

# LET THE BRAZILIAN SUN SHINE IN

## BUILDING CREDIBILITY FOR SOLAR ENERGY BY DEVELOPING RESEARCH-BASED CONCEPT AND COMMUNICATION

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### INTRODUCTION

“Solar energy is the future of energy”. Few remarks could bring together disparate players like Greenpeace and the International Agency of Energy,<sup>1)</sup> institutions usually perceived as speaking from opposite sides. Yet consensus around the immense possibilities of solar photovoltaic (SPV) technology to address our energy problems reveals that rare capability of coalescing those rallying around social and environmental interests and those acting based on mainstream business-minded principles. After all, if solar energy is the future of energy, then it is the future of our economy, and of how our businesses and society will be founded.

To be sure, growing economic pressures resulting from current energy shortages and price instability, along with mounting environmental pressures mobilizing action plans and agreements to revert climate change and develop carbon-neutral governance, place present models and future choices of energy in a decisive position. These factors situate energy choices as a critical touch point to ensure social stability and business sustainability. Hence, the imperative for countries and companies to move forward towards greater eco-efficiency and a cleaner and fully renewable energy matrix (see Alam et al, 1991; Giddens, 2010; Pasternak, 2000; Stern, 2011; Tolmasquim, 2007).

If this is true for all nations, it seems all the more relevant for Brazil regardless the type of renewable energy under question, though numerous accounts converge in placing higher emphasis on solar energy-based solutions (IEA, 2010; EPIA, 2010). To begin with, the country solar coverage is wider than any other country in the world under any possible criteria, be it in terms of number of sunned days, radiation intensity or geography covered by solar radiation.<sup>2)</sup> Moreover, solar equipment installation costs are becoming even compared to non-renewable energy sources like coal-fed thermoelectric powerhouses or pre-salt layer oil extraction, thus circumventing the cost barrier.<sup>3)</sup>

On top of this, there are numerous signs of public favorability for alternative energies. Surveys with Brazilian consumers increasingly reveal a concern with the environmental footprint of current energy choices.<sup>4)</sup> Both consumers and opinion makers within the business community display a receptive attitude towards clean forms of energy, as well as optimism about the possibility of having a higher share of wind and sun power out of the energy matrix (CEBDS-Market Analysis, 2010).<sup>5)</sup> Last but not least, consumers exhibit growing expectations that business will embrace clean forms of energy and express a disposition to criticizing companies that appear disconnected with this expectation (CEBDS-Market Analysis, 2010).

How can the broader legitimacy around cleaner options of energy evolve into unambiguous incentives in favor of developing SPV solutions? Which tools can help in accelerating the transition from consumer openness and business sympathetic rhetoric for this type of energy to a scenario of materialized gains for pioneering companies likely to adopt it?

### EXPLORING THE BUSINESS CASE FOR SOLAR ENERGY: THE RESEARCH AGENDA

Despite a variety of favorable arguments and conditions to the adoption of solar photovoltaic energy, Brazil has a small SPV base (20 MW at the end of 2010, 99% of this being off-grid) and currently there are no existing national programs (since hydro and, gradually, wind and coal-fed thermoelectric plants have been more strongly favored) (EPIA, 2011). Moreover, a substantial number of decision-makers within government and public and utility companies perceive the irregular flux of energy from renewables as a risk to energy supply and network stability to the extent that solar energy central generators add up to a mere four and solar energy was excluded from the 2030 National Energy Plan.<sup>6)</sup>

Aiming at reverting this picture, our clients – GIZ (German Agency for International Technical Cooperation) and Instituto IDEAL (Latin American Institute for Alternative Energies Development) in partnership with the concessionary of electric power services of South Brazil (Eletrosul) - launched project Megawatt Solar consisting of the installation of the first

photovoltaic plant in a public building connected to the public grid capable of generating 1.2 GWh per year, power which is likely to be traded in the free energy market through public bids.

Our clients understood that key to their success in attracting corporate sponsors for this initiative required going beyond the assumption that managers would be able to reconcile the offer of solar energy with their intentions to greening corporate reputation and performance --although these were taken as major drivers for commercial persuasion. Thus, it also required from their proposal to provide a visible, credible, easily capitalizing indication of the customer adherence to a singular sustainable choice likely to be widely communicated by corporate sponsors and dress them with a competitive advantage as sustainable agents. Hence, an eco-label was chosen to be instrumental to that goal.

Our clients' suppositions of an energy choice likely to be translated and capitalized into a distinctive sustainability credential by corporate customers involved a series of assumptions for which they lack supporting evidence. To begin with, the standard assumption that adopting solar energy could effectively equate the idea of going green among the few key stakeholders. Next, the conventional argument that going green could automatically render reputational capital with a variety of stakeholders (especially, with end consumers), and that this way to obtain prestige will be not outpaced by other forms of achieving that end. Additionally, there was a hidden assumption that consumers find sustainable business relevant across the board, that they are capable of distinctively identifying signs and symbols conveying a message of commitment to environmental corporate responsibility and that they will be sensitive and believe in the content of an eco-label.

All these assumptions for a successful business proposal implied the need for essential market data about potential customers' understanding of solar energy virtues, limitations and myths, the benefits and costs perceived in the proposed solar energy business model (which involved a premium price compared to hydro-sourced electricity), the reputation gains and marketing utility associated to the possibility of exhibiting the eco-label, and their assessment of the eco-label design thought to operate as the key tool for clients' communication and sales. Our clients' suppositions about the instrumentality of such an eco-label needed to be tested both with direct customers (i.e., decision-makers within corporations) and indirect customers (i.e., end consumers) in order to get feedback to improve this tool's appeal and potential performance as well as the kind of effect it could have in building legitimacy around solar energy consumption.

The research agenda aimed at addressing a number of critical questions pervasive to the larger plan of building successful cases for sustainable initiatives and policy models. What cognitive and marketing barriers do corporate customers confront to fully embrace sustainable choices? How effective could an eco-label be for identifying companies as subscribers to renewable energy and, therefore, conveying to their stakeholders the information of a positive alignment with a sustainable business model? To what extent is an eco-label capable of surpassing awareness barriers about solar energy and generating material benefits such as better reputation? And how effectively did our clients' original prototype transmit the contents of the intended proposal to customers?

#### ECO-LABELING AS CREDIBILITY TOOLS

Over the past years, sustainable models of running business have become an imperative for enhancing reputation, ensuring competitiveness and reducing costs. In the case of Brazil this was evidenced for both consumers and the business community through an array of clear indications going from booming issue news coverage to skyrocketing rates of companies adopting GRI codes for disclosing CSR activities to the increasing number of consumers admitting to reward producers at the checkout or through positive word-of-mouth (Echegaray, 2010).

Yet, public, pervasive and accessible signals that communicate that a company is walking the talk in a sustainable manner remain scarce. News reports are increasingly mixed in the message they convey as business journalism confronts company socio-environmental performance in a less candid, more critical way. Ads on sustainable behavior face a substantive degree of skepticism. GRI-styled sustainable reports are hardly read even by company's employees, far less by clients or consumers in general (Echegaray, 2010).

Despite these shortcomings, we know that consumers, opinion leaders and executives still build their impressions of corporate behavior through the bits of information they receive in relation to a number of initiatives perceived as aligned with the sustainable agenda. From how responsible to the environment the manufacturing process of a company is to how fair and progressive are their employee policies, to what the company does for the community surrounding it, to how innovative and green is the way the company generates its energy. All activities that usually remain invisible not just to consumers but sometimes even to the vast majority of the staff of the company that follows these choices.

The key challenge is therefore how to make the invisible become visible for the publics at stake and how to generate credibility that the company is actually travelling that sustainable path even if these stakeholders have no direct means to validate the company's claims. Eco-schemes and certifications are one instrumental tool for these purposes. As with other

responsible initiatives, an eco-label may work as a useful heuristic to identify that a company is using solar-powered energy for producing goods and services, and endorsing its claim that by doing so it is having a clear and distinguished commitment to green technology and a sustainable relation with the environment. Yet, consumers and business customers are unlikely to be able to check and verify that claim before granting support to a company's allegation that it is green just because it states so.

Eco-labels attempt to square this challenge by conveying third-party certified reassurance that certain environmental-friendly achievements or established environmental leadership criteria is met during the life cycle of the product or service. In other words, eco-labels build their strength upon an underlying system of trust behind the label assertions and their warrantors. It serves the purpose of shaping an initiative with credibility and easing the barrier of disbelief likely to surround a claim about a decision in favor of environment that is hard to see and sell.

On the other hand, for all the virtues related to eco-labels they are also confronted with a number of qualifications. Eco-schemes, seals and labels have multiplied at a fast rate, proving their appeal to producers that want to raise awareness and build trust around their brands as sustainable models (currently estimated at 430 schemes worldwide, according to Eco-labelindex.com), yet this very same boom may generate more confusion than clarity about the authenticity of such a large number of schemes and the effectiveness of ROI from adhering to voluntary credentials -particularly, within eco-labeling crowded segments such as food or furniture. Of course, such saturation is not the case of solar energy whose labels are scarce around the world: just four.<sup>7)</sup> However, for corporate managers fine-tuned with eco-labeling this mixed picture may generate more disincentives than incentives to follow that path, as they may conclude there is a diminishing return for adopting this tool vis-à-vis their eventual need (and correlated efforts and pains) for pioneering in the energy category in particular.

In Brazil, on one hand, consumers react positively to eco-labels to the extent these are pointed out as the best indications of corporate responsibility work (Idéia Socioambiental, 2010); on the other hand, their overall knowledge context remains very low and restricted to few iconic labels and certificates (Akatu-Faber Castell-Market Analysis, 2006). Interestingly, those trusting eco-labels as information tools are more strongly concentrated among low education individuals (Idéia Socioambiental, 2010) – a fact that reveals that schemes represent cognitive easing mechanisms capable of popularizing the environmental commitment of a company among a wider audience but given the poor cognitive skills of this audience that may be far from effective in the short term.

Furthermore, eco-labels seem to perform asymmetrically with B2C and B2B markets. While these tools serve as heuristics for consumers and automatically may help to factor in sustainability considerations into their purchase calculation, it is an enigma how they mold corporate customers' choices. So, companies selling goods to other companies may find little incentive in adopting an eco-scheme that may make no difference to their customers. Likewise, the relative absence of measurements and studies clearly indicating the added value of eco-labels to branding, market size or share or other valid currency (Nimon-Begin, 1998; Watanatada-Mak, 2011) may weaken their appeal as well.

Last but not least, eco-schemes assume an authoritative, recognizable third party that endorses and furnishes legitimacy to its promise of delivering higher performing goods in environmental terms. However, neither external player on the client side could easily fulfill these requirements. Both the NGO (Instituto Ideal) and the international cooperation agency (GIZ) lack visibility and market projection to play that role; on top of that, they are not formally entitled to serve as trustees or guarantors of the proposal.

## DATA AND METHODS

Based on the research goals previously described, we proceeded with a two-phase methodology approach, each targeting a different public. To understand consumer notions about solar energy, identify the potential return for companies, and determine reactions to both the concept and design of the draft eco-label, two focus groups were conducted in the city of São Paulo, each with eight adults aged 24-62 years. Participants had to have one common trait: a high interest in socio-environmental activities by companies, yet with opposing levels of trust about corporate communications on that matter. Each segment represented not less than 35% of the population according to previous studies, and they are classified as "CSR receptive" if their confidence level is high and as "engaged skeptical" if that level is low.

Next phase involved mapping out the business publics' attitudes toward solar energy, current energy usage and potential demand for solar energy, reactions to both the concept and design of the draft eco-label and responses to the solar energy proposal. Sixty-eight managers were interviewed using a variation of CATI (computer assisted telephone interviewing) to web technique. These business elites worked for large companies free to choose their energy model and supply and acting on a variety of segments – from food industry to transportation, from civil construction to retail, across main cities from the south, southeast and northeast regions of Brazil. Nearly half the respondents work within the management and

operations areas (that is, those directly involved with organizational efficiency requirements) and the other half from marketing/ communications and sustainability areas (that is, those involved with company reputation and social legitimation)<sup>8)</sup> - a majority of all of them working in those positions for over a decade. On average, the interview took slightly more than 35 minutes. The study with both publics was fielded between mid October and mid December 2010.

#### UNDERSTANDING MYTHS AND BELIEFS ABOUT SOLAR ENERGY: UNLOCKING THE SUPPORT GAP

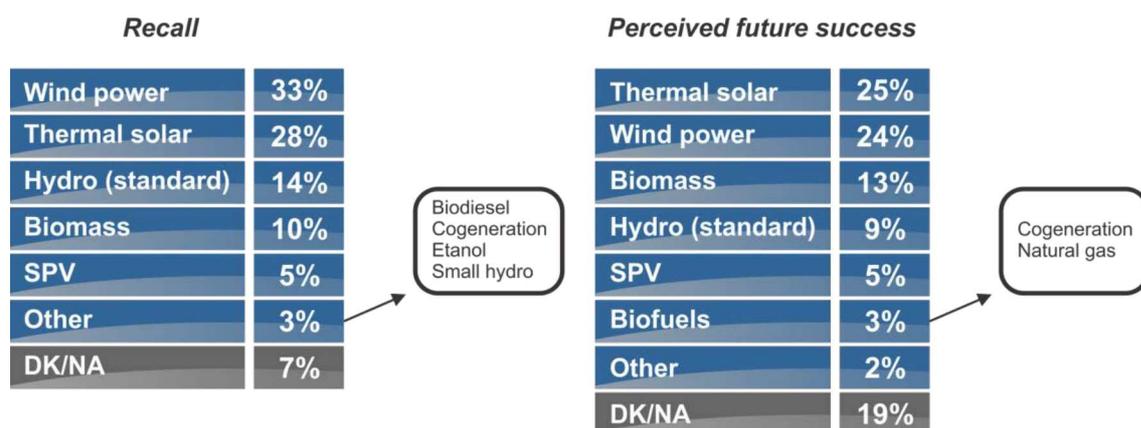
Alternative energies like solar photovoltaic find a responsive chord among Brazilians and this response springs from a perception of impact minimization (*"as far as I know, they do not harm nature"* - Consumer) and resource availability and accessibility (*"because it's renewable and it has a free usage provided by nature"* - Consumer). Key references of alternative energies are solar and wind, followed by biogas. In a distant third place come a variety of biomass and biodiesel sources such as sugar-cane ethanol, waste and grass-generated fuel, along with references to nuclear energy and tidal power.

These notions of alternative energy yield four implications. Among those sensitive to issues of sustainability, we can highlight:

- a plurality of sources of energy in mind, not just a sense of one dominant energy source;
- a recognition of forms of energy related and unrelated to one's daily life, thus showing a capability for connecting the notion of energy supply and needs both to residential, individual consumption needs (such as heating/cooling, lighting and fueling cars) and to business and collective or large-scale needs for manufacturing and transportation;
- an awareness of types of energies even if not currently under operation in the country;
- the indifferenciation between thermal and photovoltaic solar energy .

This scenario of relatively sophisticated opinions may result in fertile soil for initiatives related to pioneering forms of energy. At the same time, the prevalent merging in consumers' minds of different solar energies as a single one (thermal) reveals a critical obstacle to showcase the uniqueness and value of SPV. Conversely, business elites self-declare familiar with alternative energies (18% a lot, 59% fairly well) and exhibit a similar ranking of top-of-mind sources, except that they distinguish thermal solar from SPV better than consumers -though many of managers are not free from confounding both. Receptivity of renewables among business is also high being perceived as the most promising sources of energy in the near future: for example, wind power tops the awareness ranking (as per one-third of managers) and one-fourth of this public also considers it the smartest bet among all clear energy options. In the case of thermal solar energy the match gets even closer: 28% and 25% of opinions, respectively (see figure 1).

FIGURE 1, ALTERNATIVE ENERGIES: UNPROMPTED RECALL AND PERCEIVED FUTURE SUCCESS (BUSINESS SAMPLE)



When it comes to alternative electric power, which is the first type of energy that comes to mind? (Two mentions allowed.)

Which type of alternative electric power would you say would be one of your main company choices in the future? (Two mentions allowed.)

Nevertheless, favorability and recall confronts a number of myths and misconceptions, yielding a support gap between approval and actual mobilization in favor of these options. For example, consumers believe that solar plates and wind power engines will occupy too much room and interfere with bird migrations (effects in conflict with the claim of being environment-friendly), that the former will become useless on cloudy days or periods without winds, that discontinuity in winds or sunlight during the same day can zero the generation of power, that these solutions are unfit to attend demands from large corporations that are assumed as requiring "bolder" types of energy, that their energy efficiency claim is ultimately weakened by limited or inexistent storage capabilities.

Misconceptions with solar energy start at the definitional level. Both consumers and a substantial number of managers conceptually merge SPV with thermal solar energy, and attribute electricity-generating capabilities to thermal panels (*"To my knowledge, solar energy is produced by the very same ray of solar light"* - Consumer). This myth, along with previous ones, has serious implications:

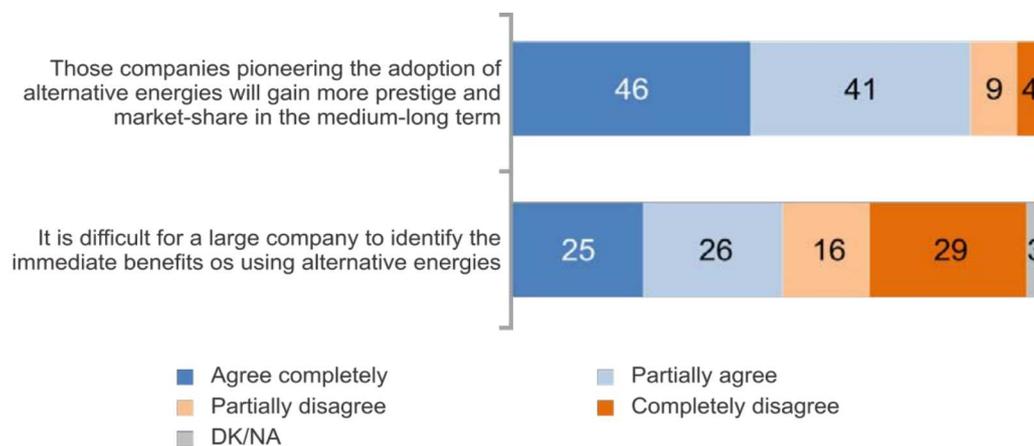
1. it turns SPV's role banal and subtracts value to SPV initiatives, reducing its persuasiveness in the eyes of companies;
2. it increases the risk of alienating consumers when addressed by a pioneering SPV adopting company since they may feel manipulated or deceived by company's discourse because of the supposed simplicity and redundancy of the proposition.

Consumers establish their favorable attitudes for solar and wind power mostly upon their minimal interference on the environment, validating the prevalence of a risk avoidance argument. This has troubling implications for the Megawatt project: a basis for support upon negative rationales (i.e., the minimization of negative outcomes) to a greater extent than positive arguments (i.e., benefits or expected returns) is a far less effective motivation for driving action. Accordingly, welcoming attitudes for clean energies at the generic level find a hard time to translate into mobilization of public pressure upon government or corporations for mass adoption of these greener sources of power. We call this the support gap.

Another factor feeding this support gap relates to the paradoxical way consumers perceive themselves as agents of change. In line with findings from other studies, consumers are keen to state they can influence corporations' decisions quickly, dressing themselves as the mythical sovereign subject of the market proclaimed by mainstream economics and marketing. Yet, ultimately, this influence hardly drives corporate decisions; it actually projects itself as a retrospective referendum on corporate choices once these have been already taken. In other words, favorable orientations towards corporate sustainable choices by consumers would have a hard time to channel pressure over firms to accelerate clean energy adoption, another reason for the current support gap.

Business managers are far more balanced between positive and negative motives behind favorable views of renewables. They admit a choice for sustainable energies renders positive enticements at the reputational level in the medium-long term (46% totally and 41% partially agreeing with that idea). A benefit that consumers are willing to grant but that believe as resonating more strongly among companies' employees and current clients than to society at large. On the other hand, executives are divided as to the short-term payback tangibility of walking the greener energy path: 51% agree that it is difficult for a large company to identify the immediate benefits of using an alternative source of energy whereas 45% disagree and 3% have no opinion (see figure 2).

FIGURE 2, VIEWS ABOUT PAY-OFFS FOR ADOPTING ALTERNATIVE ENERGIES (BUSINESS SAMPLE)



In any case, the likelihood these motivations will –by default- encourage SPV adoption is low as this option remains off the radar of corporate executives. Only 5% of them spontaneously recall SPV as part of a renewable energy menu and the same percentage of managers admit this option would be of interest for the companies they work for.

Business leaders are less prone to echo many of consumers' myths or misconceptions, but this only partially softens a degree of ambiguity behind their manifest high interest/favorable attitudes at the general level about non-conventional renewable energies. This ambiguity takes the form of:

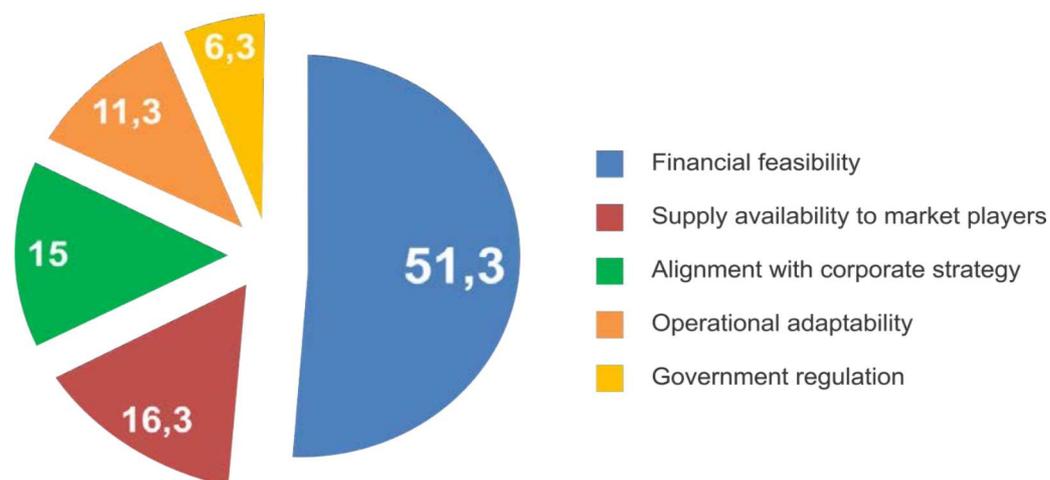
- a) a major gap between attributed importance and actual adoption of a clean energy option within the corporate environment they work (such gap reaches 30 points compared to other sustainability-oriented decisions within the

- company like progressing towards product certification -16 points gap- or water/energy consumption reduction -a 6 points gap);
- b) a conceptual divorce around the notion of clean energy as core to the decision of developing a sustainability corporate policy platform as indicated by poorly correlated responses between those asserting that their companies have been implementing sustainable solutions and their companies' actual adherence to renewables; and
  - c) the aforementioned split in opinions about short-term payback identification of adopting renewables (only 45% perceiving immediate benefits) versus the dominant rhetoric of renewables as a must-have target for companies regardless higher costs (69% endorsing this standing), which portrays the conviction that for many executives other companies should chase that road over the next years but not theirs as they might not seem too willing to risk their careers in the near future for uncertain options, or -better said- options that look certain only in the very distant future.

Perceived higher costs of clean energy is another barrier for support common to both consumers and businessmen. Unaware of rapidly decreasing prices, government timid but growing encouragement and extended financing, and the crystallization of persuasive benchmarks showing medium and long-term compensation through lower expenditures that surround non-conventional energies, stakeholders feed their support gap upon a relative misconception of financial feasibility for renewables.<sup>9)</sup> After probing for main challenges for wider usage of alternative sources of electric power slightly over half of the managers' sample (51.3%) pointed out shortcomings of financial feasibility. Outdated and missing information plus the assumptions that going green in energy terms represents heavy costs with no visible payback seem the perfect recipe for freezing decisions. As business managers need to accommodate actions to short-term satisfaction of shareholders and profitability of their companies it seems very unlikely they will take a long-term and sacrifice-prone decision. In sum, as far as those misconceptions about the finances of renewable and non-renewables remained uncontested and not clarified by green energy proponents, the argument for travelling the sustainable road through adoption of renewables will look too much like ignoring the economic leg of the triple bottom line (see figure 3).

Last but not least, business publics recognize other challenges beyond financial feasibility. These barriers vary in nature and some depend on decisions external to market agents. That is the case of issues of greener energy supply availability and favorable government regulation, which respond to one-fourth of other reasons blocking the future of renewables. Since large-scale availability is ultimately conditioned to government policy and enticements this means that the Brazilian state has a substantial role to play.

FIGURE 3, MAIN CHALLENGES TO USING ALTERNATIVE SOURCES OF ELECTRIC POWER (BUSINESS SAMPLE)



Consumers echo this attribution of responsibility to government as key decision-maker, for some *“the first step depends upon defining a government policy for renewables – I’m not talking about the government putting money on these but determining the development of renewables as part of government policies”*. Other consumers further stretch this expectation by analogy with environmental legislation: *“Pretty much like you got environmental legislation forcing companies to deal with its waste in a responsible manner you ought to get legislation that somehow put the pressure on companies to use solar energy and to do it at accessible prices”*. The medium and long-term implications of this support for a regulatory upper-hand of government are clear: the longer the industry takes to be pro-active and all-encompassing in developing self-regulation measures and meeting key expectations from stakeholders about their responsibilities, the higher the odds this will instigate a state intervention and judicialization of business decisions and processes.

Difficulties in figuring out a corporate strategy aligned to a greener energy source mix anchored on renewables and the underdevelopment of operational adaptation mechanisms to use sources like SPV complete the set of identified obstacles by managers. These issues account for over one-fourth of the barriers and fully fall within market agents' responsibility. More importantly, their share of the total obstacles perceived suggests that political decisions within company are slightly more critical than technical matters.

Taking all things considered, the message is clear: SPV needs not only to gain visibility and better comprehension before decision-makers but also needs to showcase its uniqueness and corporate functionality more clearly. These myths and misconceptions represent clear barriers to the success of cleaner energies in general and SPV in particular and point out to the need for better communication and more instrumental education of both publics. Unless these false or ambiguous readings are fully understood by proponents of alternative energies and priority action is taken to overcome them, the odds of capitalizing favorable views into company choice for SPV may remain low.

At the same time, consumers and business validate the logic of reputation returns for companies investing in alternative energies. This validated clients' assumption encourages to base their plans for tackling the unexplored SPV opportunities by focusing its marketing upon an eco-label capable of identifying and, therefore, differentiating those pioneering corporations sponsoring the SPV development program. Promoting a customer approach upon displaying the eco-label emerges, in theory, as a sound instrumental decision. The next section will explore how well it did and what lessons were learned from testing this communication and marketing tool.

#### HOW STAKEHOLDERS REACT TO THE ECO-LABELING PROPOSAL FOR SPV?

The belief in consumer sovereignty as driver of corporate behavior by individuals is the equivalent to the belief in the reputation and market returns for adopting sustainability choices by managers in that they are both needed assumptions for generating a virtuous cycle favorable to the spread of renewable energies. Yet, these become insufficient conditions to propel such cycle unless they get to connect each other by some mechanism that informs consumers where to exert their influence over firms and that allows companies to raise visibility and extract status gains from their decision to walk the renewable path.

In search of a working tool to play that role, our clients develop a SPV sponsorship eco-label. But, how instrumental and effective is this tool both in conceptual terms (i.e., raising awareness, securing visibility, improving the cognitive connection and comprehension of the SPV proposal) and in terms of achieving the attempted effects (i.e., motivating interest or actual commitment to sponsorship by firms and engaging consumers in rewarding practices for companies going that way)?

Eco-labels are cognitive facilitation tools playing the role of information shortcuts, endowed with the credibility of an authoritative endorser. This is critical in the case of Brazil where surveys reveal that seven out of ten consumers have troubles identifying ethical products (69%) and understanding the socio-environmental benefits of products claiming to be sustainable (71%) at the moment of purchase (CEBDS-Market Analysis, 2010). More so, when considering that similar surveys with sustainable opinion leaders (many of them being area managers at big companies) reveal an even larger proportions of these elites agreeing that non-identifiability and feature verifiability are top barriers for a typical consumer (90% and 95%, respectively) (CEBDS-Market Analysis, 2010). These circumstances are likely to make eco-labels very instrumental, and there is evidence supporting this helpful role at the general level (Idéia Socioambiental, 2010); yet: is this the case in relation to the proposed SPV eco-label?

One key research finding is that eco-label efficacy heavily relies on exhaustive prompting before consumers' eye to get noticed; otherwise they will hardly figure as relevant cues. Managers' responses to eco-labels are aligned with the way consumers react. Only 8.4% of business elites interviewed for this project instinctively refers to a well-recognized label as a good indication that a company makes use of alternative energies.

Eco-labels in Brazil also need to deal with a background of rather few antecedents, something that gets reflected in the fact that only one every two managers being aware of any label scheme or certification (and even one-fourth of those claiming awareness end up being unable to cite examples). Among consumers the government-backed, heavily disseminated, product-attached energy-efficiency Procel label for home electronics has become synonymous of eco-labeling with scarcely any other example in mind. For businessmen, Procel ranks in second place yet it achieves the highest rates in credibility and market influence.

Clients suspected that important barriers would be in the way to attracting attention to a SPV-centered offer for companies concerned with sustainability. The eco-label was, thereby, pivotal to their efforts in switching the game. Yet, assessing how well-aligned such tool would be with the conceptual proposition around solar energy and how effective was the symbolic language used were also matters that ought to be empirically addressed.

**SPV tested concept**

*In spite of being the fastest growing type of energy generation, grid-connected solar photovoltaic projects in Brazil are still scarce, low scale, mostly related to research and irrelevant in terms of power generation. The first, larger scale project will be installed by Eletrosul at its HQ in the city of Florianópolis with expected power generation of 1,2 GWh/year – a quantity large enough to meet energy demands of 680 households. This energy will be sold to firms and given that there is no public policy promoting clean power, those companies that acquire this energy will be pioneers in helping to develop this market in Brazil, in addition to behaving in a more sustainable manner since they will be using clean electricity.*

*This type of energy is more expensive than conventional power, for this reason the Instituto Ideal, with the support of GlZ, decided to create a seal so the company that acquires this type of energy will have a tool to disseminate this action. The solar seal will enable consumers to identify who is buying the new type of energy. To obtain the seal companies shall acquire a minimum volume of photovoltaic energy for a minimum period of 5 years. The idea behind the seal is not to certify but rather become a sort of “I am in” flagship tool campaign by which companies could also display their will to favor this choice of energy fully available within the Brazilian market.*

Respondents were exposed to this concept draft, then to the preliminary version of the seal in order to verify their overall assessments, perceptions of ROI and stated buying intentions. Consumers ratified their receptivity to alternative energies by welcoming the proposal of a SPV eco-label. Its main effects just happened in relation to one of the most sensitive issues: credibility of firms’ sustainable claims. But the gains in legitimacy were not automatic. In fact they voice an expectation for a broader role of a seal not contained in the conceptual statement-to perform as a self-explanatory guidance for consumers: *“What is critical for me is being able to believe in what a company says is doing. A seal is important, it provides something visual to distinguish and identify but I also want to understand if that’s actually true and how having the seal ensures that - Consumer”.*

Clients’ bet on the positive effects of using an eco-label had in mind the first condition of information supply but somehow missed the role that such tool has in terms of furnishing credibility and the way it is expected to fulfill that role before consumers. In that sense, a first outcome of research was to provide additional clues as to how to market the idea more effectively. The concept behind the eco-label also triggered a reflective process which motivated consumers to think of sustainable investments in comparative terms across companies from same segment and relate different performances to a broader agenda about corporate commitments to a better future. In this sense, the eco-label seems instrumental to both a preliminary educational process among consumers and a favorable benchmarking of early corporate adopters likely to benefit from individual choice and positive word-of-mouth, as declared by some respondents.

Managers sympathize with the concept more than they feel persuaded by it but this gap is fairly minor. Whereas 74% react favorably, the perception of ROI is positive for 69% and actual interest on the proposal as it is gathers 67% of executives. As opinions asked relate to more material or consequential decisions, the level of endorsement weakens -as illustrated by the lower likelihood of recommending the adoption of the seal before the board (i.e., 62%). Still, the breach between the 74% who agrees with the concept and the 62% who are willing to advocate for it before the corporate hierarchy seems, in perspective, rather low.

What elements seem to deepen or avoid that gap from getting bigger? Restraining factors are related to one key assumption of our clients’ proposition – the belief in the likelihood of market gains. For 82% of managers’ companies using the seal elicit public prestige. Concurrently, 78% of them are persuaded that consumers pay attention to this type of signalization of a company engagement with sustainability. Reputation is, thus, a clear motivating force. On the other hand, factors contributing to this gap are the eco-label drawbacks in idea clarity, interpretability and credibility – plus a certain degree of resistance to paying a premium cost. These are issues more strongly related to the practical, functional aspects of the seal than of symbolic nature (like prestige and image gains). For 51% of executives the eco-label as proposed is difficult to decode (alarmingly, 54% of those in the communications/sustainability departments think that way) – a disadvantage that echoes among consumers, on a scale of 1 to 5 for easiness to make sense, the eco-label gets only 2.75 points, its lowest score among several other features probed. Businessmen also reveal mixed feelings about how clearly the proposed eco-label was able to catalyze an engaging platform for SPV adoption and show themselves divided with regards to its credibility – a matter that has less to do with likely project sponsors than with the absence of government back-up and a degree of skepticism about label potential for propelling major changes in energy supply.

How successfully would the SPV eco-label travel from concept to a visual mode? The final step of this research involved testing a first prototype of the eco-label before all publics in order to determine how well this would communicate the idea

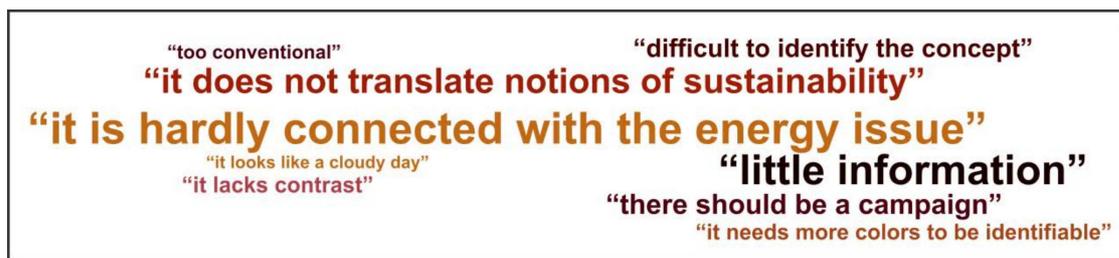
of a pioneering corporate-sponsored SPV development program and learn what was needed to retain the favorability achieved at the conceptual level around clean energies and eco-labels. (See figure 5).

Both publics reacted ambiguously to the graphic representation of the eco-label thus showing a far stronger alignment with the conceptual proposition than with its visual logo mode. It is no news that performing a transition from well-defined or positively perceived concepts to effective visual expressions of those ideas is a difficult task; furthermore, and contesting common sense, there is evidence for eco-labels that text-based information like a conceptual written message might be more effective than pictorial information as portrayed by a symbolic seal (Tang et al, 2004).

Consumers were relatively disappointed by the design as they felt it delivered partial cues (*“Not everyone is aware that solar panels have that shape”*) and lacked eye-catching potential (*“Visually, it is far from mind-blowing”*) – in other words, two “must have” conditions: cogent and easy to assimilate information about the benefits of the concept and striking graphic attractiveness were missing. Along with those reactions, seal colors automatically elicited sun/solar energy associations but were perceived as requiring more intensive tonalities to successfully link the substantive emotional expectations behind their approval for clean energy with the seal as a communication tool.

Managers also get mildly excited by the image of the seal. One in every three of them rated it lower than 7 points on a 1-10 scale. Reasons for that half-hearted response relate to core communication deficits: it does not deliver an effective sustainability message either because this concept is missing or it is difficult to infer from the seal. The novelty of an energy eco-label is thus neutralized as its visual representation spurs a perception of un-connectedness to what is the essence of the proposal: energy supply. Last but not least, aesthetical shortfalls constitute another type of criticisms (see figure 4).

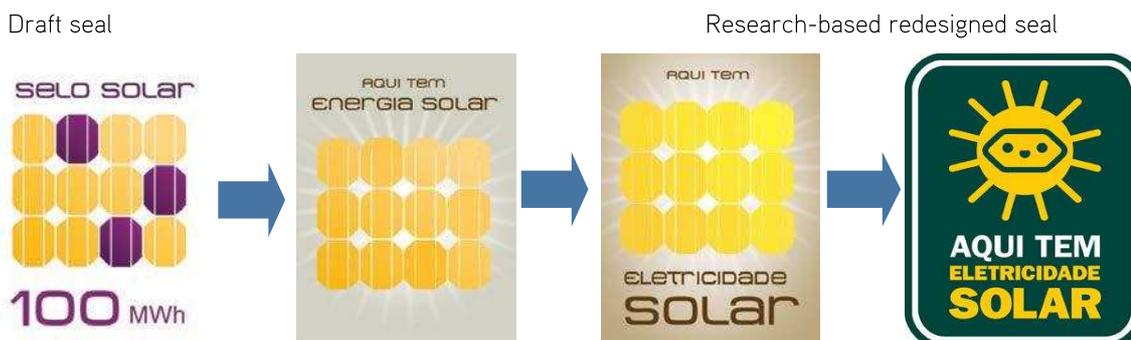
FIGURE 4, MOTIVES FOR NEGATIVE REACTIONS TO SPV ECO-LABEL DRAFT (BUSINESS SAMPLE)



These reactions conspire against an effective conversion of favorable attitudes towards renewables and eco-labeling into more committed responses among businessmen and are likely to ignite further disbelief about the seal since those deficiencies are perceived as subtracting credibility to the concept and initiative. A key implication of this research is that unless the seal is reworked to achieve a more congruent symbolic outlook that clearly connects it with both the core themes of sustainability and energy, odds of bridging the gap between idea favorability and willingness to recommend this option before the board will remain null.

Confronting the mix scenario of high opportunities for success and underperforming visual proposal, which -in a way- synthesized the core takeaways from this research, clients reformulated the eco-label design integrating research suggestions and lessons. The new seal was a closer reflection of these stakeholders’ concerns and expectations about what a sustainable energy eco-label should be about (see figure 5).

FIGURE 5, SOLAR ENERGY SEAL EVOLUTION: GETTING ADAPTED TO STAKEHOLDERS' NEEDS AND EXPECTATIONS



Likewise, insights from research inspired a larger review of clients' strategy. After the visual improvement, clients agreed that the next critical step will imply advancing a public educational campaign seeking not just to divulge the eco-label but to raise awareness levels about the singularity of SPV and increase its perceived value among consumers and business customers. Such a campaign plan has led to a finalized brand usage guidebook, an educational primer and a video still under development, and a good business practices manual regarding a responsible usage of green marketing around the eco-label. Furthermore, this educational campaign was understood as being more effective if set in motion before any broader disclosure of the seal, focusing on printed media, specialized magazines, internet, and energy and sustainability events.

Along with these decisions, research helped our clients to conclude that -unlike standard usage of eco-labels in Brazil and abroad- the seal will have stronger resonance if used in institutional campaigns instead of in product packaging by corporate patrons. This approach seems more coherent in building trust and mobilizing choice among potential business customers. Finally, for those partnering with our clients in sponsoring this pioneering SPV initiative, a joint communication campaign is planned to be set forth around the social value of adopting clean energy at customers' locations (i.e., employees offices, retailers' stores and point of sales, etc.) or in companies' sponsored events (i.e., shows and fairs, industry conferences, etc.).

## CONCLUSIONS

Market research can go beyond neutral descriptions of public moods and make a difference in favor of a more sustainable future. So far, the scattered number of studies and surveys focusing on issues of sustainability in Latin America have been limited to either a retrospective assessment of isolated social and environmental initiatives by a handful of companies, or feeding back the credibility of advertising investments to greening a brand, or tracking public views about climate change and corporate responsibilities to society and the environment. As we attempted to argue, our industry can play a larger and fairer role by helping to improve how sustainable solutions, like alternative energy, may get communicated and get higher chances of success in order to mitigate the human drama of living in a hotter, increasingly polluted and climatically fragile planet.

For this specific business case, market research contributed to develop a sharper basis for a unique renewable energy proposal through various ways. To begin with, it helped by untapping myths and beliefs that hamper the conversion of positive attitudes into mobilization in favor of renewables (what we called the "support gap"). Secondly, research assisted by testing concepts and visual cues in order to obtain critical intelligence for better alignment of these with stakeholders' expectations and rationales about clean energy. Finally, research allowed to identify how to potentialize the impact of powerful heuristics such as eco-labeling.

In addition to perfecting concept and visual cues, there are other practical lessons derived from this study with implications valid for a wider portfolio of sustainable solutions. For issues like energy and other technological advances, there is a clear need for education of target publics well before launching any product. Positive attitudes do not equate to fully understanding and differentiating of sustainable solutions from other conventional options. As a result, an environmentally sounder proposition may see its value diluted and even raise up adverse reactions. That is what was at risk, for example, with those confounding thermal and SPV sources of energy.

Not rarely, sustainable solutions are inherently related by its proponents not to immediate pay-offs but to long-term results, and this view is reflected among consumers and business which raised another obstacle to progress. Yet, solutions like renewables can also encompass medium-term benefits in economic terms as costs associated to its implementation rapidly go down and if consumption savings are effectively tracked. Moreover, government regulation is likely to further change the current structure of costs, along with society and industry pressures for more sincere prices for non-renewables like fossil and coal-based energies mounts; not to speak of a portion of customers who consistently signal a willingness to face premium prices for greener products and services. And, of course, there are the symbolic pay-offs like stronger reputation, better insulated corporate images, more highly motivated workforce, capability for attracting sustainability-sensitive talents and consolidated loyalty relationships with current customer-base.

As the year 2012 begins, a renewed surge of news promising a more prosperous destiny for solar photovoltaic energy reached newspapers and blogs in Brazil. The government finished a study suggesting legislation that will allow the generation of solar energy at the household level,<sup>10)</sup> and announced a USD 118 million credit line for solar energy.<sup>11)</sup> At the same time, the largest energy distributor in the Northeast region, Chesf, announced investments of over USD 41 million in testing SPV units,<sup>12)</sup> whereas in the Southeast region, one major stadium for the World Football Cup of 2014 in Minas Gerais is promising to feed all its energy needs out of solar by end of 2012.<sup>13)</sup> As for the current project we worked for, a public bid was launched during the last months of 2011 and 14 proposals were submitted, suggesting a substantial interest in the future of solar energy.

Things appear to start moving swiftly in favor of a sustainable path towards the clean, renewable forms of energy in Brazil, pretty much like other markets in Latin America. Market research can play a positive role here too, one that contributes to shaping the society in other ways than providing inputs that -in some cases- we know ultimately might result in more consumerism, less healthy societies and environmentally deprecating behaviors.

#### FOOTNOTES

1. Greenpeace (2010), "Sol: o futuro da energia", available at [http://www.greenpeace.org.br/clima/pdf/sol\\_ofuturo.pdf](http://www.greenpeace.org.br/clima/pdf/sol_ofuturo.pdf), on Dec.15, 2011; Joel Kirkland (2010) "IEA: Solar Power Could Produce Nearly One-Quarter of Global Electricity by 2050,". Scientific American. May 12, 2010.
2. Incidence of solar radiation is estimated at 4,500 to 6,300 Wh/m<sup>2</sup>, according to the America do Sol network, 2011.
3. According to late 2011 calculations by Bloomberg New Energy Finance, costs are expected to half by 2013, pushed by a larger economy of scale achieved with regards to producing components. Consequently, world annual manufacturing of equipment has quadrupled since 2008 and is expected to double til 2013 pushing costs down a bit further. Also, see: Scheidt, Paula (2011), "Bons ventos para a energia fotovoltaica no Brasil", Revista Brasil Energia, December 2011, n.373.
4. Revista Brasil Energia (2012), "Meio ambiente mais preocupante", February 2011, n.375; Portal Energia Hoje (2011), "Brasileiro rejeita energia nuclear", December 16, 2011.
5. Ibid.
6. ANEEL (regulatory agency of electric energy), 2010.
7. According to Eco-labelindex.com, available at [http://www.eco-labelindex.com/eco-labels/?search=solar&as\\_values\\_063=](http://www.eco-labelindex.com/eco-labels/?search=solar&as_values_063=), on Dec. 28, 2011.
8. Such segmentation not only relates to the specific second-level goals of the study (namely, identifying the tensions and potential between eco-efficiency arguments vs. reputational appeals in providing a discursive background to lever the solar energy proposal) but also to established literature findings about the need to consider the company as an heterogeneous agent and -thereby- map out the opinions of the different decision-makers with different (when not antagonistic) goals. See: Fonseca-Da Silva (2010).
9. Of course, there are additional considerations resulting in far higher comparative costs of using unclean energy sources which, conveniently, mainstream economics and marketing ignore, such as the public health effects, the economic consequences over national accounts and the environmental costs of degradation, depletion and pollution. For a thorough discussion of the hidden costs of current forms of energy and its quantification, see Brown (2009).
10. Valor Econômico, January 27, 2012
11. Estado de São Paulo, February 14, 2012
12. Valor Econômico, January 30, 2012
13. Brasil Econômico, October 27, 2011

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