DUAL CITIZEN

PRESENTS

WHITE PAPER

COMMUNICATIONS & GREEN ECONOMIC GROWTH

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COMMUNICATIONS &
GREEN ECONOMIC GROWTH

WHITE PAPER

We are pleased to introduce our first white paper to advance the discussion on how better communications and information exchange can support green economic growth and associated investments.

The majority of our research to date has been related to the Global Green Economy Index™ (GGEI), the leading measure of national green reputations and performance covering 27 countries and cities. The GGEI is designed to inform communications, as gaps between how experts perceive aspects of green economies and actual performance generate useful insight into targeted areas for better information campaigns and strategic communications. The updated GGEI in 2014 will continue to provide these valuable insights to policy makers, practitioners, cleantech clusters and investors, in addition to our partners within international organizations and civil society.

This year, we dug deeper into the question of how communications can better serve green economic growth with particular focus on green products and services requiring significant capital investment. A series of interviews, online surveys and desk research has revealed a powerful call to action: **part of what inhibits faster, more meaningful green economic growth is in fact a deficiency in strategic communications.**

Like most things in the green economy, finding solutions to these communications challenges will demand leadership and coordination between a diverse set of stakeholders. Government policy makers, international organizations, the private sector, civil society and industry associations all have roles to play. Coordinating the overlapping efforts in this space is challenging and we have made our best effort to identify who should take the lead on addressing the communications initiatives we highlight.

We are appreciative of the countless individuals who provided valuable feedback online or in person to shape the contents of this white paper. This input from first person experiences in the green economy greatly enriched our appreciation for the complexity of this topic.

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INTRODUCTION

Cleantech markets continue to mature in 2013 with global investments in clean energy remaining robust, particularly in China and the United States. Yet slower investments in Europe - coupled with expiring government stimulus support and continuing policy uncertainty - create new challenges for the sector and the movement towards green economic growth that surrounds it.

The challenges limiting green economic growth are numerous and an in-depth look at each one is beyond the scope of this white paper. Expanding green investment capital from public and private sources, constructing the right policy frameworks in varied national contexts, and advancing green knowledge and innovation are critical issues to confront. This white paper touches on many of these issues more superficially and we have made our best efforts to reference associated research in the Endnotes.

The focus of this white paper is communications and the notion that better, more coordinated information exchange is a key strategy for furthering green investment and green growth. Our research and client engagements associated with the Global Green Economy Index™ have revealed actionable examples where communications and the technologies that enable them can help to advance green economic growth today.

THIS WHITE PAPER WILL SUGGEST THAT:

- Obstacles to green business growth – including identifying talent in foreign markets, commercialization challenges and the "Valley of Death" – could be lessened by better leveraging of communications technologies and new opportunities provided by crowdsourcing and crowdfunding;
- Shortcomings in national policy communications restrict green investment flows, contributing to investor uncertainty and adding to the costs of due diligence for green businesses;
- Renewable energy advocates must reframe the debate on government subsidies, finding creative ways to educate policy makers and the general public about the negative impacts of existing fossil fuel subsidies;
- Consumers are generally attracted to the environmental benefits of green products and services but often lack clear pathways to access them, partly because information campaigns have not successfully communicated their economic rationale;
- Green businesses must better "brand" their products and services, forging a more emotional connection between consumers and nascent cleantech commercial brands.

INTRODUCTION

DEFINING COMMUNICATIONS

Our perspective on what constitutes "communications" is broad. While many of the communications activities described in this white paper involve more traditional information sharing and dissemination, some relate more directly to functions like product branding, direct marketing, lobbying and public affairs. This paper will assume a similarly broad perspective on the platforms enabling communications, as we believe that online information portals, mobile applications and social media offer exciting opportunities in this space.

Our view is that a broader, flexible definition of communications is essential to resolving information gaps in the green economy. Each case presented in this white paper involves a different set of challenges and diverse target audiences, requiring a broad communications toolkit. And because the green economy is global in nature, campaigns and initiatives should be conceived with sensitivity to the communications channels and techniques most suited to a particular geographic context. Mobile-based information campaigns about advantageous solar energy pricing may work well in the Republic of Korea while TV advertisements explaining the economic benefits to renewable energy may be more impactful in the United States. Successful communication campaigns are ones that carefully consider both the medium and the message in the context of varied demographic and geographic contexts.

RESEARCH BACKGROUND

Between April and July 2012, we polled thousands of practitioners and professionals working in green business, cleantech (venture, private equity and within firms), carbon markets, think tanks and academia. On the topic of cleantech, we asked respondents to rank 27 nations according to the best target for cleantech investment, best business climate for cleantech innovation and commercialization and the best investment promotion body facilitating green investment.

Then, in the same period of 2013, we launched a more narrow online survey designed to capture more detailed perceptions of cleantech markets and the challenge of better communications within them. In parallel, we conducted a series of interviews with cleantech professionals, investors, industry experts and journalists to better understand the nuance of the topic. We complemented these inquiries with desk research, several webinars offered by well-known organizations like the Cleantech Group and other public forums for information exchange in this sector.

FINDINGS

Our research revealed six areas where better communications would serve to advance green economic growth. These communications opportunities fall into three categories:

- Initiatives focused on resolving information gaps between cleantech firms/green businesses and the markets where they operate presently or hope to in the future. These firm-focused initiatives include better connecting businesses with human capital and using crowdsourcing as a strategy for supporting entrepreneurs, particularly as they face challenges related to commercializing their cleantech products or services;
- Initiatives designed to clarify policy obstacles to greater green investment that government has the power to resolve. These policy-focused initiatives include improving how government communicates policies relevant to green businesses and reframing the debate around energy subsidies in a manner that will propel policy makers to pursue fossil fuel subsidy reforms;
- Initiatives targeted to consumers whose greater adoption of green products or services can result in greater returns on green investments. These consumer-focused initiatives include driving the renewable energy narrative in the mainstream media and better branding cleantech products and services to increase consumer loyalty and demand.

For each of the findings, we noted which stakeholder(s) could assume leadership of any resulting communications campaign or initiative. These stakeholders include government, private sector, international organizations, civil society or industry associations.

FIRM-FOCUSED

- CONNECTING BUSINESSES WITH HUMAN CAPITAL
- CROWDSOURCING ENTREPRENEURIAL SUPPORT

POLICY-FOCUSED

- IMPROVING NATIONAL POLICY COMMUNICATIONS
- REFRAMING ENERGY SUBSIDIES

CONSUMER-FOCUSED

- DRIVING THE RENEWABLE ENERGY MEDIA NARRATIVE
- BRANDING GREEN PRODUCTS & SERVICES

CONNECTING BUSINESSES WITH HUMAN CAPITAL

The challenges associated with identifying and acquiring talented workers in the green economy is an underappreciated topic. Much of the attention to date has been focused on differing approaches to defining "green jobs" rather than the challenges in finding the talent to fill them. Reaching consensus on a definition will surely support the case for green economic growth. But are existing or future green jobs locating the workers with the necessary skill sets to fill them and advance broader green growth agendas? Our interviews with cleantech businesses revealed a significant gap between firm's global hiring needs and their ability to hire skilled workers in a cost-effective manner.

In one sense, this challenge is geographic, related to the drive to form joint ventures between firms rooted in one market hoping to expand into another. The Chinese market provides a useful example here. Non-Chinese firms eager to expand there can create joint ventures. This model is often a requirement of doing business in China and while foreign companies complain about losing intellectual property, the potential for internationalization these partnerships offer has outweighed this risk thus far. In fact, Cleantech Group has tracked over 700 such relationships between U.S. and Chinese partners since 2006[I].

Hiring Chinese nationals to manage these joint ventures is considered a preferable arrangement. Their local knowledge and market-sensitivity can add enormous value to joint ventures. Furthermore, these managers can sometimes provide links to political leadership, revealing greater business opportunity and support in deciphering the fast-changing regulatory environment there. But despite this best practice – and the willingness of many foreign firms to embrace it – investors and businesses still cite significant challenges to identifying this talent. Without any centralized cleantech talent portal to access these managers and other workers, firms lack sufficient human resource support to advance their expansion in the Chinese market. In the future, consultancies in the private sector and industry associations could offer expanded services in this realm.

Of course, this challenge is not limited to the Chinese market as companies report similar challenges globally. And while conventional wisdom continues to hold that cleantech commercialization is a lengthy process, our research observed the beginnings of a countervailing belief that it could be shortened if better structures existed to connect firms with human capital. The Denmark-based International Cleantech Network (ICN) is one such-believer, operating as an umbrella organization for 13 global cleantech clusters and their associated membership. According to the ICN Secretariat: "the network works according to the philosophy that success in the global business environment is all about who can grant you access to the right people, projects, or local expert knowledge. We call it face-to-face internationalization[II]."

Thus, communications can address this human capital challenge in two ways. The first is through the efforts of organizations like the ICN where person-to-person communications can facilitate the necessary market contacts. The second is through targeted talent portals – managed and operated by private sector entities, industry associations or clusters – where international firms can access pre-screened local talent in the green economy and recruit them directly. Developing these tactics and tools is just one example of how better communications can support green businesses as they commercialize and expand internationally.

CROWDSOURCING ENTREPRENEURIAL SUPPORT

GOVERNMENT | PRIVATE SECTOR | INTERNATIONAL ORGANIZATIONS | CIVIL SOCIETY | INDUSTRY ASSOCIATIONS

Crowdsourcing is the process of outsourcing tasks traditionally performed by an employee or contractor to a large group of people or community, often organized by an online platform[III]. Like many other industries, cleantech businesses are being reshaped by the opportunities associated with crowdsourcing and its financing peer, crowdfunding. Start-ups like Solar Mosaic[IV] provide an online marketplace connecting individual capital with solar projects needing financing. The recently founded Danger Maps[V] combines government pollution data and crowdsourced reporting to map air quality and other environmental data at sites throughout China.

While there exist a wide-range of applications for crowdsourcing to advance green economic growth, our research suggests an immediate need for this model to support cleantech entrepreneurs. Challenges to cleantech product development and commercialization – ranging from capital intensity to the "Valley of Death[VI]" – are widely appreciated among cleantech investment professionals. However, our interviews with cleantech entrepreneurs revealed a desire to access learning from peers tackling similar challenges through open forums enabling broad, cross-border interactions and connections.

Cleantech entrepreneurs and product developers are often isolated by geography or the day-to-day demands of their work. Forums like conferences or industry events offer opportunities for information exchange and learning, but demand time and financial resources. Communications platforms that enable crowdsourced solutions and insights to product development bottlenecks represents one strategy that if successfully implemented, could lessen the obstacles to cleantech product development and commercialization.

Amino

Amino is the largest community in Denmark for entrepreneurs to meet, share and access information about growing their company. While Amino is not focused on cleantech and green business exclusively, it offers an example of the type of online communications platform that could enrich cleantech entrepreneurs with knowledge and experiences tailored to their more specialized needs. A hypothetical platform of this kind could be segmented by multiple sub-sectors within cleantech, allowing users to create profiles tagged by their geography and specialization and then interact around topics and themes with other global entrepreneurs through a social media like interface.

CLEANTECH HIGHLIGHTS FROM THE 2012 GLOBAL GREEN ECONOMY INDEX™

The 3rd edition of the Global Green Economy Index (GGEI) published in the fall of 2012 measured both expert perceptions and actual performance of global cleantech markets. The results for the 27 nations tracked by the GGEI revealed various gaps between perception and performance in terms of the best markets for cleantech investment, fostering innovation, realizing commercialization and investment facilitation bodies associated with national governments. Please visit www.dualcitizeninc.com to download the report in its entirety[VII].

Better understanding of where these gaps exist – and what types of communications initiatives are needed to bridge them – will assist policy makers in creating the necessary conditions for cleantech markets to flourish within their borders. For example, we measured the best markets for cleantech innovation and commercialization as judged by cleantech experts working globally. And while the survey results below mirror the performance measurement provided by the Global Cleantech Innovation Index[VIII] in many regards, gaps exist between perception and actual performance that reveal actionable insights for national policy makers and communications specialists alike.

CLEANTECH INNOVATION


#1 GERMANY


#2 UNITED STATES


#3 SWEDEN


#4 CHINA


#5 DENMARK


#6 FINLAND


#7 ISRAEL


#8 JAPAN


#9 INDIA


#10 NETHERLANDS

CLEANTECH COMMERCIALIZATION


#1 UNITED STATES


#2 GERMANY


#3 CHINA


#4 INDIA


#5 BRAZIL


#6 SWEDEN


#7 DENMARK


#8 JAPAN


#9 UNITED KINGDOM


#10 CANADA

While ranked high in the Global Cleantech Innovation Index, Canada and the Republic of Korea are not sufficiently recognized in the GGEI for their strengths in cleantech innovation & commercialization, implying an opportunity for better strategic communications.

IMPROVING NATIONAL POLICY COMMUNICATIONS

Interviews with business leaders and cleantech investors revealed a shared concern: national policy communications is insufficient, creating a significant obstacle to greater green investments. While there is extensive discussion around policy uncertainty and its negative impact on green investment, less focus has been paid to the simple task of communicating the policies impacting green businesses in an accessible, coordinated manner. The longer this communications deficiency persists, the longer firms will face greater costs of due diligence, restricting green investment flows and investor confidence.

In the Chinese market, investors recount conflicting laws with no central communications clearing house, on a provincial or national level. Further, the pace of commercial development there is so rapid that regulators are "playing catch-up" to new markets rather than leading them. In the European Union, inconsistent levels of national policy communications remains the norm, posing a daunting challenge to investors who must assess a wide-range of diverse markets across the EU independently. This tends to erode the perceived benefits to investors associated with a larger common EU market. Similar challenges persist in the United States, with varying federal and state-level policies to decipher.

Government agencies are the obvious place to begin addressing this shortcoming. If policies are often buried deep in ministry websites today, thinking about how these information portals can be better designed to service potential investors in the sector could be useful. In a similar way, government-funded investment promotion agencies – tasked with facilitating cleantech and other investments – could be more focused on presenting policy information in a more visible way. Our review of 27 investment promotion agencies for the 2012 GGEI found that in many cases it was difficult to identify individuals or content related to cleantech, much less policy and regulatory information.

Beyond these government bodies, international organizations managed by leaders from different countries hoping to develop business ties is another model for providing green businesses with access to individuals and information around policy frameworks in these new markets. The U.S. – China Green Energy Council (UCGEF) is one example of an organization of this kind[IX]. Tasked with promoting and strengthening collaboration in green energy between the United States and China, the UCGEF provides member businesses direct contact with policymakers, in addition to serving as a platform for better policy integration between the two countries.

REFRAMING ENERGY SUBSIDIES

A recent International Monetary Fund (IMF) report found that almost 9% of all annual country budgets are spent supporting oil, natural gas and coal industries through direct subsidies, consumer rebates and avoided taxes on pollution[X]. The International Energy Agency (IEA) estimates that global fossil fuel direct subsidies were worth $523 billion, compared to $88 billion for renewables[XI]. Despite this six-fold disparity, national policy makers often focus more on debating the merits of proposed renewable energy subsidies, not the need to reform existing fossil fuel ones.

Defenders of the status quo argue that existing fossil fuel subsidies are concentrated in the developing world where subsidized fuel supports the poor. Yet a recent study of India's subsidies by the International Institute for Sustainable Development (IISD) found that Indians who use heavily subsidized liquefied petroleum gas (LPG) live in urban areas alongside the nation's richer citizens. Rural Indians tend to cook over coal, wood or dung fires, just one of many examples supporting why a paltry 8% of fossil fuel subsidies globally reached the world's poorest populations[XII].

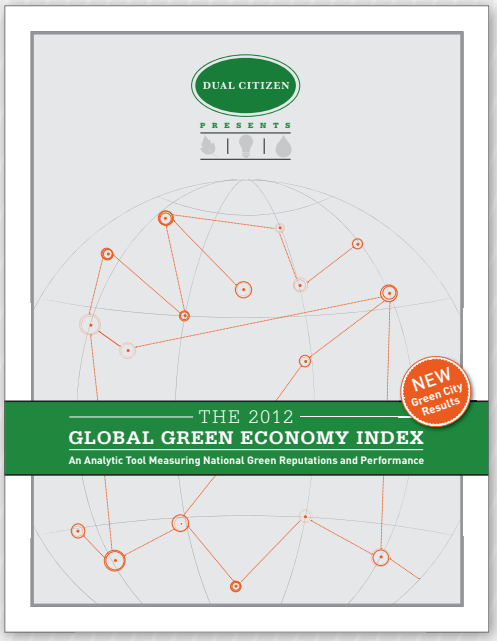
A recent poll in the United States found that a majority of respondents opposed giving tax breaks or other subsidies to oil & gas companies[XIII], yet the lobbying interests backing these sectors continue to outsmart and outspend their renewable counterparts, spinning strategic communications to obscure a serious debate on fossil fuel subsidies reform. With public support and clear benefits to renewable sectors from reform in terms of increased investment, government ministries and international organizations have an opportunity to better employ communications to drive genuine changes in this realm.

GSI Global Subsidies Initiative

Initiatives like the Global Subsidies Initiative (GSI) play a critical role in empowering policy makers with knowledge and understanding about subsidies. Established in 2005 by the IISD, the GSI analyzes subsidies[XIV] and how they support or undermine efforts to achieve sustainable development. The GSI's goal is to encourage individual governments to undertake unilateral reforms on subsidy policy where these would deliver clear economic, environmental and social benefits and to generate a consensus in the World Trade Organization and in other forums on the need to take resolute, ongoing and systematic action to reduce or eliminate subsidies that are both trade-distorting and undermine sustainable development.

COMING IN 2014:
NEW GLOBAL GREEN ECONOMY INDEX™

In 2014, we will release the 4th edition of the Global Green Economy Index™ (GGEI) with updated datasets and analysis about which nations and cities are judged to have the best green reputations and how these perceptions compare to their actual performance. The GGEI adds value to international institutions in providing insight to how communications can advance green economic growth. It also can provide national and city-level policy makers with guidance on how to employ strategic communications to bolster green economic growth within their own borders. The 2014 GGEI will continue to integrate the most relevant public data sources and poll qualified practitioners in the field to further develop its standing as the leading measure of national green reputations and performance.



NATIONS TRACKED

We will continue to track the following 27 nations: Argentina, Australia, Brazil, Canada, China, Denmark, Finland, France, Germany, Iceland, India, Israel, Indonesia, Italy, Japan, Mexico, Netherlands, New Zealand, Norway, South Africa, Republic of Korea, Spain, Sweden, Turkey, United Arab Emirates, United Kingdom, United States. Partners interested in funding subscriptions to track additional countries should contact Jeremy@dualcitizeninc.com.

ISSUES ADDRESSED

The 2014 GGEI will build upon the 32 datasets defining the 2012 edition in the four main categories of green leadership, policies, investment and sustainable tourism. We will also integrate newer datasets that cover all of the nations we track in an effort to create the most accurate measurement of these four main categories. Client engagements often translate these aggregate results reported in the GGEI to address more specific communications issues and challenges.

WORKING WITH CLIENTS

We provide clients data and consulting tailored to address their particular strategic challenges related to communications. We also work on customized research projects for clients interested in advancing green economic growth, cleantech investment or green product branding. We frequently partner with international organizations, civil society and industry associations to further their work with our communications expertise in this sector.

DRIVING THE RENEWABLE ENERGY MEDIA NARRATIVE

Global media are largely responsible for shaping public opinion about renewable energy and the government and private policy frameworks and investment that support it. But any romance between the global media and new renewable energy technologies is clearly a thing of the past. The global financial crisis injected a strong dose of economic realism into coverage of renewables. To illustrate, a 2009 study by the UK-based Public Interest Research Centre (PIRC) found that in the mid-market Daily Mail newspaper, only 8% of articles about renewable energy were positive[XV].

Traditional energy producers and the industry associations and lobbying interests supporting them successfully seized the economic argument in these cost-conscious years after the global financial crisis. While the 2008 retort to then candidate Barack Obama's position on renewable energy was "Drill, baby drill," the 2012 energy debate was largely focused on the Solyndra bankruptcy and the lack of economic viability of renewables. Massive advertising spending by the American Petroleum Institute on savvy advertising like the "I'm an Energy Voter" campaign reinforced this already negative media narrative[XVI].

The renewable energy sector and its allies must be more pro-active about coordinating and disseminating timely information into the global media narrative. Individual companies could devote more resources to public relations and sharing their own stories with journalists. Positive examples of how green products enrich everyday life tend to resonate more than abstract policy debates. The democratization of media spaces offers continued opportunity for civil society to counter the bigger PR budgets employed by traditional energy sectors through smart, breakthrough campaigns. The WWF "Seize Your Power" pledge drive to garner citizen support for greater government and private investment in renewable energy is just one example of how civil society can make a meaningful impact[XVII].

In reality, media narratives are dominated by a few news stories – often ones that reflect poorly on the renewable energy sector – creating perceptions that are not always accurate. The Spanish feed-in tariff (FIT) was branded as a policy failure and the associated media narrative ballooned into a condemnation of the FIT more broadly as a policy instrument. While the Spanish case involved variables particular to that market context – including an outdated Electric Power Act[XVIII] providing nuclear and hydropower producers with energy prices indexed to the rising price of oil – the response to an overwhelming wave of negative press around Spain and the FIT was insufficient. The reality that the FIT is one of the most widely adopted and successful policy instruments to support renewable energy development was largely absent from the discussion.

The substance behind complex policy debates often is obscured by the mainstream media tendency to simplify the news according to resonant headlines. Renewable energy is by no means the only category of news that gets distorted. But several years of experience with how and why media in different markets frame stories around renewable energy should offer ample guidance for how the private sector, civil society and industry associations can better shape this narrative in the future.

BRANDING GREEN PRODUCTS & SERVICES

Rational factors like pricing drive consumer and business demand for cleantech products and services. Better communicating the economic rationale for cleantech is critically important as already discussed. But our research also revealed the growing importance of emotional factors, highlighting a deficiency within cleantech firms on product branding both in business-to-consumer (B2C) and and business-to-business (B2B) contexts.

Cleantech innovation and product development are often driven by engineers and technology specialists, and rightly so. But some of the most breakthrough cleantech companies of late have also placed a premium on facets of their business that define a more emotional, intangible brand identity, including design, packaging, and storytelling through visible spokespersons. Electric vehicles like Tesla illustrate how sleek design can break through in a competitive luxury car market. And the Nissan Leaf partnership with City Ventures Homes illustrates how linkages across cleantech categories can amplify the value proposition to consumers while associating a broader lifestyle experience with each cleantech brand[XIX].

As cleantech firms focus more on branding their products and services, it is important that the meaning of branding – so often oversimplified to a simple product logo – is well understood. A growing roster of niche agencies specialized in cleantech branding can support firms in developing unique brand narratives that help to forge more emotional connections with these new products. At the same time, larger diversified companies developing green products and services can leverage past learning around branding and apply it to these newer product categories.

SolarCity

A banner introducing Solar City, the largest residential solar power company in the United States, greets visitors to the home improvement store Home Depot[XX]. Weekend trips to Home Depot are common for shoppers looking for home supplies and Solar City's presence in these stores educates consumers about the cost benefits to solar energy in the trusted brand environment provided by Home Depot. In addition to legitimizing the newer Solar City brand, this partnership targets consumers already thinking about home improvements, making it more likely that they will be open to hearing about the company's offering. Partnerships like this allow newer green businesses like Solar City to leverage the consumer demand of an established company like Home Depot while benefiting from the trust and legitimacy such associations provide.

CONCLUSION

Our research suggests that better, more coordinated information exchange and strategic communications can be a strategy for advancing green economic growth and the public and private investments required to sustain it. There are opportunities for better communications in a variety of areas, impacting policy makers, businesses and consumers alike. While the six examples cited in this white paper were the most salient cases emerging from our research, there are surely other opportunities to explore. The growing focus on communications within consultancies, civil society and international organizations will undoubtedly enrich and guide this discussion further.

A critical first step is identifying these opportunities and ensuring government, the private sector, industry associations, civil society and international organizations pursue them. Often, the larger challenge is coordinating these efforts, making sure that limited resources can be pooled to create maximum impact. The new Green Growth Knowledge Platform – with founding partners from the World Bank, OECD, UNEP and the Global Green Growth Institute – is one example of how coordination can advance research in the green economy among academics and other practitioners. We hope that similar partnerships and collaborations emerge targeted to communications, drawing on human and financial resources from many of the stakeholders referenced in this white paper.

As cleantech markets and the wider debate around green growth evolve, managing information and smart communications will become increasingly important for governments, firms and other stakeholders in the green economy. We hope that the contents of this white paper can contribute to moving this discussion forward, and look forward to hearing your feedback and input.

ENDNOTES

I. Statistics from "China's Cleantech Ecosystem: What You Need to Know" Cleantech Group (Leo Zhang, Research Analyst) June 2013.

II. For more information about the International Cleantech Network, please visit: http://www.cphcleantech.com/ccj2-bridgingclusters or www.internationalcleantechnetwork.com.

III. For more general information about crowdsourcing, please visit: http://www.crowdsourcing.org/faq#anchor3r

IV. More detail on Mosaic and their crowdfunding model can be found at: https://joinmosaic.com/about-mosaic

V. Chen, Lulu Yilun, "Danger Maps Backed by Alibaba Pinpoint Chinese Pollution." Bloomberg News, June 13, 2013. Article can be accessed here: http://www.bloomberg.com/news/2013-06-12/danger-maps-backed-by-alibaba-pinpoint-chinese-pollution.html

VI. For a detailed discussion of the Valley of Death and how it applies to cleantech product development, please see: http://knowledge.wharton.upenn.edu/article.cfm?articleid=2842

VII. To download the executive summary of the 2012 Global Green Economy Index™ please visit: http://dualcitizeninc.com/ggei2012.pdf

VIII. The Cleantech Group and WWF publish the Global Cleantech Innovation Index. To access the 2012 edition, please click here: http://info.cleantech.com/2012InnovationIndex.html

IX. For more information about the U.S. China Green Energy Council, please visit: http://www.ucgef.org/en/aboutus/mission

X. International Monetary Fund "Energy Subsidy Reform: Lessons and Implications" January 28, 2013. Access the executive summary here: http://www.imf.org/external/np/pp/eng/2013/012813.pdf

XI. To access the IEA's online database of energy subsidy information, please visit: http://www.worldenergyoutlook.org/resources/energysubsidies

XII. National Geographic "Pictures: Eleven Nations with Large Fossil Fuel Subsidies" http://news.nationalgeographic.com/news/energy/2012/06/pictures/120618-large-fossil-fuel-subsidies/#/energy-fuel-subsidies-india_55102_600x450.jpg

XIII. Yale Project on Climate Change Communication "Do Americans support or oppose subsidies for fossil fuels?" http://environment.yale.edu/climate-communication/article/do-americans-support-or-oppose-subsidies-for-fossil-fuels

XIV. For more information about the Global Subsidies Initiative, please visit: http://www.iisd.org/gsi/about-gsi

XV. Public Interest Research Centre "Variable Outlook: The portrayal of renewable energy in the media" July 2011 http://www.pirc.info/wp-content/uploads/2011/07/renewables_in_the_media.pdf

XVI. For more background on the campaign, please see: http://energycitizens.org/ec/advocacy/default.aspx

XVII. For more background on the campaign, please see: http://action.panda.org/ea-action/action?ea.client.id=1773&ea.campaign.id=20637&src=panda_org_seizeyourpower

XVIII. E3 Analytics "Booms, Busts and Retroactive Cuts: Spain's RE Odyssey" February 2011 http://www.e3analytics.ca/wp-content/uploads/2012/05/Analytical_Brief_Vol3_Issue1.pdf

XIX. Shahan, Zachary "7 Cleantech Consumer Products" Cleantechnica.com http://cleantechnica.com/2011/11/25/7-cleantech-consumer-products/

XX. CNNMoney.com "Why Solar City teamed up with Home Depot." Access the video here: http://money.cnn.com/video/technology/2013/03/01/t-solarcity-home-depot-honda.fortune/index.html

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ABOUT DUAL CITIZEN LLC

Dual Citizen provides governments and international organizations with analytic tools and strategic communications consulting to advance their economic and policy agendas. We publish the Global Green Economy Index™ to support clients and partners with communications insights that advance green economic growth. For more information, please visit www.dualcitizeninc.com and follow us on Twitter @DualCitizenInc.