty rough after that. I didn’t know if anyone would hire me. And I thought I was just putting the creative in Creative Technologist. Luckily though, after a pretty shitty year, a former intern of my dad set me up with a job as a Senior Incident Designer at the Conduct laboratory - a government consultancy for the Behavioral Development Bureau. Essentially, I design political scandals to generate publicity.

IVAN GASS And its quite perfect actually - a childhood spent searching for the positives in things different and defected - now manifested in exposing flaws and designing affairs, all for positive publicity. Because of course all publicity is good publicity.

SOUND: home sounds

OTTO POWER I like to say: there are no such things as mistakes, only happy little accidents.

SOUND: home sounds + baby crying

IVAN GASS Which is exactly how he responded when his 17 year old daughter Robin told her parents she was pregnant last year. His wife Lotta though, was less than thrilled. As a typical Millennial, Lotta Power has always been very concerned with the opinions and approval of others. A teen pregnancy in the family was not a favorable situation, but Lotta views life as a team sport, her family playing first string, and a baby was a promising addition to the lineup. The family though questioned the sincerity in Lotta’s ultimate acceptance, for ever since a 23andMe genetic test in her late 20s informed her she was 4 and half % Nigerian, her resulting identity crisis was questionably self medicated with an obsession for conspiracy theories and only speaking in the 3rd person. As a result, her children were even more independent than their fellow members of Generation Z. In addition to being a new mom, Robin founded and maintained the highly successful Suburban Dictionary, while 12 year old brother Max was already a globally renowned ambient DJ, famous for tracks like ‘Peeing Go-Lightly’ and ‘Thunder Down Under.’

MUSIC: Hooray! Hooray! Hooray! by Do Make Say Think

OTTO POWER I also like to say “If you do not enter the tiger’s cave, you will not catch its cub.”

IVAN GASS I think its safe to say all families have their own histories and motivations, leading up to and impacting both the big and little decisions in life. And perhaps at the end of the day, just like the Power family, we are all from a dysfunctional family of sorts, and our somehow successful ability to still navigate the world around us, often creating chaos along the way, is what in fact makes us normal.

ACT 3: ACTIONS & REACTIONS

OTTO POWER I made the mistake of leaving the energy bill from SHAG power out on the table.

IVAN GASS SHAG’S Office of Enforcement & Oversight, or SHAG power, distributes a weekly power bill to all residents. In conjunction with providing information on individual family member consumption, the bill also displays the top neighborhood consumers and producers of energy, in an effort to generate healthy competition and conspicuous production.

OTTO POWER Lotta is very competitive. And often overreacts. So when she saw that we weren’t even ranked on the production list, she took matters into her own hands. And unfortunately also tried to teach Max a lesson.

IVAN GASS Also delivered weekly, though by SHAG’s Office of Individual & Family Affairs, is the SHAG Home brochure - a personalized service, that through the close monitoring of every home environment, can provide detailed recommendations on energy harvesting products and activities to pursue, in order to increase at home energy production. In addition, the brochure highlights and provides relevant tips and tricks on a product already owned by the family. In this instance, the SHAG Carpet Footprint purchased by the Power family last week. And all these referenced and suggested products are all available for purchase in the Energy of Things catalog, produced by the Office of Innovation & Technology, or SHAG IT.

OTTO POWER

She hid his headphones, I’m not actually sure where since he still hasn’t found them. And while he was running around wild searching for them - poor man is pretty upset, he had a great idea this morning for his next recording - he did actually generate quite a lot of electricity.

IVAN GASS

But also in his frenzy, Max unfortunately woke sleeping Minnie, Robin’s daughter, who was sucking on the Pacify Her, an energy harvesting pacifier, which was charging Robin’s cellphone. And as Minnie started crying in response to the ruckus, Robin received a new submission to Suburban Dictionary. Though as the Pacify Her fell to the floor, Robin’s phone instantly died and she was unable to monitor the incoming proposal. But like any great business woman - or desperate teenager - her instincts prevailed and she began sucking on the Pacify Her herself.

MUSIC: Thirteen by Big Star

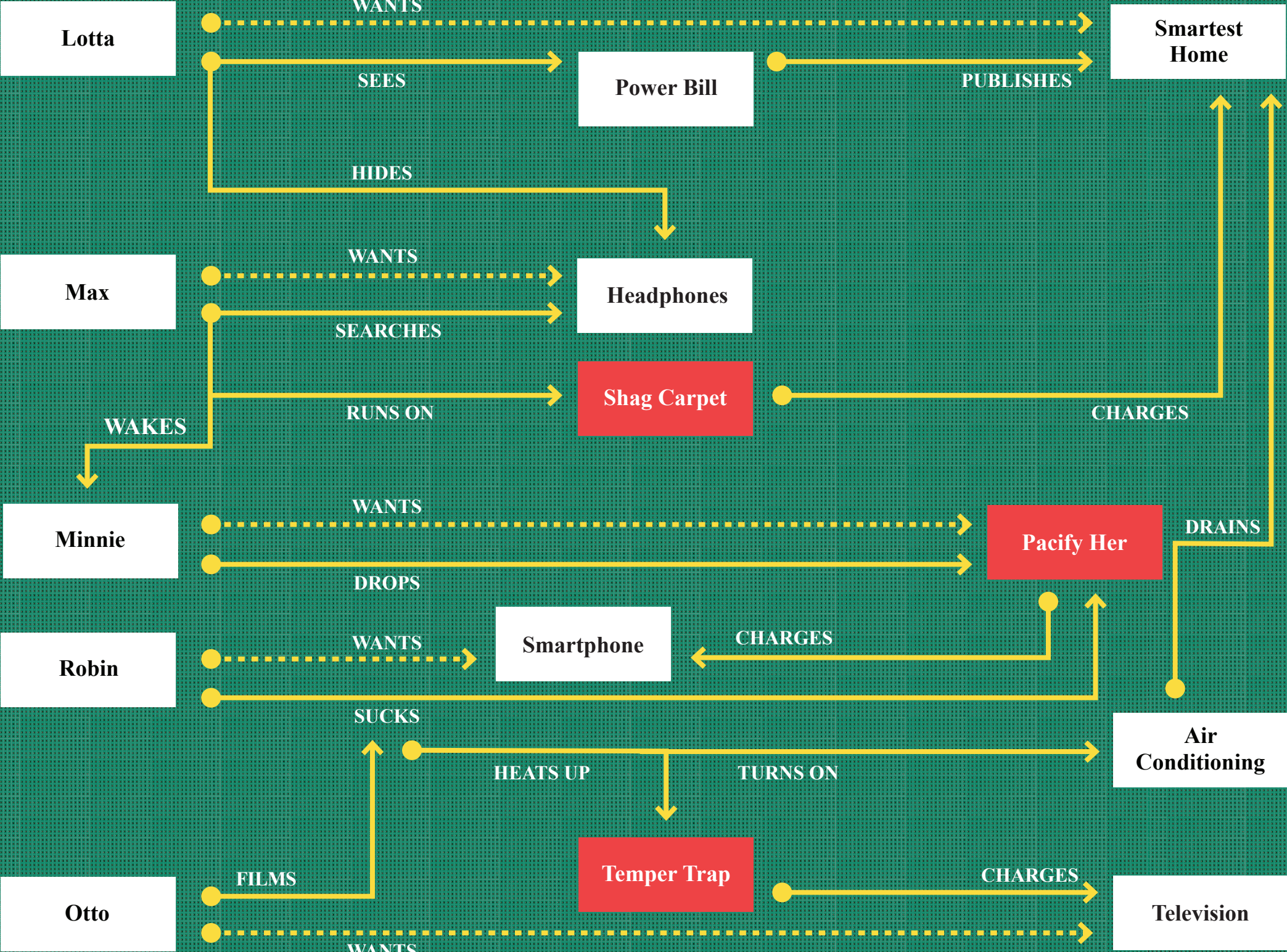
IVAN GASS

I mean honestly, can you blame what I did? I really wanted, no needed, to watch the morning news, but Lotta had disconnected the television from the central energy system until the SHAG carpet harvest a high enough quota to get us on next week’s ranking. And looking at Robin ridiculously sucking on the damn Pacify Her, I could resist the opportunity to instagram it. See, I knew she’d get upset at me, but since she was wearing the Temper Trap, her anger could, and would, generate enough electricity to power the TV.

What Otto didn’t anticipate though, was that during Robin’s resulting tantrum, as she heated up both figuratively and literally, she would then turn the air conditioning on high. And it wasn’t disconnected from the central energy system... thus consequently canceling out all energy produced by Max on the SHAG carpet. Leaving the Power family, powerless.

Which leaves me to wonder - as the Energy of Things catalog is transitioned into a federal program in the coming months - What will you do? How will you act? What if you were required to produce all the energy you desired to consume?





Lotta Power wants her home to be ranked highly on the energy produciton list in the weekly *shag. Home* brochure. When she doesn't see the Power family listed as a top net energy producer in Newtown, she becomes irritated. The brochure highlights the energy harvesting potential of the piezoelectric shag Carpet Footprint already installed in the Power family's central home energy system. In order to stimulate more energy production while also inhibiting consumption, she hides Max's headphones so he cannot work on his ambient DJ album. Frustrated, as she anticipated, Max begins searching frantically, running around the house and thus generating electricity as his feet rub and pounded on the shag carpet. Though, in his fervent searching, he causes a ruckus and wakes sleeping Minnie frightfully from her nap. As Minnie begins to cry profusely, she no longer sucks on the energy harvesting Pacify Her that Robin personally uses to charge her smartphone. Right as Minnie drops the Pacify Her, Robin receives a text notification about a new submission to Suburband Dictionary, the website she founded and manages, but doesn't have time to read it before her phone dies. As Minnie is still crying and refuses the Pacify Her, Robin begins to suck on it herself. Otto wishes to watch the morning news before heading to work, but sees the television is low on power and Lotta has disconnected it from the central home energy system. As he observes Robin awkwardly with the Pacify Her, he luckily has just enough power in his phone to seize the opportunity to take a photo and post it to Instagram. Just as Robin's phone turns back on, charged by the pacifier, she sees the image Instagram and becomes furious. Since she doesn't want to loose power in her phone and thus continues sucking on the pacifier and expresses her anger through violent gestures. Luckily, she is wearing the Temper Trap purchased by Otto, which harvests energy from vigorous movementa and skaking. As she intensely expresses her emotions over the photo, Otto is able to wirelessly charge the TV with energy harvested from the Temper Trap. Overheated from emotion, Robin turns on the air conditioning, which is part of the central home energy production system, draining the house of all recently produced energy. The Power family is no powerless.

6. Reflections



“By putting people in totally new situations that’s really how we discover something about ourselves.”

Philip Zimbardo
Freakanomics: Fear Thy Nature

Last year during my first year as an interaction design student at UID, a second year in the Advanced Product Design program gave me the advice for when I do my thesis, to focus on choosing a topic that I am passionate about, as opposed to being concerned about getting a sponsor or the perceived industry relevancy. She expressed that by doing this, thesis has the potential to be, or at least feel, easier and perhaps even be enjoyable. Upon hearing this advice, I immediately knew I wanted to do my thesis on energy, for the obvious reasons described in my personal interest statement. As I reflect upon taking this advice, I could not be happier to have spent the past semester working on a topic and with a design method that I fully embraced and enjoyed. I can honestly say that this project has been both the most intellectually and personally rewarding experience in my academic career.

Following relatively recent examination and exhibitions, I consider the goals and wishes of my thesis fulfilled, but believe this initial internal feedback and public reception only scratches the surface on my perceived success of the project. Overall, since examination, my first ‘public’ presentation of the project, I have received very mixed responses. These include people feeling uncomfortable, amused, confused, inspired, offended, and invited. Additionally, I’ve had some exhibition visitors describe my project both as a utopia, and others as a dystopia, neither of which I ever explicitly reference. Furthermore, and perhaps most personally rewarding for myself, at the recent Semcon exhibition multiple exhibition guests have communicated their own struggle within personal sustainability actions that they identify within the project. For example, an employee of Volvo expressed his choice of biking over driving to work for environmental reasons,

while simultaneously desires more people to buy cars for his own job security. These internal struggles and conflicting emotions, whether within a single person or across many, are what I believe a sign of the project successfully creating a liminal world that allows for many interpretations and emotions, but most importantly developing a space where the experiencer can interpret, experience, and reflect.

8. Future Directions



Both The Family Circuit and more specifically, the Energy of Things will be continued within both the immediate and long term future. First and foremost, this summer I plan to refine and continue the Energy of Things catalog as my first external catalyst of discussion. Following revisiting my target audience, I plan to mail the catalog to both individuals and corporations as a real resource tool. In addition, the website will be revised to allow an effective communication loop between those directly receiving the catalog and myself. Though I am unsure of the timeframe, I also plan to look for funding to prototype some of the energy harvesting products in the catalog and put on both display and for user interaction in a pop up shop of sorts in London. I think it is both important to create the discussion as well as the physical space and place for interaction.

In addition, a number of people have suggested the gamification of The Family Circuit, akin to SIM and Second Life. Though I am considering this, I find it less exciting and worry the focus becomes financial rather than provoking.

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Project videos available at:
www.kareyhelms.com
vimeo.com/kareyhelms/

