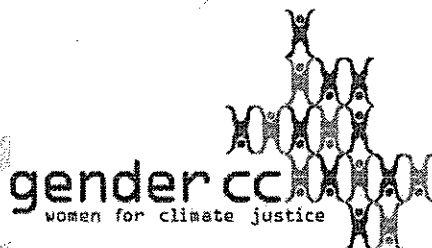




Commission for Gender Equality
A society free from gender oppression and inequality



Joint Submission on the National Climate Change Response White Paper

to

**The Portfolio Committee on Water and Environmental Affairs in the
Parliament of the Republic of South Africa**

Compiled by

**GENDERCC Southern Africa – Women for Climate Justice (GenderCCSA)
and**

COMMISSION FOR GENDER EQUALITY (CGE)

Introduction

GenderCC-SA-Women for Climate Justice Network and the Commission on Gender Equality (CGE) welcomes this opportunity to comment on this document. There can be no more important issue confronting humankind at this stage in its history than climate change. Women, as more than half the human race, and also in their social role as producers of food and as caretakers of future generations, are critical stakeholders in constructing our approach to dealing with global warming.

Women in Africa in particular, are amongst the poorest in the world yet simultaneously those who are likely to suffer most from higher temperatures, extreme weather, water shortages, increases in conflict and other likely outcomes of climate change. As such, they have every right to be heard in climate change debates. While we, the undersigned organizations, must emphasize that consultation with us is in no way a substitute for full consultation with women in South Africa generally, nevertheless we must express our appreciation of the invitation by Parliament to contribute our expertise to the construction of South Africa's response to climate change which we hope will influence the policy making process.

Consultation Process:

Parliament offered very unrealistic and tight deadlines for submissions to the National Climate Change Response White Paper. The deadlines were announced in a press release issued by the Parliamentary Portfolio Committee on Environment on 5th October 2011, with the White Paper gazetted on the 12th October 2011. In the press statement, the closing date for submissions is the 21st October 2011; this allows stakeholders a mere seven working days to develop submissions (12th-21st October 2011).

The White Paper runs into 41 pages. It covers a range of issues, including technical matters. It has not been preceded with drafts that have been made public. Some of the content is new to us and our constituencies, and involves possibly new policy positions to be taken by government.

The constitution of our democracy and section 195 thereof in terms, is adamant about the importance of thorough going public participation in the making of laws and policy. The section states that "the public must be encouraged to participate in policy-making." The timelines for the giving inputs on the white paper are promoting the opposite. The public will be discouraged from participating.

We expect compliance from Parliament with the constitutional obligations of, in particular, providing timely, accessible and accurate information and responding to the needs of the people (sections 195 (e) and (g)). Paragraph 9.3.2 of the document under discussion is explicit about the crucial contribution of civil society in the implementation of the policy. It reads as follows:

9.3.2 Civil Society

The role of citizens and organised groupings within civil society, such as labour, are important to the success of a national effort. Civil society needs to critically evaluate, comment on and respond to the initiatives of government and the private sector. They must continue to raise public awareness, and motivate individuals, institutions and authorities to take actions that reduce greenhouse gas emissions and that adapt to the adverse impacts of climate change. Civil society organisations that work directly with communities and particularly with the urban and rural poor and with women are an important conduit for ensuring that climate information is timeously communicated and to inform government and research institutions of vulnerable groupings" climate change related issues.

Our point is this: *The white paper undermines its own statement by not giving civil society constituencies' adequate time and opportunity to participate in policy making.*

We consider this timeline for consultation to be completely inadequate. It reflects a lack of appreciation by government to ensure meaningful and democratic participation of stakeholders. Poor rural and coastal communities who are the most affected by climate change need to time organize, understand and formulate proposals so that South Africa's climate change responses are relevant to their needs and circumstances. The timeline given assumes that we have the same capacities as elite business lobbyists to engage in the policy process.

We are demanding that Parliament ensure the necessary logistical, financial resources and time to consult with and incorporate recommendations from marginalized groups. We propose that you could explore the possibility of information meetings in various provincial centers and public hearings. The white paper should be publicized and summaries in pamphlet format would make the document accessible to all those affected.

We believe that the realities of the South African context mean that the 'reasonable period of consultation' provided in our Constitution cannot be less than three months assuming that adequate public funds are provided to support the process. As always we are willing to make every effort to ensure an effective process.

Furthermore, Parliament, under the Bill of Rights' Section 24 of the Constitution, is specifically mandated to ensure that the citizens of this country have a clean, safe and healthy environment. This should be the primary rule under which Parliament engages with the White Paper. Accordingly, Parliament cannot but overrule, reject, adapt, amend, or otherwise alter the White Paper if the Constitutional rights of the citizens of South Africa are likely to be infringed upon by the White Paper. A country that is blighted by the consequences of unmitigated global warming will not be a clean, safe or healthy environment for South Africans to live in; such a situation would be a complete and utter violation of the Constitution and an abject failure of all organs of the state to rule in accordance with its social contract with the body politic.

Desired Outcome

Our considered opinion is that a policy on climate change is not sufficient. Despite recent initiatives on the part of the Presidency to improve performance management of state actors, it is our combined experience that a policy does not confer sufficient obligation upon government to implement. Therefore we continue to recommend the proposed engagement process must culminate in a National Climate Change Response Act (NCCRA). In view of the urgency of matter, such legislation should be adopted by Parliament before December, 2010.

General comments and overall approach

The White Paper must not only ensure that we achieve South Africa's emissions reductions in line with the best scientific wisdom globally rather than political expediency, but must also ensure that the executive is given the appropriate direction through the White Paper to adopt a negotiating position at the UNFCCC to reduce global emissions substantively according to a global carbon budget. The external context will affect South Africa greatly, for example the inability to arrive at a reduction in overall GHGs, global resource competition and conflicts as a result of climate change, possible threats from the climate change responses of different countries. What the White Paper is simply promising is another raft of new policies and papers and proposals as well as new institutions.

Following from that, the White Paper offers very little for women, because it does not look at the realities of women's lives, their lack of control over natural resource assets, the problems of landlessness, the difficulties for women to participate in policy making as a result of processes that are not women friendly and so forth.

Women are particularly affected by the dramatic changes in climate patterns. Women living in poverty are the most threatened by the dangers that stem from global warming. It should be recalled that women the world over predominate amongst the poorest of the poor. In South Africa, women earn 55 % of the male wage, constitute a disproportionate number of the un-, under- and informal sector self-employed, and contribute over 75 % of the unpaid labour performed. The intersection of gender and economic disadvantage render women particularly vulnerable to the effects of climate change. Due to the existing gender inequalities, the different roles in society and in the division of labour, women and men are not equally exposed to climate change impacts and do not have the same adaptive capacities. Though the affects of climate change are significantly impacting on poorer people, it is particularly affecting women. Climate change is exacerbating the problems and inequities that women already face.

South African women are not immune to these climate change threats. In rural communities women are largely dependent on natural resources and agriculture for their livelihood. Climate change will mean that the supply of natural resources will be threatened. Agriculture may become less viable.

The frequency and severity of climate extremes may leave women unable to cope due to their reproductive and productive roles and responsibilities. They are also more dependent for their livelihood on the sustainability of natural resources that are threatened by climate change. Some of the factors that influence the higher vulnerability of women to disasters include lack of means and assets to ensure their own safety in situations of flooding, landslides and storms. With changes in the climate, traditional food sources become more unpredictable and scarce. This exposes women to loss of harvests, often their sole sources of food and income.

Broadly therefore the document needs to start from the realities of:

- inequity and inequality
- livelihoods and resource rights
- participation in policy making
- empowerment and disempowerment

The reality is that climate change (both the impacts and the responses) will likely empower some groups while disempowering others. The document cannot look at climate change responses as a political process given the forces it is unleashing. From a gender perspective, a gender neutral document is likely to create more disadvantages for women. This can only be reversed if it adopts an affirmative action approach to the poorest and most vulnerable groups who must be identified as clearly as possible.

The weakness of a sectoral approach is that it makes invisible many of the poorest groups that are in those sectors. Rather we should also adopt an approach that differentiates between socio-economic groups of the population and examines their location in our economic structure. Otherwise the climate change response will not address any of the structural problems that are reproducing poverty and inequality in South Africa.

The document does not see the populations, particularly poor women as being the actors and agents in responding to climate change. It needs to put people in the forefront of change, so that government, research institutions, civil society and communities are engaging each other in different ways to create a green developmental path ahead. The paper is missing an opportunity to change the way policy is made so that is inclusive.

The paper does not also consider the capacity of different groups to participate in shaping climate change responses. Civil society and community groups are given an extremely small role in the White Paper, which disadvantages women who can only influence if there is more investment made in supporting their organizing. Civil society organisations are currently extremely under-resourced and as a result, government cannot harness the wealth of experience and knowledge that they can bring in to the climate change debate.

While mitigation is a critical issue, the reality is that the per capita emissions are very unequally distributed in the case of South Africa. Introducing carbon taxes must ensure a redistributive

element to provide opportunities and funding from high emitters to low emitters and should in particular give funding for gender equality (social, economic and political) a very high priority.

Some specific issues and omissions

Water: inequality and inequity of water distribution, rights and access needs to be addressed, since water is going to become an increasingly scarce resource. Lack of access to household water is a problem that women bear almost singlehandedly. The issues of the care economy need to be factored into the consideration of the climate change responses very specifically (as in other policy documents). Moreover, equalizing the present unequal distribution of water, as a factor which prevents emerging farmers (especially women) from being able to develop, needs to be included in an approach to adaptation which seeks to deliver on Constitutional commitments to socio-economic rights.

Agriculture: No mention is made of the question of land distribution and inequality. The SA government needs to take positions on issues such as agro-fuels, GMOs and others which are highly contentious and have huge implications for the direction that we take our climate change responses. No mention at all is made in the document on the fisheries industry, in particular protecting the livelihoods of small scale fishers. While subsistence/household agricultural production is mentioned (done mainly by women) there is no effort in the White Paper to promote small scale, diversified, and agroecological farming as a means of ensuring household food security.

Health: The neglect of gender in policy is already resulting in women bearing a disproportionately high part of the disease burden, including HIV and AIDs and maternal mortality. Without a clear gender perspective on questions of health, new health threats from climate change will burden women even further, both as carers and as victims.

The issue of reproductive rights, as well as safety from gender-based violence, has an urgent bearing on the uncontrolled growth of population which is one of the drivers of increased carbon emissions.

Biodiversity: preserving biodiversity is very much rooted in communities' knowledge and understanding of their environment. Women and men have completely different relationships with the environment, because they use the environment for different purposes. The lack of a clear gendered and community based approach to biodiversity conservation, with clarity about securing and protecting resource rights means that there is a likelihood that biodiversity will be lost rather than kept.

Moreover, the White Paper does not protect the rights of indigenous women. The United Nations Declaration of the Rights of Indigenous Peoples (to which South Africa is a signatory) clearly states that in order to preserve the culture of indigenous peoples, their land and biodiversity must be protected. These rights should be explicitly supported in every policy document regulating the natural world.

Human settlements: The White Paper treats human settlements as a technical/physical question, which again means that it overlooks gendered aspects of human settlements. The White Paper needs to stress a new vision for building human settlements which are empowering, green and pro-poor (particularly pro-women). It has been thoroughly demonstrated that planning processes which do not involve stakeholders are generally weak and unsustainable. If we are to plan human settlements in the way this White Paper has been constructed they will prove to be expensive mistakes.

Disaster risk management: the lack of real scenario building in the White Paper again is a problem in terms of understanding where women are positioned in the disaster responses (e.g. What happens if we face a three year drought as in Somalia?). It is not enough to simply speak about extreme events without understanding how all these will impact on different population groups. Certainly to date, disasters are shown to disproportionately impact on women. Another set of scenarios must also consider questions of resource conflicts (both internal but also trans-border) which will arise as a result of the new pressures climate change will bring.

Institutions: The White Paper appears to create a new layer of institutional mechanisms and office bearers, without a proper critique of the existing frameworks and whether they are working well or not. Complex and fragmented institutional arrangements are already making it difficult for

women to access government and get responses to their issues. We continue to advocate for a single, unified, climate change response institutional infrastructure with hands-on leadership from the President's office.

Market instruments: Market instruments are extremely problematic and to date they have not shown themselves to make any significant dent in the levels of emissions reductions. What they will do however is to create new markets for natural resource use, which the poor are likely to be excluded from and which may result in further alienation and dispossession of their natural resource rights. Women who live on communal land with highly insecure tenure and few resource rights will be the first victims of these misfortunes. We cannot agree to creating carbon markets without a clear assessment of how poor communities resource rights will be affected.

In cases of imperfect markets, for instance in the presence of a monopoly (as in electricity provision), in the case of a fixed supply (as in agricultural land), or limited information (as in untried technology such as carbon capture and storage), market instruments can be shown to produce perverse results and unintended policy consequences. They are more likely to make the rich richer and the poor poorer than to actually produce significant reductions in carbon emissions. There has also never been a calculation of the amount of money required for the amount of carbon credits to produce the reduction in carbon emissions required by science, but our rough guess would be that there is not that amount of money in the world. In short, the arguments for market instruments are based on the faulty application of economic science and insufficient empirical evidence. The presence of these arguments in the White Paper seems to indicate the predominance of business interests in the policy process rather than any rational argument.

Conclusion

We wish to have a proper conference and dialogue about gender and climate change as an ongoing process of interaction, learning and participation. This is an engagement that must happen between South Africa and other countries of the South. We continue to deplore the absence of human science and gender specialists from the White Paper policy writing team. If you accept the fundamental premise that current climate change is caused by human behaviour, it

makes no sense to seek solutions not based on a sound understanding of human behaviour. Climate change will not be solved by technocratic responses to human problems. Once again we request that an expert panel should be set up to deal with this issue so that sound policy guidelines and proposals can be put together. Social justice and climate justice must be at the centre of the governments' approach. Climate change requires radical new approaches to public policy—the White Paper cannot miss the opportunity to ensure these are there.

End of document

IF YOU ARE GOING TO BE A FREE MARKET ECONOMIST, YOU HAD BETTER DO IT RIGHT: WHY SOIL CARBON CREDITS ARE A REALLY BAD IDEA

By Yvette Abrahams

Commissioner For Gender Equality

In the context of climate change, I am committed to 250 parts per million carbon dioxide emissions, a maximum of 1.5 degree temperature increase by 2050, and a zero degree increase by 2100. This is for me not a negotiable position, since it is based on an indigenous morality which believes that one holds the Earth in stewardship for future generations, and that the inescapable duty of human life is to hand it over to one's descendants in as good a shape as one found it. This is probably not going to be possible, since I am highly unlikely to make it to 2050, but it is important to set things in motion so that at least by the end of this century life will be back to normal.

It is technologically quite possible to do this, through a mixture of aggressive and immediate cuts in carbon emissions, and a concerted effort to store the excess carbon which is already in the atmosphere. This becomes evident when one considers the extent of deforestation and soil carbon emissions which have taken place since 1750 with the advent of the industrial revolution and the invention of the mechanical plough. The whole of northern Italy, for instance, or middle England, were once forests which have, like the north American grasslands, been systematically denuded of vegetation, and restoring these places to their original state would do wonders in terms of carbon capture and storage. In this century, what has been called the "Green Revolution", that is, the post WWII conversion to a deep ploughing, herbicide, pesticide fossil fuel fertilizer-based agriculture, has in essence provided productivity through the mining of soil carbon. Even if it were not for climate change, we would in any case be hitting an ecological limit for this type of farming. The limit is currently being expressed in falling rates of soil fertility worldwide, the diminishing ability of soils to both hold and drain water, and accelerated rates of soil erosion.

The significance of re-vegetation of former forests and grasslands lies not just in the above-ground biomass provided but also in the fact that forests and grasslands provide wonderful environments for the retention of soil carbon, or humus. It has been estimated that:

"Carbon stored in soils worldwide represents the 3rd largest sink in existence, after oceans and geologic sinks. There is 2-4 times as much carbon stored in soils as there is in the atmosphere and approximately 4 times the carbon

stored in vegetative material (i.e. plants). It is therefore understandable that the soil carbon sink is being viewed as one that could potentially have a significant impact on sequestering CO₂ emissions^{vi}

The technology to do so is perfectly straightforward, and has been practiced by indigenous, organic and agro-ecological farmers or foresters for centuries. The Rodale Institute has summarized almost three decades of research as follows:

"In the FST organic plots, carbon was sequestered into the soil at the rate of 875 lbs/ac/year in a crop rotation utilizing raw manure, and at a rate of about 500 lbs/ac/year in a rotation using legume cover crops.

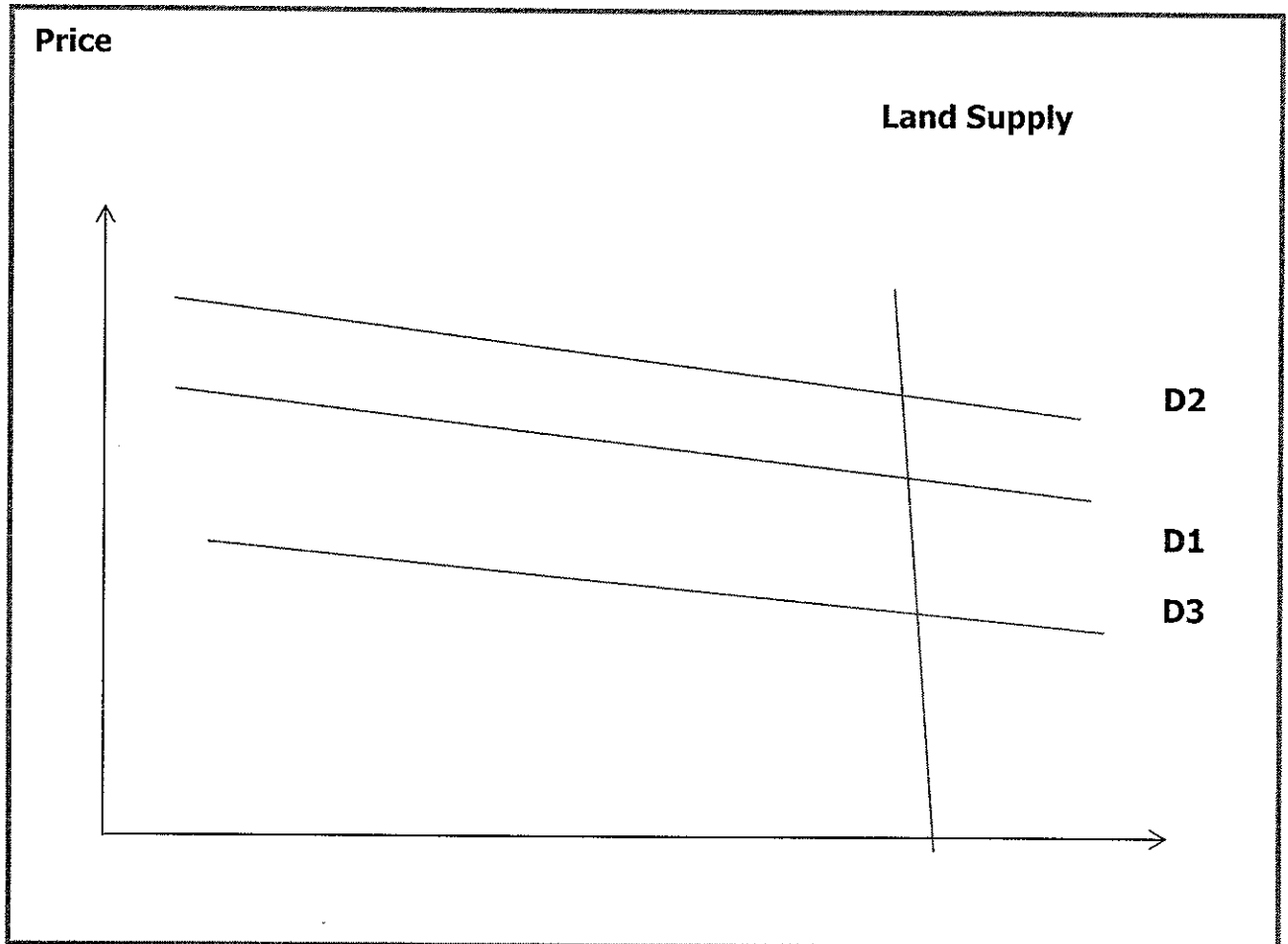
During the 1990s, results from the Compost Utilization Trial (CUT) at Rodale Institute—a 10-year study comparing the use of composts, manures and synthetic chemical fertilizer—show that the use of composted manure with crop rotations in organic systems can result in carbon sequestration of up to 2,000 lbs/ac/year. By contrast, fields under standard tillage relying on chemical fertilizers lost almost 300 pounds of carbon per acre per year. Storing—or sequestering—up to 2,000 lbs/ac/year of carbon means that more than 7,000 pounds of carbon dioxide are taken from the air and trapped in that field soil." ⁱⁱ

The same paper cites longitudinal studies to show that a depleted soil farmed organically will show rising levels of soil carbon until a steady state is reached after about three to five decades. It sounds like just what we need to reach 250 ppm.

The problem is that the technologies are there – indeed they have always been there – but we lack the social and institutional infrastructures to put them in place. The "Green Revolution" and the changes in ownership and control it brought about (principally a move away from small family farms to big agro-industrial operations,ⁱⁱⁱ with a concomitant shrinking of indigenous peoples' and women's usufruct rights to land^{iv}) has meant that organic and agro-ecological forms of farming now form a fraction of agricultural land use across the world. In an effort to begin to put in place the necessary institutional infrastructure, the World Bank has recently begun granting soil carbon credits to African farmers.^v I am of the opinion that this is a huge mistake.

The thing which makes my mind hurt is that elementary neoclassical economics should tell the World Bank that this will not work. While it is normally not my business to teach the World Bank Economics 101 (or indeed anyone else, in this world of imperfect markets, imperfect information and all other things *not* being equal for women), it seems to me that climate change has caused some form of unseasonable brain freeze at the WB headquarters. To repeat, then, a fundamental

lesson: agricultural land differs from all other goods in that the supply is fixed. While the boundaries may in reality be a little fuzzy, agricultural land is for the purposes of theoretical analysis generally considered to have a price elasticity approaching 0. Increasing the price will not increase supply because there simply is not any more of it.



The very elementary graph above demonstrates this point. In fact, not only is the supply of agricultural land inflexible to price, the soil erosion and soil degradation I have mentioned already is leading to a secular decrease in the amount of agricultural land available. That is why the curve marked "Land Supply" leans slightly to the left.

Because the supply of land is limited, agricultural subsidies can essentially be regarded as a form of price support for land. This is because when subsidies are introduced, the value of the land becomes more than simply the value of the

produce expected from it. Title to land also becomes a form of qualification for access to agricultural subsidies. People will want to hold land not just because of its farming value but because of its potential value in attracting subsidies. That this is not merely theoretical was shown during the height of *apartheid*, for instance, when in designated frontier areas farmers made more money off subsidies than they actually made off farming.^{vi} Not surprisingly, in the middle of a seven year drought, land prices actually rose. This is what happens when one injects more money into a market with inflexible supply. If the curve D1 represents demand before the agricultural subsidy, then the curve D2 represents demand after the subsidy. Little has changed except the price of land has gone up by the amount D2-D1.

Whether we actually increase the amount of soil carbon sequestration under such a system is moot, since that depends on endless and very expensive technicalities regarding the design and specifications of the subsidy system. Needless to say, we will definitely have succeeded in making it more difficult for poor people and small scale farmers, especially women, to access land. Since they are the people who are more likely to depend on organic or agro-ecological systems anyway (let us not forget that the organic school in the West was partly inspired by studying how people in the global South were farming^{vii}), the net effect on soil carbon sequestration is likely to be negative.

Are market-based mechanisms indeed the right way to approach the task of building climate change-reducing institutional infrastructure? The jury is still very much out on that one. But for sure, by the very logic of the market, soil carbon credits are a flat "no". Even if the supply of land was unlimited, a very elementary calculation would show that the amount of soil carbon needed to be sequestered, relative to the amount of money in the world, would simply render such a scheme unaffordable. Unless, of course, the rate of compensation were set so low as to render the soil carbon credits meaningless. That the World Bank, one of the last remaining bastions of neo classical economics in its purer forms, should be making such an elementary mistake, is surely cause for concern.

In my experience, it is not enough to tell people what not to do, it is important to provide a positive alternative. If we are going to operate through a monetary mechanism, the simple thing to do is to impose a carbon tax. In other words, every "Green Revolution" farmer should have to pay a tax on soil carbon emissions. This would act so as to reduce the potential value of deep-ploughed, chemically poisoned land, since it would now cost more money to hold it. If the tax is set right, it should theoretically reduce the price to a point where small-scale farmers are able to buy the land and restore it to health. This is shown on the graph in curve D3, where the amount of the carbon tax is equal to D1-D3. Interestingly enough, because of the left-leaning nature of the land supply curve, this will in fact increase the supply of land a little bit. This makes perfect sense, of course, since small scale farmers are

generally more likely to farm with forms of permaculture which reverse soil erosion and degradation.

I am not saying it would be politically possible everywhere to introduce a carbon tax. But if we want to reduce soil carbon emissions through a market mechanism, that is the way to do it.

Personally, I think we should build non-market support systems for farmers who want to heal the land and restore soil carbon levels to their original state of balance. We should do this, not because it is profitable, but because it is right. I began with a moral and ethical position on climate change, and I think it is the only way to finish. If we cannot collectively do something simply because it is right, I am not convinced we should be surviving as a species anyway. In that case the Earth would be better off without us.

ⁱ . M. Bell and D. Lawrence Soil Carbon Sequestration - Myths and Mysteries The State of Queensland, Department of Primary Industries and Fisheries, 2009, PP. 1.

ⁱⁱ . Tim J. LaSalle and Paul Hepperly Regenerative Organic Farming: A Solution to Global Warming Rodale Institute, 2008, pp. 5.

ⁱⁱⁱ . For a microeconomic study of this process, cf. eg. Mark Kramer Three Farms: Making Milk, Meat and Money from The American Soil Harvard UP, Cambridge Massachusetss, 1987.

^{iv} Cf. eg. Carolyn Sachs_ (ed.) Women Working In The Environment Taylor and Francis, Washington DC, 1997; Patricia Howard (ed.) Women and Plants; Gender Relations in Biodiversity Management and Conservation Zed Books, London, 2003.

^v . Cf.

<http://web.worldbank.org/WBSITE/EXTERNAL/TOPICS/ENVIRONMENT/EXTCARBONFINANCE/0,,contentMDK:22753648~pagePK:64168445~piPK:64168309~theSitePK:4125853,00.html>

^{vi} . Yvette Abrahams The Collapse of the Karakul Industry in Namibia: 1978-1985, Honours Thesis, Department of Economic History, University of Cape Town, 1992.

^{vii} . Cf. eg. Philip Conford The Origins Of The Organic Movement Floris Books, London, 2001.

No Straightforward Answers To Simple Questions: Facts the First Victim of South Africa's Energy Policy

By Yvette Abrahams

Commissioner For Gender Equality

"The personal is political" is a classic tenet of feminist theory much easier to analyse than to implement. The domestic sphere has proved stubbornly resistant to policy intervention. It has proved relatively easy to promote the representation of women in politics, where South Africa scores fifth in the world. It has proved incredibly difficult to reduce our rates of gender-based violence, also one of the highest in the world. In fact, if we take into account the rise of violence against people because of their gender identity or sexual orientation, it is arguable that gender based violence is more rife now than before.

As a consequence, the CGE's gender and poverty program has worked to identify access points where policy can make a huge impact on households. One of these is food prices. The long term upward trend in food prices – which shows no sign of reversal – is going to negatively affect poor households, the majority of which are female headed.

A second factor is energy. What little research there is demonstrates that access to electricity tends to promote gender equality at household level, by reducing the burden of women's domestic work and freeing them up to do other things with their time (like getting an education, starting a business or attending women's movement workshops). Conversely, when confronted by the resource constraints such as lack of water, or extreme weather caused by climate change, women tend to be amongst those least able to adapt or recover. Being the majority of the poor, they lack sufficient financial or social capital to do so. As a result the CGE has consistently advocated for an energy policy which combines socioeconomic justice with low carbon emissions. Our efforts have been undermined by the fact that inconsistency and policy incoherence appears to rule government's approach to energy.

In terms of economic planning, National Treasury has given guidance in the form of its recently released draft carbon tax document. This document argues that in order to

lower carbon emissions, we need to internalize externalities. That is, where the market does not charge for the full cost of production of a good or service – as in acid mine drainage, environmental pollution, or carbon emissions not being included in the cost of coal - it is necessary to impose a tax in order to ensure that the full cost of production is covered. This is a sound approach because where the full cost of production is not recovered in the market, the tax payer ends up paying. The examples are many. For instance, the Water Research Commission estimates that the full cost of cleaning up acid mine drainage will amount to about R 3 billion a year. There is no saying for how many years we will have to do it, since we lack reliable estimates of how much water is down in the mines. But if we do not do it, we will pay an even larger cost in the form of human ill health and the loss of ecosystem services. Unfortunately many of the mine owners who caused the original problem have since gone out of business or left the country. So it makes sense to charge the mines now for future costs. Another example is that the full cost of damage to agriculture from the recent catastrophic floods in four provinces will exceed R 1 billion. The Minister of Agriculture has said that no flood damage subsidies will be paid. Instead the cost will be borne by farmers, and the farmworkers who now find themselves unemployed. Many an emerging farmer is going to find this the straw that breaks the camel's back. In order to preserve our ability to produce food and to promote social cohesion, it is better to recover this cost at the point of production. That is, we should charge the people emitting the carbon producing the climate change which is causing extreme weather. This will encourage producers to find cleaner and cheaper ways to produce their good or service. Therefore the CGE has supported the Treasury's proposal, with some minor amendments.

The problem arises when the market is grossly imperfect, as in energy. We have a monopoly supplier of energy, ESKOM, and although the Integrated Resource Plan II makes some provision for independent power producers, it will be many decades before the energy market is anything but a tightly dominated oligopoly. This means that any increase in the cost of energy will simply be passed on to consumers without necessarily leading to the desired changes in production decisions. This is what happened when the National Electricity Regulator gave ESKOM permission to fund new energy investments in advance by raising consumer tariffs by 105 % over three years. And this is what will happen when carbon taxes are imposed on energy production, while at the same time the extra cost is not used to change the production behaviour of ESKOM.

The most striking thing about the version of the IRPII which has been approved by Cabinet is that, in the cost calculations which underpin the recommended energy

choices, carbon taxes are not included. It appears as if the Department of Energy missed the memo from Treasury. There are no estimates of the potential costs of carbon emissions, or of acid mine drainage caused by an excessive reliance on coal. Neither are the costs of externalities such as health problems caused by mining included, the additional roads and other infrastructure which are going to have to be built to serve the new coal power plants; or the cost of the loss of ecosystem services such as fresh air, clean water, and drainage of excess rainfall. Yet these are all things which we as a society are going to have to pay for in one way or another, if we follow the production path recommended by the DOE. At the very least, the taxpayer has the right to know what we are letting ourselves in for.

This discrepancy is most glaring in the case of nuclear energy. Nuclear technology is notorious for the unreliability of budget estimates and enormous cost overruns ranging from 1.5-3 times the original budget. In fact, the government of Finland is at present suing Areva for breach of contract in supplying incorrect cost estimates for the nuclear program ordered by the Finns. A major issue is the costs of cleaning up afterwards. For instance, the cost of decommissioning a nuclear plant in Britain at the end of its useful life has been estimated at £ 20 billion pounds and rising. There are at present no public estimates of the total costs of storing radioactive waste until such time as it is safe. We have our own home grown example of the unreliability of nuclear technology in budgeting in the Nuclear Modular Pebble Bed Reactor program, which ended up costing the taxpayer R 11 billion rand without ever producing a single megawatt. Therefore we have every reason to insist that the cost calculations produced by DOE are reliable and verifiable.

Another of the questions we cannot get answers to is whether the calculators have set aside some budgetary provision should that most dependable of technological factors, human error, ever come into play and we ourselves having to pay for the fall-out of a nuclear meltdown? The insurance industry refuses to insure nuclear reactors for good reasons, so the taxpayer (as owner of the planned nuclear plants) would be wise to do so. We cannot get answers to the question if we have done it.

This silence reinforces our belief that none of these costs have been included in the relative cost calculations underlying the IRP II. If they had been, it would immediately become apparent that the cost/benefit ratio of renewable energy is far superior to that of nuclear and fossil fuels – and has a far greater job creation potential. Yet the CGE has, since its submission to NERSA in 2009 and in every submission since, pleaded for

social accounting with respect to energy. We have spent two years requesting NERSA, ESKOM and DOE to publicly clarify the assumptions underlying their cost calculations, alternatively, to provide a set of calculations incorporating externalities. While negotiations continue, so far they have proved unable to do so. It is a madhouse. How can we make rational economic decisions without sufficient information? Governance becomes critical in cases of market failure. Public goods tend to give rise to monopolistic markets, and for that very reason the state must intervene to ensure responsible decision making. It may not itself begin to act in a manner that is unjust, unreasonable, and not transparent. The fact that our energy policy appears to be determined in secrecy, in the apparent absence of any sound economic calculations, and in direct contradiction of the carefully reasoned arguments set out by Treasury, is cause for concern. It makes us wonder whether this is a democracy or a loony bin?

For this reason the CGE calls on the Presidency to intervene to ensure that there is policy cohesion, and that the different arms of government work together to uphold the supreme values set out in our Constitution.