

## **Paulo Cunha | The Brazilian Manifest “Seven Wedges” Sustainability Approach proposal to tackle Climate Change through mitigation technologies and its potential application on CO<sub>2</sub> Capture and Geological Storage (CCGS): Climate Change Mitigation Technologies as vectors for sustainability implementation**

### **What do I look for?**

- An opportunity for collective reflections;
- An exercise to bridge to our spirituality;
- A path to develop our generosity and solidarity through our common responsibility;
- The compromise with transformation, with doing things in different ways and with the new;
- The search of what it is the essential;
- An action for offering something to the other...Being useful...serving...;
- Living today but connected with its consequences on the future;
- Being able to love the unknown people;
- Poesy and Lyrics to be a permanent learner;
- Opening our hearts and minds...and

Let's begin with sustainability and what I learnt with Miriam Duailibi from Ecoar Institute for Citizenship in Brazil.

- Waste is a resource;
- Material and energy are freely circulating in all living organisms;
- Diversity brings resilience that is the capacity for sustainability, resistance and adaptation;
- Life happens in networks;
- The energy comes from the sun;
- Soil and water are precious.

My own perceptions and reflections on climate change are that it is the one of the biggest challenges of mankind for the 21<sup>st</sup> century and in the company of energy, biodiversity, unsustainable consumption of resources (water, food), hunger and social inequality. In our actions, what can we do for that global crisis created by us? Is the economical crisis is also related to nature?

Until some time ago, before the Intergovernmental Panel on Climate Change (IPCC), we didn't know, we didn't assume that our actions could have deep global impact. It's time to change our lives and our way of living and to stop our lack of social responsibility. But how to change?

I have some reflections and ideas for changing. Almost all of us were innocents in the past about our way of living with CO<sub>2</sub> emissions and the consequences for climate change. We felt no guilt in the past but no one is innocent anymore. Who is guilty? You and me.

The equilibrium of life is very fragile, it is delicate. Ppm (parts per million) can change everything. The carbon cycle equilibrium is changing and we lack time to create a new equilibrium. This has a great influence on climate change. One or two degrees may seem small but they can cause tremendous local disequilibrium and irreversible changes. We all admire the beauty of creation of life, the planet, our delicate nature.

The IPCC is bringing consciousness, as is the United Nations. We need to act as a United People, a United Humankind.

But we are so strange. We look for the guilty and as Jean-Paul Sartre said, “the guilty or the hell is always the other”. And who is the other? Fossil fuels for some. This country did this to other countries. That country that will or may do that for others, and soon. We are blind to our own life, actions, our failures.

Greenhouse gases are a main emissions source and the main cause of the GHG concentration increase is the population growth with an unsustainable consumption standard.

I will offer three further reflections and ideas for changing.

First, there is the problem on quantity. The carbon cycle disequilibrium is not bad per se, but the quantity is. With the number of people worldwide, living so much. Our influence on the climate system is causing unpredictable and perhaps irreversible climate change.

Second, one of the biggest challenges of humanity is energy. How much? Why? For whom? Waste, food, rice, soil, water, deforestation – these are all sources of energy that need to be considered.

Third, times are changing. The climate is changing. Where do we begin to change? It is on you, on me. Who am I? Who are you? What do we want? What is the time for action?

NOW! Yes we can!

### **My personal action, my manifest...**

As I work for a petroleum and energy company in a research centre doing technological development, it will be easy for me to begin by this point. I should add that I think always in the other. But in this particular, I'm sure you can be equal, you also can think in the other.

I thought about how to do this? The other one begins with me and in this case, my easiest possible action is concerning energy technology.

Here I bring forth my new paradigm: The Brazilian Manifest “Seven Wedges” Sustainability Approach proposal to tackle climate change through mitigation technologies and its potential application on CO<sub>2</sub>

Capture and Geological Storage (CCGS) and Climate Change Mitigation Technologies as vectors for sustainability implementation.

This new paradigm could arise from oil and energy companies, to tackle climate change. It would not be only about oil production. It would be about citizenship production, environmental awareness, life quality. It would not be only about oil, gas and products. It would be about clean energy with which to build the dreams that move people. It would be about life. It would not be only about advanced technologies. It would be also about fauna, flora, air, soil, water. It would be about taking care of the environment in every way. For all of us and for all the coming generations.

It would not be only about increasing production. It would be also about increasing social and economic benefits for everybody who is direct or indirectly involved. It would not be only about the life of a large industry. It would be about our life, our sustainable life. For more than producing oil, it would protect the greatest asset of humanity: our planet.

### **Why actions on Climate Change?**

As I said before, one of the main challenges of this century is climate change. This includes the global climate – the science, impacts (especially for the disenfranchised), mitigation (your and my actions now) and adaptation (our actions for today and tomorrow).

Consider it love practiced for the unknown. A genuine and disinterested action. Our actions or omissions today result in consequences a hundred years from now (CO<sub>2</sub> time life in atmosphere) for people that neither you nor I know. They could be our fourth and fifth generation. Are they our family? It is easy when we talk about our kids, our grand kids, but a fourth generation. It is difficult to imagine (Paulo shows photograph of his grandchild).

### **Climate Change Mitigation**

Robert Socolow has a basket of solutions, which are plural possibilities. Or do you believe that in the case of energy or climate change mitigation technology that the solution should be singular? A climate change mitigation mono technology?

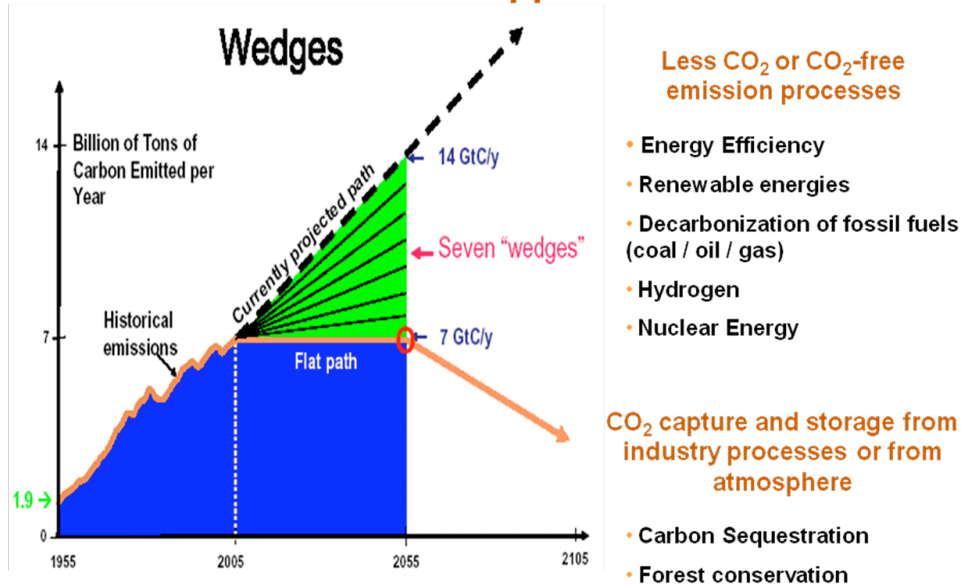
Life is plural my friend. Biodiversity, different people, countries, cultures, foods, smiles, eyes, beauties, hands, bodies, human diversity. We need responsible energy diversity.

Do you know that renewable energy as the only solution is a myth? It depends on conditions, on climate. This may be a better solution in the longer term versus the short term. How we should consider this perspective in a life cycle analysis?

For example, microalgae and forests are renewable. These pieces that are so important are renewable. They have fixed carbon in biomass for some time or a lot of time, hundreds of years in the case of forests. They also come through the sun, CO<sub>2</sub> and photosynthesis and one day, even with the sun inside

them, in their cells, they die. After millions of year, they become coal, petroleum. This is renewable suing this perspective of time, or is it? From biomass to coal, from microalgae to petroleum. Life, energy, life, nature.

## The 7 wedges for Climate Change Mitigation: Socolow Approach



Source: Pacala and Socolow, Science, vol.305, 2004

### Another view of Diversity...

Not only technicians that can talk about diversity. I would like to read some of my favourite poetry from Portugal:

“Be plural like the Universe!” ... Fernando Pessoa

“Everything is worthwhile if the soul is not small.” ... Fernando Pessoa

“To be big, be entire: Nothing from you can be exaggerated or excluded. Be all in all things. Put all you are in each thing you do. As in each lake, the moon shines because she lives up above.” ... Fernando Pessoa

“Nothing is poison, everything is poison. The difference is in the doses.” ... Paracelsus

### Climate Change Mitigation

Returning to climate change mitigation, it can be seen as an opportunity for us to do justice. We can't live as if we are the only people in the world. We can't only want everything because there are a lot of people with nothing. If we talk about energy, the rich have money, a comfortable lifestyle. They could help other countries. They used a lot from Nature and now many people still need to use the same and limited nature. They have the right to this. We need to find a space for the growth of the needy ones and the wish for decelerating the demands of the rich. This is called change.

### CO<sub>2</sub> Capture & Geological Storage (CCGS)

As I tell you about CO<sub>2</sub> capture and geological storage technology, a climate change mitigation technology, I will apply my point of view but if you work on renewable, nuclear energy and so on, you could do the same.

Why CO<sub>2</sub> capture and storage? Because it can avoid millions of tons of CO<sub>2</sub>, is one of large scale solutions, can be an emergency answer and be immediate.

CCGS is an emerging technology suited to large stationary point sources of CO<sub>2</sub> from power generation, industry and H<sub>2</sub> production. If we store all CO<sub>2</sub> in saline aquifers for the next 50 years, we can store 500 per cent of all expected CO<sub>2</sub> emissions. This is a real solution.

Our ambition is to see Brazil as one of the world leaders in CCGS in the same way as we are very good in deepwater oil technologies, in biofuels and in football.

How will we do this? By doing CCGS in a different way, doing the new, doing the future. Sustainability allows us to build this difference...

### **How CCGS can be one path to sustainability?**

There are three aspects to consider: economic growth, social responsibility and environmental responsibility.

Points to consider for Economic Growth include:

- Economic growth in the energy and fuel sector
- Creation of an industry for CCGS and MMV
- Development of the communities around the CCGS projects
- Resources coming from EOR/ECBM activities
- Carbon Credits relative to CCGS market
- Storing of the commodity CO<sub>2</sub> until new uses come
- Mechanisms and incentives for the implementation of the first CCGS projects

### **Social Responsibility Aspects**

Carbon sequestration projects creating a technological base with investments in infrastructure, R&D projects, capacity building and job generation related to CCGS are being implemented in Brazil through a Carbon Sequestration network leaded by Petrobras. This is a low cost philosophy for capacity building. Capacity building is taking place throughout the country. We have sponsored international conferences. MBA education is available at accessible prices. A Master's degree in CCGS was also created and Miriam is helping with this.

Carbon sequestration projects involve the surrounding communities to generate jobs, food security and economical growth considering the local conditions and possibilities.

Projects include:

- **Sustainability Indicators** (Federal University of Rio de Janeiro)
- **Sustainable Carbon** (Ecológica Institute/ Pontifical Catholic University of Rio Grande do Sul)

This project involves the surrounding communities in projects of sustainable development promoting the sustainable management of water and soils. The project promotes environment education for climate change to improve the capacity for adaptation and mitigation of the Brazilian society through the change of daily habits.

- **Education for Climate Change** (Ecoar Institute for Citizenship)
- **“O morro abraça o Clima”** (The shantytown embraces the climate) (Ecoar Institute for Citizenship and Vidigalfeliz NGO)

The Vidigalfeliz Project proposed by us to Rolf and Claudia Glaiser to join their initiatives on Vidigalfeliz. Our proposal of collaboration in five areas: preparing people to work with courses and training; developing opportunities and infrastructure for creating local and international tourism; generating local culture and pride; promoting local entertainment; and having opportunities that the shantytown could receive with the visit of rich people from the city.

Work in the five areas includes:

1. **Restaurant One** | Regional Carioca cuisine from Rio de Janeiro and waiters that are samba and pagode players and singers
2. **Restaurant Two** | International cuisine, mainly French food.
3. **Orchid Planting, medicinal herbs and a vegetable garden** | Managed by people that need special care, like Down syndrome clients
4. **Used book, music, photography stores**
5. **Public library**
6. **Art Gallery** | An art complex that includes the art gallery itself with important Brazilian painters, but also opening the space for new painters from Vidigal, art restoration, an art school, ceramic activities, decorative objects production and artisan activities, all without forgetting beauty. (My personal thanks to Dominican Frei Betto who told me that the poor are hungry of bread and beauty).
7. **Working courses** | Welding, welding inspector, photography, dancing, singing, circus, sewing, percussion, guitar, cavaquinho, electronic piano, capoeira, yoga, massage, ceramic objects and artisans, restoration of art objects, wood working, residential and commercial painting, cloth painting, vendors, basic English and Spanish language training, hostelry, theatre and cinema.
8. **Ecological Tourism** | Environmental diving, hang gliding, track and mountain climbing, and orchid house visits
9. **Health** | Health House in Vidigal and activities related to martial arts, yoga, massage, healing polarization techniques, art therapy, natural and healthy food, nutrition, therapy, gymnastics academy, dancing.
10. **Ecological Development** | The shantytown embraces the climate with biodiesel production from used cooking oil, rain water collection, sewage collection and biosystems treatment, electric shower economy in peak hours, low-cost solar heaters, organic waste composting, collecting cans and plastics,

reforestation in Vidigal with tree stalks coming from orchid planting, community vegetable gardens, medicinal herb production, and bio climatization with green roofs and vertical gardens.

**O morro abraça o Clima** aims to enlarge the alliances between NGOs, civil Society and companies to add forces to face climate change impacts, adaptation and mitigation of greenhouse gases, promoting consciousness, social insertion, and the formation of social environmental monitors for communities localized in mountains, shantytowns and suburbs of Brazil, initially in Rio de Janeiro and Sao Paulo, through cultural manifestations and artistic expressions like graffiti, funk and hip hop.

A big challenge of mankind today is the environmental education of people to support the consciousness of their culture, history and their social and environmental relationships. People need to be integrated and committed with the Planet. This can happen through the incorporation of environmental concepts in the daily community life but requires perception, posture and cultural changes at all levels.

This project intends to be a social, environmental and educational project for climate change, using the cultural manifestation as the catalytic agent of the communication process and interaction inside the community.

The inhabitants from those communities need to be informed about the climate risks. They have the right of claiming for justice in relation to the main origin of this phenomenon of global warming, but mainly to have the opportunity to exercise his citizenship and in the high of his poverty, to become the protagonist of a project aiming the search for solutions for reducing GHG? Habits change, and the necessary adaptation measures for reducing the risks in these places and for these people.

To inform these poor places could be a good opportunity for the popular artists from these communities as graffiti makers, and funk players to become the protagonists, through their arts, of a cultural change and citizenship participation for the resolution of these problems and for risk reduction of this global challenge. All this has to begin with communication.

*Graffiti makers and funk players embrace the climate to:*

- To utilize the force and energy of young artists from Rio de Janeiro mountains, shantytowns and suburbs, to make them social environmental educators, using graffiti, funk and hip hop manifestation among others;
- Contribute for the implementation of an environmental management system aiming at minimizing the needy communities' vulnerability in face of global warming effects;
- Broaden the communities' view on the many ways young people can manifest, breaking all prejudice;
- Offer the young the chance to exercise their citizenship, thus becoming knowledge multipliers;
- Enable young artists from the slums to become agents for the climate change issues;
- Add value to the young artists' pleas;
- Provoke the young to critically reflect upon their role in the construction of a better world;

- Stimulate practices to reinforce autonomy and legitimacy of social actors who take part in organized groups to articulate cooperation among people;
- Spearhead scientific knowledge about global warming in a more colloquial way of expression;
- Inspire and stimulate citizens to adopt environmentally correct habits and practices;
- Motivate the adoption of technologies which produce less GHG making them socio-environmental educators.

### **Environmental Responsibility Aspects**

Environmental responsibility includes the development of low impact technologies to increase the mitigation potential in each CCGS project and establishing neutralization measures for the GHG emissions coming from the 'new fossil fuels' produced in the EOR, ECBM activities through:

1. Reforestation | With native species associated to perennial oil seeds and other species for food (agroforests);
2. Agricultural practice changes | In the biofuel production, aiming to greenhouse gas emission reduction;
3. Avoided emissions from deforestation | Financial contribution for the Amazon 'Avoided Deforestation' fund;
4. Energy efficiency | Reduction of fuel consumption and optimization of equipments;
5. Complimentary renewable energy projects | Implementation of renewable energies such as solar, wind, biogas, microalgae etc. for surrounding communities;
6. Residual management | Adequate treatment, responsible disposal, for reduction of greenhouse gases etc.;
7. Water | Incentives to proper management of water inside and outside the CCGS projects;
8. Incentives to proper consuming | Environmental education inside and outside CCGS sites and life cycle analysis of materials used, focusing on GHG emission reduction.

These are related to saving money so they work well where I work. They are very easy but also good for social responsibility aspects.

### **The Brazilian Manifest "Seven Wedges" Sustainability Approach Proposal**

**Wedge 1 is sustainability applied in all CCGS steps of technological development** | Technologies that are less emitting, less resource and energy consuming and allow for the construction of facilities that are more intelligent and efficient. This generates technological jobs in the country.

**Wedge 2 is sustainability on the facilities itself and on the implementation of the involved technology** | Installations with reduced emission and energy demand, with waste management that generate jobs have a positive influence on surrounding communities.

**Wedge 3 is sustainability in the relationship of the installations with the surrounding area** | This is exploring the potential of the influence of facilities to orient the development of the surrounding areas in a sustainable way considering the social, environmental and economic dimensions. I don't

live in the community so I work with boys in the community. I can learn a lot from them. I can't talk from my soul. They can be the ones to go to the community with projects. They can understand each other better, know how to communicate and understand the real needs. This is how social work is helping me in my work.

**Wedge 4 is sustainability of increasing the mitigation capacity of the project through additional mitigation measures** | This is through the neutralization of part of the emissions coming from CCGS activities with enhanced hydrocarbon recovery, such as contributing to the fund to avoid deforestation in the Amazon.

**Wedge 5 is sustainability with adaptation measures** | This is necessary for the reduction of socio environmental impacts of climate change, to contributing to adaptation aid around the world, in the most vulnerable and disenfranchised regions - not just one's own country.

Funding is already being provided for wedges three, four and five.

**Wedge 6 is sustainability with educational activities** | This needs to occur in the implementation of CCGS activities and actions towards sustainability so as to broaden consciousness for the effort of habit and cultural changes for everyone facing climate change challenges. We need change ourselves. Without this, technology can't help us.

**Wedge 7 is sustainability through information and communication** | This is needed to facilitate the incorporation of sustainability initiatives into national and international policy and regulation for CCGS and reproducibility guarantee. We need to share these perspectives and possibilities with everyone for our future.

It doesn't matter where you work, you can apply these wedges

**A Sustainability vision for each one of the seven wedges for Climate Change Mitigation from Pacala and Socolow: The Climate Change Mitigation Technology as a vector for Sustainability graph**  
CCGS represents the opportunity to correct the mistakes from the past (concentration of wealth, social inequality within development humankind process) and act in an efficient way in the present, developing additional effort, shared responsibilities, amplified alliances and above all, a more holistic, less fragmented vision of the world we want to leave for our coming generations.

**Policy and Regulation in CCGS: A way of guarantee sustainability, with the force of legislation**

Another important dimension for development of CCGS is policy and regulatory framework as well as proposal for international technical standards and guidelines of good practices for this technology.

The challenges and schemes for the policy and regulatory framework to CCGS development in Brazil are as follows:

1.1) **Ethical** | Ethical Issues about CCGS technology – International Workshops, Rio de Janeiro and Salvador (October 2007 and September 2008)

1.2) **Public Perception**

1.2.1) CCGS Public Perception - World Analysis

1.2.2) CCGS Public Perception – Brazil. There have been more than more than 1,000 questionnaires since 2006. (Conferences, Environmental websites, Workshops)

1.2.3) Comments Assessment of important actors in CCGS schemes

1.2.3.1) NGOs (Greenpeace, WWF, Ecoar Institute, Ecológica Institute)

1.3) **CCS / CDM / Sustainability** (methodologies, monitoring, risk assessment)

1.3.1) CO<sub>2</sub> capture and storage /CDM Discussions in UNFCCC and SBSTA

1.3.2) CDM Workshop in Africa

1.3.3) Indicators of Sustainability (Federal University of Rio de Janeiro)

1.3.4) Social Carbon adapted for CCGS (Ecologica Institute)

1.3.5) Education for Climate Change (Ecoar Institute for Citizenship)

1.4) **Policy and Regulatory**

1.4.1) CO<sub>2</sub> capture and storage around the world: Australia, Canada, USA, Europe (Norway, Netherlands, UK) and South Africa

1.4.2) Analogues of policy and legislation in other countries (natural gas, acid gas, mining)

1.4.3) Petroleum, coal and environmental legislation (water, wastes and others) in Brazil

1.4.4) Technical Standards and Good Practical Guidance

1.5) **Institutions involved with CO<sub>2</sub> Capture and Storage Policy and Regulatory**

1.5.1) *Carbon Capture and Storage Association* (UK)

1.5.2) IEA (*International Energy Agency*)

1.5.3) ERM (*Environmental Resources Management*)

1.5.4) Others (CEA - *Commissariat à l'Énergie Atomique* - France, etc)

1.5.5) Suggestion for the creation of CO<sub>2</sub> Capture and Storage Brazilian Association (ABCAC); Brazilian GCCSI branch and CCGS Regulatory Agency in Brazil.

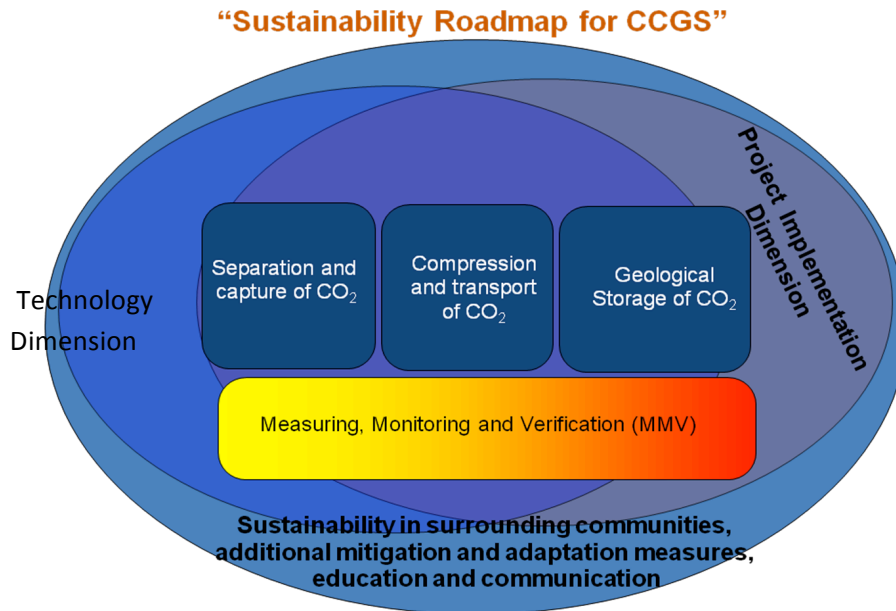
**Sustainability from the beginning...**

Here I am talking about the creation of the Brazilian Map of Sources and Sinks, which considers the sustainability and safety aspects to prevent leakage of CO<sub>2</sub> with risk analysis studies.

The objectives of the project are:

- Map Petrobras' stationary emission sources;
- Map the geological reservoirs (oil, gas, saline aquifers and coal seams) for CCGS;
- Map existing infra-structures for transport from sources to geologic sinks;
- Evaluate the social and environmental impacts focusing on sustainability in each of the above mentioned units;
- Analyze the life cycle of CCGS;
- Assess the possibility of leakage through risk analysis;

- Select the best options for CCGS considering aspects of economic, social and environmental sustainability, storage capacity and risk analyses;
- Develop new materials that improve the seal capacity of reservoirs reducing escape of CO<sub>2</sub> risks.

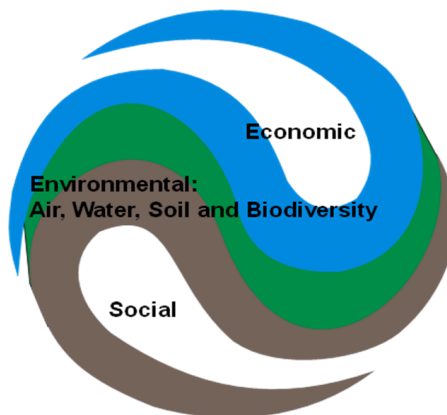


Source: Adapted by Paulo Cunha from Brazilian Sustainability Roadmap for CCGS to be published in 2009

This is the first sustainability road map for technology for sustainability in surrounding communities, additional mitigation and adaptation measures and education and communication.

CCGS represents one of the best opportunities to mitigation emissions, a transition to a more sustainable energy management for the future and to address local development needs.

And finally what is sustainable development? It is a question of balance.



**Environmental sustainability: The earth, our common homeland**

“Considering the threats that weigh upon us, the Earth has gained a new centrality. It is no longer the physical center of the universe, but an affection center of humanity. This planet is all we have for us. It is here we arise from. It is from here that we contemplate the whole universe. It is here that we love, cry, hope, dream and pray.” ... Leonardo Boff, *Principle-Earth Back to Earth as a Common Homeland* (1995)

“In view of this new awareness, we bring the Principle - Earth. It founds a new radicalism. Each knowledge, each institution, each spiritual and religious tradition and each and every person must ask the following question: What must I do to preserve our common homeland, the Earth, and assure its future, since it is 15 billion years old and deserves to keep on existing?” ... Leonardo Boff, *Principle-Earth Back to Earth as a Common Homeland* (1995)

“Our fate is linked to the earth’s fate” ... Leonardo Boff, *Principle-Earth Back to Earth as a Common Homeland* (1995)

### **Social Sustainability**

“The cry of the excluded conveys the criticism, not to globalization, positive and inevitable as it is, but to the present model, more similar to global-colonization, given that, it revokes financial barriers, frontiers and strengthens them to workers and products from developing countries. It compels to globalize solidarity, human rights, planetary and people mobility.” ... Frei Betto in the article “The Cry of the Excluded”

### **The Worldwide Internationalization**

I was inquired what I taught about the Amazon internationalization, in a recent debate, in the United States. The youngster posed his question stating that he expected an answer from a humanist and not from a Brazilian. In fact, as a Brazilian, I would simply speak against the Amazon Internationalization. As careless as our governments have been with this asset, it is still ours. I answered that, as a humanist, sensing the environmental degradation hazard inflicting the Amazon, **I could envision its internationalization, together with everything else that matters to humanity.**

If the Amazon, from a humanistic point of view, must be internationalized, let us also internationalize the oil reserves worldwide. The riches in the world have no right to burn down this huge humanity asset. Likewise, the financial capital of the rich countries should be internationalized. If the Amazon is a reserve for all human beings, it cannot be blazed by the wish of a single owner or a country. Burning down the Amazon is as serious as the unemployment caused arbitrary decisions from global speculators. We cannot let our financial reserves to serve as tools to burn entire countries on behalf of speculators’ luxuriousness.

The USA have defended the idea of internationalizing the world’s forest reserves in exchange for debts. Let us start by using such debt to ensure that every child in the world has means to go to school. Let us Internationalize the children, treating them, all of them, regardless of the country they were born in, as an asset that deserves the care of the whole world. Even more than the Amazon deserves. When the

rulers stop treating poor children around the world as a humanity asset, they will not allow them to work when they should be studying instead; them to die when they should be living.

As a humanist, I accept contending the internationalization of the world but as long as the world treats me as a Brazilian, I will keep on fighting for the Amazon to remain ours. Nothing but ours (excerpts *O Globo* 23/10/00 by Cristovam Buarque)

### **The Sustainability Principle**

“Campaigns against hunger do not fill any stomach. The donor feeds on the grandness to his gesture without guaranteeing the everyday bread to the hungry. They cause much more anxiety than satisfaction, without promoting the very basic right that each human being has to nutrition.”

“ You should not help the needed by pity feelings. Solidarity is only a virtue when it cultivates justice.”

“Without paternalism and assistance, through participation and work, the people want and must exercise their citizenship.”

“In Piauí, as in any other place in Brazil, what is at stake is a basic human right. Without promoting the citizenship, the people will go hungry (...)” ... Dom Mauro Morelli in the article “Hunger and Citizenship”

I will finish this presentation with a small talk on climate change and sustainability, our last reflections. Serve others, change, do, leave a legacy...

“Our situation here on Earth is strange. Each one of us comes for a short passage, without knowing why, many times trying to guess the purpose. For our daily life, however, we know one thing: man is here for the well-being of other men – above all, for the ones whose smiles and well-being depends on our own happiness” ... Albert Einstein

“It is not enough to have been good when we leave this world. It is necessary to leave the world better.”... Bertold Brecht

“Although nobody can go back and have a new beginning, anybody can begin now to build a new ending.” ... Chico Xavier

“We cannot add days to our lives, but we can add life to our days.” ... Cora Coralina

“Share your knowledge. It is a way of reaching immortality.” ... Dalai Lama

“There are two options in this life: resign or resentment. I will not ever resign.” ... Darcy Ribeiro

“You should be the change you would like to see in the world.”... Gandhi

“The seven capital sins responsible for social injustice are: richness without work; delectation without scrupulousness; knowledge without wisdom; commerce without morality; politics without idealism; religion without sacrifice and science without humanism.” ... Gandhi

“Our planet has enough space to sustain all human needs, but not all human greed.” ... Gandhi

“Man dignifies himself at the exact degree in which he works for the others’ well-being.” ... Gandhi

“What is the reason for living if not to make life for others less difficult?”... George Eliot

“We are not wealthy for the things we own, but for what we can do without owning them.” ... Immanuel Kant

“Individual’s psychology corresponds to the nations’ psychology. Nations do exactly what each one does individually; and the way an individual acts so will the Nation. It is only through the individual transformation that the Nation’s psychology will change. Up to now the big problems of humanity were never solved by collective decrees, but only by the individual’s attitude renovation.” ... Yung

“I am an intellectual who is not afraid of being loving; I love people, I love the world. And it is because I love people and the world is why I fight for social justice implementation before charity.” ... Paulo Freire

“The most important thing for a man is to recognize what he must do using his own knowledge.” ... Plato

“We are not human beings having a spiritual experience... We are spiritual beings having a human experience.” ... Teilhard de Chardin

“The spirit enriches with what it gets; the heart with what it gives.”... Victor Hugo

“We can choose to withdraw towards safety or go forward towards growth. The option for growth has to be made several times. Fear must be overcome at each moment.” ... Abraham Maslow

### **Dreams**

“The hope is the dream of the awake man.” ... Aristotle

“The dreams are like Gods. If we don’t trust them, they do not exist anymore.” ... Cícero

“Utopia: it is on the horizon, I get one step closer and it goes back two. I walk ten steps and the horizon runs ten more. As much as I walk, I will never reach it. What is Utopia for? It is for this. To make us walk.” ... Eduardo Galeano

“Utopia is not opposed or denying reality. It belongs to it as it expresses potentialities not yet made concrete from reality but possible of happening in the historical process and in God’s will.” ... Leonardo Boff

“Future has many names. For the weak, it is unattainable, for the fearful, the unknown; for the valiant, it is opportunity.” ... Victor Hugo

“Our lives are weaved by the same thread of our dreams.” ... William Shakespeare

Thank you!