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# **The Center for Resource Solutions: Can CRS Monitor the Voluntary Greenhouse Gas Offset Market?**

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***Abstract:***

The Center for Resource Solutions (CRS), a non-profit non-governmental organization in San Francisco is developing a product standard for retail marketers of greenhouse gas offsets. That product standard will be recognized in the industry through a certification and labeling program operated by CRS. The current market for voluntary greenhouse gas (GHG) offset retail purchases lacks both a standard and a third-party monitor, and yet as a market it is still experiencing exponential growth. This paper will evaluate CRS' organizational credibility, its proposed standard and certification process, and other efforts to monitor the GHG offset market and will put forth one consumer's evaluation of whether or not to buy a GHG offset today

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## **I. Introduction**

The voluntary greenhouse gas (GHG) offset retail market has grown exponentially in the last year, paralleling the increased public attention toward global climate change. The term “voluntary” denotes the absence of government regulations mandating the existence of the market, as compared to a cap and trade emissions market. Corporations, local governments, individuals are seeking ways to offset their greenhouse gas contributions to the atmosphere. The market has responded to meet these needs, but a credible third-party monitoring organization has yet to emerge to keep the market in check and to assure consumers that they get what they pay for. The Center for Resource Solutions (CRS), a non-profit, non-governmental organization is attempting to fill that void, first by establishing a product standard and then by creating a product certification and labeling system to monitor the market.

This paper will explore CRS as an organization and assess its credibility as a third-party monitor, the state of the GHG offset market, the standard-setting process, methods of monitoring and enforcement and the role (if any) of the government. Setting an effective standard creates an essential baseline from which the third-party monitor can operate. In the current absence of such a standard or monitoring, the market has boomed. In attempting to explain this phenomenon, several questions are raised. Are consumers simply uneducated? Probably not, but perhaps they are over-trusting. Will this growth continue? Probably yes, especially with increasing public attention to climate change in the United States. Will the addition of a standard and certification process inhibit or amplify the success of the market? The belief is that a standard and monitoring process will sustain the market in the long-run by adding credibility and trustworthiness.

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CRS' engagement of stakeholders in the standard setting process is an effort to place the roots of the standard in broad grounds from which it will grow. But such a process leaves room for private incentives to dominate or deter the process. How can the consumer trust such a process and unchecked market? As an individual consumer, I would not currently purchase a retail GHG offset because I am not guaranteed of the quality or nature of the GHG offset nor am I assured that what I purchase has not already been sold and re-sold. This paper will conclude with an evaluation of the proposed process and monitoring model offered by CRS, and a determination on if it assuages my concerns about the GHG offset market as a consumer.

## **II. The Organization**

The Center for Resource Solutions (CRS) is a registered 501-(3)(c) national non-profit, non-governmental organization based in San Francisco. CRS was established in 1997 by its Executive Director Dr. Jean Hamrin, with the following mission:

“To build a robust renewable energy market by increasing demand and supply of renewable resources. CRS is a proven leader in creating energy strategies to protect both the environment and consumer, and has an impressive portfolio of programs in renewable energy policy and regulatory issues. Our proven networking approach relies on collaborative efforts and partnerships with a host of stakeholders -- from businesses to government agencies and NGOs -- to address major, long-term energy and environmental problems.”<sup>1</sup>

The mission statement of a non-profit organization acts as a focal point to guide its activities.

Before CRS decided to enter the retail GHG offset market, it carefully considered the relevance of the initiative to its mission.<sup>2</sup> Key elements that identify with CRS' mission and its entry into the GHG offset market are the desire to protect both the environment and consumer, and its

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demonstrated ability to successfully manage a stakeholder process and to enhance an emerging market. CRS earned much of its positive reputation from the successful creation and implementation of the leading independent certification and verification of renewable energy through its Green-e program. The experience in the renewable energy market shapes the foundation serves as a model from which CRS is formulating the standard and certification for the GHG product market.

CRS possesses a qualified staff and governing board with expertise in the field of renewable energy. As the GHG market is a relatively new phenomenon and emerging market, it is understandable that the staff does not necessarily have particular expertise in this field - yet. Their staff is however skilled with the necessary tools to analyze this market. The staff consists of eighteen people who possess a mix of qualifications in business & marketing, energy, environment and public policy and practical experience in certification and stakeholder management from facilitating the Green-e program. The Executive Director and founder, Dr. Jean Harmin, has a PhD in Ecology and a masters in Public Administration; has served as advisor to the G-8 Renewable Energy Task Force and to legislatures and regulatory commissions in the US and around the world. She has also co-authored three books for the National Association of Regulatory Utility Commissioners and is former founder and executive director of the Independent Energy Producers' Association in California.<sup>3</sup>

The governing Board of Directors is comprised of "leading experts and former legislators dedicated to promoting renewable energy," providing a mix of scientific, government, and private sector expertise<sup>4</sup>. An organization's Board of Directors adds to the organization's

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reputation and credibility in their role of advisors on fundamental business decisions. CRS's Board includes as Chair the current director of Environmental Energy Technologies Division at Lawrence Berkeley National Laboratory; a former U.S. Congresswoman and current energy consultant/Harvard professor; the head of the Renewable Energy Unit at the International Energy Agency (IEA) and representatives of private sector energy and renewable energy corporations. Again, perhaps what is missing is specific expertise related to greenhouse gas offsets in particular and climate change markets in general. If the GHG Product Certification continues to progress nicely in its development, this area is one in which CRS should seek recruitment both to its Board and staff.

The Green-e program administered by CRS certifies renewable energy power products sold by marketers, utilities and energy service providers in wholesale and retail markets. The process of certification and monitoring established under Green-e serves the basis from which the new GHG Product Certification Program is being modeled. The key aspects of this model include:

- Adherence to the Green-e national standard
- Adherence to CRS' professional Code of Conduct & Customer Disclosure Policies
- Bi-annual compliance review of all marketing material using Green-e
- Annual verification process audit of all certified renewable power products

Principles which govern this program include that for the marketer of renewable energy their supply equals sale, the source of the product is verified and there is no double counting or selling of renewable energy credits (RECs). The program is funded by a tiered structure of annual

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certification fees paid to CRS that are differentiated by organization size and product type. The Green-e label has been likened to a “Good Housekeeping Seal of Approval.”<sup>5</sup> Another nod towards CRS and the Green-e label’s widespread acceptance is its partnership with the U.S. Environmental Protection Agency and U.S. Department of Energy to administer the annual Green Power Leadership awards. To qualify, the applicant’s supply of renewable energy must meet certification standards of the Green-e program<sup>6</sup>. The Green-e program is now a defining part of the renewable energy market.

The Center for Resource Solutions four main program areas are promotion of clean energy policy, measurement and verification, promotional services and technical assistance. Both the Green-e program and proposed GHG Product Certification program fall under measurement and verification. CRS financially depends on a mix of foundation grants, government contracts and program services. In FY2005, CRS’ revenue stream broke down as follows<sup>7</sup>:

Source	Amount	Approximate Percentage of Total
Government Contracts	\$808,718	40%
Grants	\$587,000	30%
Certification Fees	\$256,190	13%
Consulting	\$332,215	17%
Total Revenue and Support	\$1,984,123	

Major contributors included the Energy Foundation, the Surdna Foundation, the Oak Foundation, California Energy Commission, U.S. Environmental Protection Agency, and utility and renewable energy marketer certification fees.

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### **III. The Market**

The target of CRS' certification and monitoring system is the voluntary GHG offset market and is also commonly addressed as the "voluntary carbon market," since carbon is the primary greenhouse gas of interest or concern. The specific market segment that CRS focuses on is comprised of roughly 30-50 retailers or marketers of GHG offset products. Consumers of the GHG offsets range from common and celebrity individuals to municipalities to corporations. The market is currently most appealing to the climate-change aware individual and to corporations seeking to obtain a "first-mover" advantage of sorts and benefit from the green marketing advantage of going "carbon neutral." The price to offset one ton of CO<sub>2</sub> also varies dramatically, from \$5 to \$25/ton, averaging around \$10/ton. A very recent consumer guide cites there is "probably a general correlation between price and quality in the retail offset market" but has no evidence of a causal link.<sup>8</sup>

Information about market size, market value or number of offset transactions is extremely unclear. By one report, from 2005 to 2006 the size of the global carbon market is stated to have more than doubled in size. Another report states that in 2006, the regulated carbon credit market was estimated to be worth \$21.5 billion and the voluntary carbon market at about US \$100 million for the first three quarters of 2006.<sup>9</sup> However, the distinction between "voluntary" and "mandatory" carbon markets is always not so clear. What is common to all reports is a projection of exponential market growth. Industry reports and news articles lead with "eye-catching" headlines such as "The volume of voluntary carbon emission reduction credits has surged 1000% over the past two years and is set to double again by next year."<sup>10</sup> Methodology for calculating such projections is rarely explained or cited. With so much undefined in the



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voluntary carbon offset market – from the definition of an offset to the overall market size – the consumer is left highly vulnerable to misinformation and enticing marketing campaigns by offset retailers. ICF International (a consulting firm) indicates in the press release of its assessment of the voluntary carbon market<sup>11</sup> that the key factors of concern for this exploding market are the challenges of “credibility, fragmentation and overlap with mandatory carbon emissions market.”

The voluntary carbon offset market’s contribution to global GHG reduction is a mere “drop in the bucket” when considering that global carbon dioxide emissions are estimated at more than 25 billion metric tons in 2003.<sup>12</sup> A World Bank estimate for 2005 states that the market for voluntary carbon offsets makes up less than 10 million tones of CO<sub>2</sub>e (carbon dioxide equivalent) or less than 1 percent of global carbon market transactions and less than 1 percent of the total market value.<sup>13</sup> Despite this small impact in volume of carbon tonnage reduction, retailers rightly assess there is still money to be made in the offset market. Other retailers state publicly that a strong incentive for market entry is to educate the consumer public on the value of individual action on climate change issues. The nature of the market is that all market players – retailers, consumers, and even non-consumers receive positive externality of reduction of global greenhouse gases.

However, a carbon offset market free of standards or third-party monitoring and facing such a positive growth trajectory could potentially invite less well-intentioned organizations into the mix who are interested only in seizing a quick, unregulated profit margin at the consumer’s expense. Current retail players appear to be against entry of such players, and cite this as one reason for the push for industry self-monitoring and standard setting. We can infer from this

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observation several points, including that within the relatively small existing market, players see greater potential long-term economic gain from a “monitored” market and that players have an incentive to prevent competitors from cheating the consumer. All players do not have the same interpretation of “fair,” and such variation of individual interests will manifest itself in the stringency of the standard and extent of monitoring that is ultimately accepted.

In addition to CRS’ current effort to develop a product standard, several project-based standards for the voluntary market have emerged within the past year (2006). The main efforts include the Gold Standard established by the Clean Development Mechanism’s (CDM) Executive Board under the Kyoto Protocol and the Voluntary Carbon Standard that is being developed by the Climate Group and the International Emissions Trading Association. The Gold Standard is currently limited in its certification to only small-scale renewable energy and energy efficiency projects that have received approval through the CDM process. However, a modified version of the standard has been released that allows non-CDM projects of the same type to be approved, with relaxed additionality tests.<sup>14</sup> The Voluntary Carbon Standard (VCS) has recently completed the second round of consultation on its second version, and the final version is expected to be launched in the middle of 2007. The VCS is designed to be a global benchmark that provides a degree of standardization to the voluntary carbon market and creates a credible voluntary emission reduction credit (VCU) that can be trusted and traded by consumers.<sup>15</sup> The proposed CRS GHG product standard is not designed to establish a tradable credit; rather it focuses on the sale and purchase of a credible product.

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In the absence of any governing standard, academics and consultants are also aiding the attempt to fill the void with “consumer guides.” In December 2006, Trexler Climate + Energy Services published “A Consumers’ Guide to Retail Offset Providers”<sup>16</sup> on behalf of Clean Air-Cool Planet. The guide provided a market overview and reported its assessment of the top eight performing retail offset providers. Trexler Climate is a climate change consulting firm and carbon emissions broker that was commissioned to do the study on behalf of Clean Air-Cool Planet, and at best qualifies as an “insider” third-party. The methodology behind the study is admittedly weak and self-reported as a “first-step.” Other first steps include the Tufts Climate Initiative’s evaluation and recommendations of thirteen offset companies consumers can use to offset air-travel carbon emissions,<sup>17</sup> and a study commissioned by the International Institute for Environment and Development (IIED) on “Exploring the Market for Voluntary Carbon Offsets.”<sup>18</sup> These guides all good first-steps toward a more robust system of retailer evaluation, one that would be further enhanced by widely accepted standards.

#### **IV. CRS GHG Product Standard**

A very important clarification to make is that CRS’ standard will certify carbon or GHG offset *products* as opposed to *projects* under the Gold or Voluntary Carbon Standard. The two concepts are interlinked – a product is a GHG offset that is generated from a GHG reduction project. The role of the Gold or Voluntary Carbon Standard will be to certify and verify that the proposed project does indeed create viable GHG offsets that can then be sold as retail products to the consumer. CRS plans to partner with these standards to in effect create a dual level of independent certification and verification.

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Common types of offset projects include bio-sequestration (soil, geological, forest); methane capture and destruction (from landfills, livestock, coal mines); industrial gas destruction, direct fossil fuel reduction & energy efficiency and renewable energy projects. Much debate surrounds the identification of viable projects, mainly around issues of permanence, leakage, additionality (beyond business as usual) and quality of generated offsets. The key issue of contention for projects is additionality, which states that the GHG offset/project would not have come into being but for the existence of the GHG offset market. This concept is often difficult to define, as projects often have multiple benefit streams – a reforested area could serve both as a carbon sink and a biodiversity protected area. Another point of concern is the viability of these offset streams – what happens if the trees planted to sequester carbon die or the company which sells future offset streams to consumers go out of business? Who protects the consumer's purchase of those offsets? CRS sees its GHG Product Standard and certification program as offering such a safeguard to the consumer.

When a consumer purchases a GHG or carbon offset, s/he is buying the reduction or removal of one metric ton of GHG or carbon from the Earth's atmosphere. Often the consumer is attempting to "offset" the GHG emissions s/he creates, either through driving a car, flying on a plane, or daily household energy consumption. The methods for calculating how much GHG an individual actually emits are varied and are not standardized. "Carbon calculators" are found online at websites of retailers and non-governmental organizations such as the Environmental Defense Fund.<sup>19</sup> Controversy also surrounds the effectiveness of carbon offsets to truly reduce overall GHG emissions, when individual consumers are not actually required to change their

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own personal behavior. The concept of additionality should help answer the first part of that question, by demonstrating that the offsets are new options to reduce greenhouse gases that would have otherwise not existed. However, due to the lack of consensus on how to define additionality this point remains wide open for debate.

Another area of concern in regards to GHG offset products is that of double-counting or double-issuance of GHG reductions. The CRS standard would prohibit a situation where more than one end-user claims the same GHG emission reduction benefit or where the GHG emission reduction is sold more than once along the transaction chain.<sup>20</sup> CRS hopes to strengthen the transparency of this transaction chain so that ownership of a GHG offset is clear and that offset product is retired on behalf of the consumer once it is purchased.

Recognizing these areas of concern, the CRS GHG Product Standard is designed to ensure that products sold by GHG marketers abide by the following requirements:<sup>21</sup>

- Supply equals sales (and both are verified);
- GHG reduction types retired are the same as advertised;
- GHG reductions are independently certified;
- Consumer disclosures are accurate and follow program guidelines.

The proposed product standard is currently under revision as it recently concluded its first round of stakeholder consultation on January 31, 2007. CRS aims to launch the standard sometime during mid-2007, and following its adoption it will be reviewed every three years with a similar stakeholder process. According to the publicly listed stakeholder comments on the CRS website,

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thirty stakeholders responded to the draft standard. This group was roughly comprised of 16 non-profits and non-governmental organizations; 11 for-profit companies; and 3 public utilities (for a complete list please see Appendix B). Of particular note is the inclusion of 5 of the 30-50 carbon offset retailers/marketers.

The following is a snapshot of the types of comments submitted by the stakeholders<sup>22</sup>. Terrapass, a newly created for-profit carbon offset provider who originally encouraged CRS to enter this market comments “the proliferation of marketing claims and quality standards threatens to overwhelm consumers’ ability to differentiate between vendors and may undermine the credibility of the industry as a whole.” Terrapass is an example of a new market entrant that needs the credibility that a market standard and certification program can provide, and specifically that of a program that it is helping to shape. Community Energy, a wind company, advocates for the inclusion of renewable energy credits & projects into the GHG Product realm – because there are others who argue against its inclusion. The counter-argument states renewable energy does not offset any carbon, it only adds a cleaner unit of energy to the grid. The consumer group Second Tonne Club calls for public display of relevant documents in disputes surrounding a GHG product to be archived online and made available to the public. The World Green Building Council wants to ensure that the value of the carbon reduction credit accrues to the entity that creates the reduction, i.e. the building owner or developer and not the utility.

A core value of CRS as an organization is its faith in transparency and the stakeholder process, both in reviewing the standard and certification program applications. However, one stakeholder, The Climate Trust, comments that “the presence of a stakeholder process alone does not

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guarantee environmental integrity” when it comes to assuring credible greenhouse gas reductions and consumer standards. The Climate Trust strongly advocates for a rigorous and credible criteria defining “real, verifiable and additional” reduction of GHG emissions. It is unclear why CRS is reticent to set such a threshold of criteria within the text of its Standard. One potential reason probably stems from its desire to work with existing certification programs and to not supersede their authority nor add an extra level of burdensome bureaucracy. The Climate Trust rightly highlights the need to have a careful balance between reliance on stakeholder review and input and creating a standard that has technical teeth.

#### **V. The Process**

As outlined in the first version of the draft standard, the CRS certification program will first invite existing project certification programs to apply to determine compatibility CRS’s GHG program principles. These principles include: broad participation & transparency; balance and impartiality; technical provisions that ensure real, measurable, verifiable and beyond-business as usual reductions; validity of GHG reductions with respect to the standard; and public disclosure and avoidance of double counting. Applications will be reviewed and approved by the Green-e Governance Board (which is comprised of representatives of prominent environmental NGOs and is chaired by a CRS Board Member). These certification programs will then become “Green-e” approved.

GHG offset marketers will then apply for certification by CRS and a label similar to the Green-e label used in the renewable energy market. An application package will include the necessary

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information proving that the Standard has been met, as well as the requirements under the GHG Product Code of Conduct and Consumer Disclosure Guidelines. Key aspects of the application include that the marketer is obligated to use verified and certified sources (i.e. projects) to obtain its carbon offsets; its supply must equal its sale; and it must disclose to the consumer relative to the GHG offset the type of project that the offset comes from, the year it was or will be generated, its country of origin and the project verification/certification process used.

A marketer that is granted certification under the GHG Product standard signs a contract with CRS to fulfill all its obligations under the standard and the Product Code of Conduct and Consumer Disclosure Guidelines. The marketer must also submit to a bi-annual review of its marketing materials and an annual compliance audit at the end of the calendar year. To prepare for the annual audit, the marketer must complete a series of forms and spreadsheets created by CRS documenting the past year's sale and supply of GHG offsets. The marketer must hire an independent third-party auditor to review these documents and adherence to the CRS protocol, and issue an evaluative report. The report plus materials will be reviewed by CRS staff for final approval.<sup>23</sup> In this process, CRS is acting as the final gate or check point before the GHG offset product can be sold to the consumer.

The certification program's general administration costs will be funded primarily by certification fees and the remainder by government or foundation money. The certification fees will be comprised of both the initial application fee and subsequent annual fees thereafter. The fee scale has not yet been determined, but will be similar to and probably slightly higher than the scheme used in the Renewable Energy Green-e Certification Program. The latter scheme varies



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according to product type and number of products certified. The current stage of developing the standard and stakeholder process is funded entirely by foundation grant money.

## **VI. Sanctions & De-certification**

The success of the certification program and subsequent monitoring model depends first on establishing a credible standard and second on effective enforcement of these rules. CRS must create a system that consists of valid penalties and/or financial disincentives to not “cheat the system.” CRS will rely on the contractual agreement the marketer signs with CRS to adhere to the Product Standard, Code of Conduct and Customer Disclosure Agreements. Violations of these agreements will be handled through the appropriate legal, public or government channels necessary to make the customer whole and or compensate other damaged parties. Marketing violations will incur suspension of label use. Legal action would be taken against a non-certified organization claiming certification.

At this point in the planning, enforcement actions are to be determined on a case-by-case basis. This plan is due in part to the fact that CRS has experienced few violations under its ten-year old Green-e Renewable Energy program. In one example, the construction of a wind-energy site was delayed a year, but the wind company continued to sell wind renewable energy credits (RECs) to the consumer. CRS intervened and required the wind company to purchase the RECs from another wind provider on behalf of the consumer, and once the site was operational the company was also required to repay that debt of wind energy in addition to its normal

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production.<sup>24</sup> There is no list of past or present violators of this program on the website, only a list of certified vendors in the Renewable Energy Annual Verification Report.

## **VII. The Prognosis**

The vibrancy of the voluntary carbon/GHG offset market is thriving, even without consensus on a standard or regulation of the state. How will the emergence of either affect this market vibrancy? The former topic was addressed earlier in the paper, but a quick re-cap highlights the benefits of a “monitored” market with an independent standard to be: It gives credibility to retail players who can put forth a product that meets the standard; it increases the appeal of the market to the consumer because it guarantees consumer protection and thus grows the market further; and it deters market entrance of fraudulent GHG marketers/retailers. However, the question of state involvement or the potential involvement of the state remains unclear. There is anticipation of the emergence of a “carbon economy” in the United States and regional if not national mandatory emission standards and cap and trade market-based systems. This affects the voluntary market in that corporations or other potentially-regulated entities are moving to offset their carbon emissions now and pre-empt future compliance expenses and costs of a mandatory market. The current absence of government regulation is often cited as allowing for innovation, especially in the area of project-development. The shadow of the state, however, probably offers no incentive to the individual retail consumer as it is highly unlikely that an individual’s GHG contribution will ever be regulated, because of the enormous cost to benefit ratio of doing so.

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However, a recent development in the United Kingdom reports that regulators announced in February 2007 that future voluntary carbon credits will be subject to the same scrutiny as carbon credits sold in the mandatory market. Industry critics argue that regulation “will strangle the innovation side of the market that keeps transaction costs low and contributes to sustainable development.”<sup>25</sup> The latter part of the argument may just be an empty threat, but one that politicians may be vulnerable to hearing. Another interesting issue that comes to light is that the greater carbon market is subject to regional political forces, while the impact of greenhouse gas emissions is global. Yet just as this issue is potentially an unsolvable global dilemma, CRS’ efforts are reasonable and practical attempt to bring standards and act as a “third-party” monitor to the North American voluntary carbon offset market.

### **VIII. A Consumer’s Assessment**

I stated at the outset of this paper that I would not buy a GHG offset from today’s unfettered retail GHG offset market. The question to now answer is if I would buy a GHG offset one year from today, assuming acceptance of CRS’ standard and certification process. Do these steps provide the necessary level of monitoring and independent checking to assure me as a consumer that I will get what I pay for? As a consumer, I have a certain level of confidence in CRS because of the success and respect of its Green-e Renewable Energy program, and that program’s subsequent stabilizing effect on the renewable energy market. CRS’ focused attention on protecting the consumer is also reassuring. However, this sole focus on the consumer may highlight one weakness in the system, in that CRS does not focus as much on the offset itself and chooses to pass on responsibility of verifying the offset projects to yet another third-party. Such

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a decision may be a smart assessment of what one's organization true expertise is and is not, but it does instill a certain degree of vulnerability into the model. In addition, much of the CRS model is based on transparency and trust, and that requiring transparency throughout the many stages of the process will naturally put forth truthful information. I am a bit worried that reliance on such a strategy may be overwhelmed if the number of retailers follows the anticipated dramatic growth of the market. Such growth would demand organizational expansion on behalf of CRS.

Financially, the survival of the model is dependent on certification fees and that retailers and certification programs would pay into the system. An increase in the number of retailers would also potentially increase certification fee revenue streams. Although currently managed as only 13% of the revenue stream in 2005, CRS needs to watch the potential "budget creep" that an increasing stream of fees would create. As CRS has a vested interest in the success of its product certification program, it may not clearly qualify as a "third-party monitor," but rather a "second-party monitor." CRS is embedded with the stakeholders. They are working together to develop an acceptable and appropriate standard, which is a very comprehensive and time-consuming planning process to employ. Individual stakeholders may change over time, but CRS has signaled its intent for its program efforts to always be grounded in the stakeholder process. As such CRS will never truly have distinct independence from the market players.

While I want to believe in the important role of transparency and trust in the model, the great potential for fast and easy profit in the voluntary market demands that the Standard and certification program have clear technical thresholds and strong penalties for cheating. CRS

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needs to put forth a program with teeth that will catch any violators and remove them from the market. I would like to see penalties made explicit in the Standard, and the use of public “shaming” or display on the website used as tool. To address the issue of technical thresholds, although there is not consensus on key definitions of topics such as additionality, acceptable project sources or over the sale of future offsets, CRS needs to put forth a set of clear and unequivocal definitions. A step forward must be taken and while the resulting program may thrive or it may die, the market will ultimately answer the question if CRS’ interpretation of definitions was correct or not.

I would also like to see the market come to some consensus – both in terms of its industry definitions, acceptable offset projects, market size, volume and worth. While I know this is beyond the scope of CRS as an organization, the potential of a widely-accepted GHG product standard and certification program could lead the way for the industry to fall in line. Such an expectation is perhaps too naïve, but the market players have for the most part identified themselves as parties primarily interested in promotion of a market mechanism that individuals can partake in to assist in the overall reduction of greenhouse gas emissions. I would also like to see an organization keep tabs on the market, track the volume and value of sales, and act as a repository of information. This role could potentially be played by CRS, as it has established relations with the majority of the market players.

So, a year from now, would I buy a GHG offset certified by CRS? I think I would, provided that CRS’s revision of the standard takes a more aggressive approach in its technical threshold, presents real enforcement procedures and penalties for buyers, becomes an overall monitor for

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the industry and acts as a repository of market-wide information. This “hypothetical purchase” is based solely on the evaluation that as a consumer I will be able to have full confidence that the GHG offset I purchase will be retired on my behalf when I purchase it, and that it is sourced from a verified and certified project meeting the CRS standard and definitional thresholds of additionality and no-double counting. However, before making such a purchase I may personally act as corporations are advised to do – to first look internally for energy efficiency opportunities and to then purchase offsets for the GHG you are unable to reduce.

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### **IX. Discussion Questions**

1. Discuss the development of the voluntary greenhouse gas offset market. What is it, what is the argument in favor of doing it, and what is the current nature of the market? Will such programs help address the issues of climate change?
2. Why is it necessary to create one universal standard for the voluntary greenhouse gas offset market? Why is it important to establish a monitoring organization for the market? Should a universal standard be a result of a collaborative effort by major players in the market or should it one be unilaterally developed by a single credible organization? Which method is more likely to succeed?
3. Discuss the Center for Resource Solutions' (CRS) organization capacity and its work in establishing the Green-e program. How credible to you find the Center for Resource Solutions in monitoring?
4. What are the challenges for an organization that seeks to be both a standard-setter and monitor or a certification process? Do you agree with the author that CRS can be an effective leader in establishing a product standard for the voluntary greenhouse gas offset retail market? Can it also be effective in creating a product certification process and monitoring system of the market? Why or Why not?
5. How robust do you find the CRS GHG product standard? What are the challenges of the standard-setting process?
6. Should the sources of CRS's revenues streams be a cause for concern?
7. What are the incentives of the consumers who buy carbon offsets? What are the motives of CRS for selling offsets? Who are CRS' active stakeholders in the program development process?
8. To whom is CRS accountable? Who has an incentive to blow the whistle on transgressions? How should we evaluate the lack of known violators to the program?
9. Is there a role for government regulation in the voluntary greenhouse gas offsets market? What problems can it solve? What is it not able to do?

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