



The Energy Crisis : Re-Imagining Our Future
Harold Wolpe Memorial Trust Open Dialogues
16th October 2008
Iziko Museum, Cape Town

Speakers:

Peter Willis – is Southern African Director of the Cambridge Programme for Industry.

Tasneem Essop – has recently been appointed by World Wide Fund-South Africa (WWF-SA) as their International Climate Policy Advocate after having resigned the Provincial Minister of Environment, Planning and Economic Development in the Western Cape in July 2008.

Welcome by the Chair, Peta Wolpe:

These talks are the result of a collaboration between the Harold Wolpe Memorial Trust and Sustainable Energy Africa. For those who do not know, the Wolpe Trust was started in 1996 after the death of Harold Wolpe. The aim is to bring analytical thinking to a range of issues; to foster critical debate and dialogue.

Some information about Sustainable Energy Africa:

We promote sustainable energy issues in Africa. A large part of our work is supporting government; we have a long history in local government and more recently in the provinces. We enable the development and implementation of energy strategy and practices; and build the capacity for people to-do so – we are also involved in energy efficiency, transport efficiency, sustainable eco systems as an approach to urban development and informal sector energy welfare..Tonight's talk is called 'Re-imagining the Future'. We are all familiar with the current electricity crisis facing South Africa, what we are perhaps not familiar with is that this is a far reaching crisis facing the world today. What is more worrying is the consideration of the world we are creating for future generations – and the inevitability of this is transformation. If we do nothing we will transform negatively. If we do something the results will bode positively for the future. We have two vibrant speakers this evening.

Peter Willis, will provide a brief overview and look to a future which demands change. Tasneem Esop, will provide an overview of actions and debates happening on a global and local level.

First speaker

The Energy Crisis : Re-Imagining Our Future by Peter Willis

This is going to get rough. Good evening, thanks for the honour to be invited by two estimable organisations to speak to a room full of clever people. I am thankful for the chance at a private address to an open group, you are all here because you want to be

here. This is different to how I spend much of my time – speaking to people whose organisations have paid me to be there – which is a very different dynamic – and is normally my business. I am thus going to be rather freer with my thinking than I sometimes am in day job.

The title mentions the energy crisis and re-imagining. It was said that I would do an overview – I am actually going to take an angle on the crisis and then head off into the future. I think we have passed through the age of change. We all grew up in it – I think we're now in a change of age; which is different. This says something profound about the moment we're in - this is where change seems to be linear change and whole systems we didn't realise we depended on are up for recreation. This ties in with the other feeling I have had for a while. We as a species have been growing through different ages. I would characterise the last 50 years as our adolescence. You know what it is like with an adolescent in the household – they see nothing further than themselves. Someone else must clean up their mess – they are so busy doing what is important and there must always be resources provided. They represent the formation of something beautiful to come but are pestilential to be around. When we move out of adolescence other species will breathe a sigh of relief.

In this first section I am going to treat energy as broader than usual. I see food as energy, electricity, liquid fuels to drive around with and money as a form of fuel. If you put what I have said together with those four forms of energy; one realises that we have just started to see the collapse of some of those systems around energy. The financial collapse is the end of a system. Who would say to an organisation here is my money I do not care what you do with it, just give me interest or you'd give me a loan. A huge number of externalities have been someone else's problem and have now come home to roost. The system works - it should come to grinding halt and it has and that is wonderful.

If you think back two hundred years ago our grandparents would sit down to a meal where they knew someone who grew the food – now we have no idea. Energy surplus has allowed us the privilege of saying “I'll pay you to take care of my issues – I have a right”. In a very short space of evolutionary time we have completely separated ourselves – we do not want to know what the mess is – If you have shares in an evil company no one arrests you. I think that is now coming to an end – what comes after this will be interesting. We have this irritating limited earth problem, only in the last twenty three (23) decades has it dawned on us that we do not live on an infinite planet. (refers to slide). That photo was taken in 1969 – it was an uh huh moment. Many of you will be familiar with the notion of the funnel (slide). This is a resource funnel. What we are experiencing is that resources are getting tighter. If we continue in this way we are going to hit an end part, and this is dawning on us.

Ermen Laslow looked over the last two hundred (200) years – which I have mapped – here we have the major phase, trigger phase and then the accumulation phase. We are now in the decision window. If we put a terminal date on it the year is 2012. Laslow is a systems thinker. He studies complete bio-systems, what he learned is that systems seek stability. We always look for stable ways to carry on, if resources are threatened or

challenged in any way we start to oscillate to find stability – he reckons that as the funnel tightened we have oscillated faster and faster. I'm sure you see these days as being really turbulent – things are happening faster and faster. Living systems cannot go on this way. His point is that at a certain point – the chaos point – we have to either break through and find a new point of stability or break down – this would be World2.0. The other really interesting thing about this drawing is that this is pretty hectic. If you nudge the system at any place here, it doesn't take much to alter the path of the system when in a highly volatile state. Laslow put the speculative chaos point for huge impact in 2012. We cannot go on as it is, as the system would just break. But with pressure and turbulence comes opportunity. So here two questions arise:

- What might the energy paradigm be in world 2.0?
- What is our power to influence its emergence?

Let us first look at what's going on in the US – like it or not what they do they do in volume and at speed impacts on the rest of us. A wind farm in Texas currently provides 9000MW installed power – the equivalent of two of Eskom's 6 packs. There are 6000 in construction which will give a total of 45000MW. They only have 24 million people and will have too much energy but will supply to their neighbouring states. South Dakota has the world's biggest wind farm and only 8000 inhabitants. In terms of solar thermal power there are ten large projects commissioned in 3 years – that will make 3half MW. For Geo-thermal energy there are 96 projects under way – but these tend to be smaller than 5000 MW. That's the Americans, God bless them.

There is an old wise man Lester Brown, who said that the energy transition is driven from intense excitement that people are tapping energy that can last as long as the world itself. So now I want to have a look at Europe – Europeans do things differently. I was co-presenting a seminar with the Potsdam Institute – they have been doing good thinking – they are saying that countries should concentrate on what they're good at. Wind is big around here – don't mess with what's not appropriate. Take a look at these two here (referring to slide) – Britain have got absolute bags of spare renewable potential – bear that graph in mind – now there are two schools of thought. Groups of people are looking at a super grid wide area that can supply through various areas with high voltage cables. What about Africa – which is solar powerful – we are just gagging on the stuff. But we think of ourselves as mineral rich unfortunately. Although we do now have our very own Joule. When everything is falling apart we are quietly becoming an auto manufacturing nation.

The second question is how can we affect this? A revelation came to me. it occurred to me that the most important thing to focus on is Willis. World I would like to live in someday. Since I was a small child I've wondered what is this name Willis? It would have meant something if it was Featherstone. I was just waiting to find out that everything that we have ever created started as an idea or vision. Even this building – someone had the idea. Some people right now are still dreaming of coal fired power stations and we need to get their addresses and wake them up. My only point is that we are far more potent than we think we are. What if our imagination is more powerful than

an Eskom six-pack. Think about the principles for energy in the world I would like to live in. Here are four (4) things I would like to see:

- I would like equal access to the means of life,
- I would like to see costs that are fully internalised, right now the energy price does not tell us the true price of food,

More flexibility and resilience in response to rapid changes in the eco-systems

I now want to do an exercise because we have to practice in this kind of thinking. Please identify a partner. Here is what you are going to do. This is really simple, close your eyes and place yourself in twenty – thirty years time (20 – 30's) – far enough into the future so that it's not just around the corner. I want you to imagine yourself somewhere that you know really well like home or work or Cape Town. Notice how energy in any form I have talked about is no longer what it was – people doing different things, your access to energy is different. I am not going to guide you any further...Don't worry if you jump around.

I am going to pull you back now; take it in turns to just share something you found in your journey. (people share with their partners). OK, I just want to test a hunch. How many of you immediately thought of something rather than having to work on it – ah see, we are much smarter than we think. I would love to hear just three. Who would like to share?

First participant: A vision of Cape Town with homes that are independent but integrated. Looking out over the harbour and seeing the use of smart chips that can generate their own power completely and feed a smart city which is a much quieter and a green environment.

Second participant:

1st - thinner people;

2nd – the use of solar power in each household;

3rd – very importantly, no tourists;

Third participant: People using their own body strength instead of cars, to work closer to home and use bikes. That's it.

My closing thought is that in summary we can and must perhaps now consciously begin imaging the world we want to live in. We do not have to worry about how it is manifesting if we treat our intention as a skill of immense power and value. Thank you

Second speaker:

The Energy Crisis: Re-Imagining Our Future by Tasneem Eshop

Thanks Peter and all of you. I think that Peter has set the imagination flowing but with all these turbulent times, I thought all those principles could be great principles for the basis of a new party that could be formed, go sort them out. I think Peter really has set the stage for issues we need to grapple with. The time lines associated with global time lines for negotiation are set for 2012, which is interestingly the point of chaos. This fits in with the 2012 post Kyoto meeting, which is the end of the current phase. We need to sort out and make those tough decisions. There's stuff going on we're not aware of. Coincidences

may not be coincidences – the critical point for all of us is that there is a window of opportunity presented to us as human beings. It's a narrow window opening to us that we cannot squander. I thought we could contextualise the discussion about transformation and climate change around transformation.

I am not sure if Bush knows local is where it's happening. As you might know we are reaching a critical point in the global multilateral negotiations. We're preparing for a big crunch time - the Copenhagen negotiations. We hope there will be an agreement all the countries of the world can sign. It's important to understand that while these things are happening, like global agreements, it's a time for us to be conscious as citizens of the processes. Do not feel powerless – every individual has a contribution to make. So it is about the global multi-national one taking place at the moment. But the power and pressure required by individual citizens across the globe is what you need to get your national government to secure its 2012 priorities. That's it, there are big interesting debates happening that we should be aware of. If it's transformation, we need to think about how we'd like to see Cape Town looking like in 2030.

While South Africa is a big emitter, we are also considered to be a developing country. There are different categories. We do not necessarily have the funds – all the things we are imagining require funding. There is no doubt about it and developing nations do not have the capacity to leap frog into the world we're thinking about – in terms of financial or human resources. So the big discussion is how to ensure that those who are historically irresponsible adolescents take responsibility. There are those that have a historical liability for poorer nations that have to bare the burden of what we are experiencing. Both in terms of compensation or market mechanisms, but fundamentally underpinning this is the need to define what we mean by equitable solutions that all can feel good about.

To achieve energy negotiations we should want the important knowledge to achieve what we want. In my previous portfolio as Minister I know we do not produce these things locally – technology made by a South African researcher was sold to the Germans – that is big business. So everything happens in the north. How do intellectual property rights affect energy in developing countries? How do we get access that? If technology transfer means that we must buy from the north then we are going to face a bit of a problem. In South Africa we are also providing a leadership role. I thought I would touch on the work we are doing as a country. South Africa plays a role in the negotiations, and as the first big emitter to come up with a long term mitigation plan. This is major stuff, and it has been approved. We are going to have to make the tough decision. We have to set South Africa on a path to achieve a low carbon economy. People bandy around this term, and are trying to get revelation – we are all talking about the low carbon economy. I have yet to find out what that actually means – that is another exercise that must take us there. Will it stop at the door of what we do with energy or can it take us beyond that as a vision? This long term mitigation scenario puts us on trajectory to that... The big emitters are the energy transport industry.

The Department of Minerals and Energy removed renewable energy from the Energy Bill. This is an opportunity for us in this room to raise our voices – why will renewable

energy not be part of the National Energy Bill? There is a team in the Western Cape promoting a Bill for the Western Cape. Why is it not national? This advocacy role feels good. We're not going to achieve what Peter is talking about to change the fundamental form of energy for the future – it's not going to happen immediately. Eskom will still build coal fire powered stations. But we have to start now... Long term mitigation talks about starting now and then scaling up. There was a nice awakening with load shedding. We've woken up to how insecure we can all become but are we aware that Eskom has very little long term or medium plans? They are investing in coal for the future and nuclear, but essentially coal has a lifespan of 40 years. Those decisions are going to take us to 2050. Given everything we can do, the thing that amazes me is that we don't realise our power.

When Eskom tells us to save energy should we not be asking them: what are you doing about renewable energy? And we absolutely have to save energy – why not ask Eskom to disclose and tell us their plan? What happened to the solar power that is supposed to be happening in the Northern Cape? Eskom need us to save energy, we should be telling them well form a partnership but place renewable energy on their agenda. That's your power as citizens. So it's great that we have the long term mitigation scenarios. There are some great things to come. Time is running out now – this has to happen now. Because in all of what science requires your outer period of peaking is 2020, when we'll plateau and decline. That is the real dilemma we're facing.

So to end up I thought maybe it follows nicely on Willis, we should really continue our discussion about what a post-carbon society really means. Imagine this post-carbon future and society. An exciting window of opportunity presents itself right now. All the big powerful countries have managed to bail out private sector banks with billions of dollars. Essentially what it tells us is that the global economic model has failed – it's time has come and passed. This free market model that has perpetuated this teenage frenzy we've had in the world; that time is up. What kind of economy are we talking about? I think the left in the word has failed. We've all had our -isms or not -isms. Maybe there are models out there, but we've not managed as citizens to unite around a common vision – and that is what is needed (Willis). Anti-globalisation and climate change movements; we have to push that a little bit. What I'd really like to see is that that is a bottom up push. We start thinking in a localised way - that power essentially is local. In the old days we had a sanction: think global act local. And we can do it. The vision of independent houses with smart chips in the harbour and local energy and local choices. I believe that individuals have immense power. We've abdicated our responsibility. We think someone in power has to make all these decision. We are not raising our voices. You have to use that piece of power – the vote. Those of you who vote should have a vision for a post-carbon society and where we're headed to in this world. We should think about who we vote for. Let's set that bar really high and act as individuals. Start imagining locally – in neighbourhoods organic is extremely expensive –the production of organic goods is more expensive. The critical mass to ensure affordability and transfers of technology mean we have to make consumer choices. How we produce all of that becomes critical that is what we have to define and act on. Thank you for inviting me to this session.

Moderator: We have half an hour for comments and questions – please keep it tight:

One key question that might be good to raise – what are the blockages and what will enable us to make the bigger steps? Tasneem raised the issue of civil society and the left having failed. Our current situation being an opportunity. Maybe we can engage with why things haven't moved as part of being locked in a capitalist market economy.

First round of questions:

Q1 I'd like to make 3 points. Very briefly I think you are underestimating the time frame. In the States Gore said there's a 10 year time frame within which the US can convert after which the world goes into tipping point. The time is not there. The failed economic model has strengths and extremely strong interests both part bought by corporate. The same thing pertains to policy makers bought by economic interests. The new media owned by economic systems, it's tough to get a new voice through. We have one basic drastic choice between us. Raise the rand and get food cost down– another is leave the rand and at the moment the rand mitigates the decline in the stock market . We need to restore our rand drastically

Q2 I'd like to ask, now that you've left the wild world of politics. One of the fundamentals for independent energy on our roofs, the suppliers need to be compelled to take energy we produce because cost of storage in batteries is high. They have legislation in Germany for this. What are we doing here to compel suppliers? So that when I produce solar energy my electricity runs backwards– it's a technical solution.

Q3 I missed the beginning, I was wondering if we are all aware of the global benefits of eating less meat. There is nothing more significant anyone can do than eat less meat. We would save 90 % of our environmental footprint. And also love is the most important thing. We can grow from love if we are talking about energy.

Q4 Out of most countries in the world South Africa has the most resources: water, wind and solar power. We do not have a huge population, we can cope. It is wrong to look for governments. We must look to individual communities – in a post capitalistic society. We do nurture enterprise we have not talked about water, which could be the biggest challenge we face.

Responses:

Tasneem: Let me deal with underestimating the time frame – the time set here has been done by the IPCC. By its nature there are those who believe the IPCC had to be conservative, the initial proposal of the intergovernmental panel. Yes I'm sure there are those who'd be able to tell us there are tipping points we haven't been told of, the peak of the emissions to be reduced 0 – 90 % reductions. On the issue of legislation for feedin tariffs – this is what I'm talking about with the energy bill. I believe there was an opportunity to do so. The Western Cape is busy with legislation. We hope this will be the pilot, so we're looking at setting a target. In my understanding when we dealt with this bill is that it would deal with tariffs. The Western Cape is piloting something, it's possible and has to be done. Renewable energy is not feasible if regulatory systems are not in

place – we will need that fundamentally and it must be sorted out. We are a resource rich country in terms of access to renewable resources and water is the big challenge in the western cape and globally. People are talking about wars around water. The Western Cape is particularly vulnerable.

Peter: What if for storing energy we each bought a Joule and plugged it in at night when the lights go out. At night all that electricity can be filling up batteries in tens of thousand of Joules and then no ones buys any petrol.

Second round of questions:

Q1 Thank you. Tasneem has been very careful in avoiding the nuclear discussion – we're all in favour of renewable. Eskom isn't here but that's not surprising.

Q2 Let me perhaps first welcome the presentations from both speakers. I'm asking from the bio fuel point of view trying to establish what mechanism ...when you were still in the office to deal with the streamlining of the environmental impact assessment. I'm raising this because of the UN report that was raised in May that cautioned with regard to bio fuel development as a silver bullet and dealing with reducing green house emission and issues from food shortage and pushing the farmers. This might impact on increasing poverty. The second one is regarding development in our province. In striking a balance in 2010 more and more people are developing hotels in that net to accommodate more people how will we deal with striking a balance?

Q 3 I wanted to raise the same issue as Louis about nuclear energy.

Q4 How can we broaden this conversation? If you were saying that civil society has to deal with many competing issues: poverty, aids, global warming. How do we move them into the proposed state. Game farming vs. food security. People turning agricultural land into game farming leads us into a crisis situation. Finally the issue of securing international agreements - if not implemented vs. competing needs. How do we influence the budget process? And where should the money be spent?

Responses:

Peter: You're right there are lots of problems, what else can I say?

Q1 I'd like to present a challenge to carry on with the Willis idea. I've been involved with building power stations for 50 years I hear a great amount of welcome idealism – we say we must use wind and solar and its easy but we never see a detailed plan from environmental organisations. By 2050 we should have solar power – we have to cover the entire area of solar power – we can import like Denmark – who will do it and what's it going to cost – give us a plan and show us it can be done. Those with our feet on the ground would like to see how it could be done.

Q2 Can we take the 31 billion for nuclear? Give it to us so we can do something.

Q3 Hi I'm David Lewis, I was there when they started earth Africa. I am a reluctant environmentalist. I've done quite a bit for the energy sector. The reason people build

nuclear power is the same reason people hunt whales – it's a metaphor of capitalist system. Parasites are allowed to scavenge and hunt after scarce resources. Until we tackle the basis of our economy and the military industrial complex all this visionary stuff is pie in the sky and bourgeois. It doesn't tackle the base of what's wrong with the economy in south Africa.

(Interjecting question from the audience: What is your suggestion then?)

What's wrong with our economy is that we have a neo liberal system based on accumulation of capital. Capitalists dictates how power is used, until consumers take back power nothing is going to change. We have to decide as individuals and as a group how we want our society to be governed. Not by governments calling for nuclear power – let's stop emissions, I find it amazing Tasneem is still talking about carbon. We should call for zero emissions.

Tasneem: That last point is where I would like to start off. Moving from bourgeois environmental activism to being real about the world. I've been in the real world – real politics. The reality about that is that there are wonderful activist who come and lobby when they come and don't tell you how things can actually be done. They're not going to listen to anyone telling them you feed into capitalist world - even now moving into the “tame” world of Nongovernmental Organisations (NGO's), you cannot do that. There is going to have to be moving towards a zero carbon future we have to be realistic about how we take those steps to reduce our carbon emission. South Africa, while an emitter, also has very huge level of poverty. We are of the highest unevenly economic country in the world. How do you deal with poverty? There should be a mutually exclusive thinking here fascinating thinking around equity and the Kyoto protocol. Go to a website called eco-equity. In addition to green house effects we have to deal with intra country poverty as well. You can't come to any solutions – this is not idealistic it's a necessity to looking to that future. The way we manage that transition has to be realistic to getting to that place. I managed to avoid nuclear – I believe we must push renewable reality in terms of this strategy. The country has chosen an energy mix that doesn't mean we shouldn't push and raise issues around investment. We should be raising our voices, our energy policy does not have to be fulfilled if we can present the coherent strong argument for renewable. I am no longer a politician, I can get involved, but the reality is that our country chose a mix. We are focusing in the wrong end of that mix spectrum and renewable is absolutely nowhere. I love the wind story in Darling. Developing this notion that we must stop developing right now, we can't do that. But we can start intervening in how development happens. One of the things we did as part of the decision is to include in every day requirements for energy efficiency. We can directly develop the hospitality section. There are huge programs dealing with that, we should be pushing those boundaries. I want to completely disagree with the notion that there is no plan on the table and that it is too easy a notion for people in that sector – there are plans there is no political will.

Third round of questions and comments:

Q1 Thanks Peter and Tasneem. I loved your vision. The whole time is the step that I can take as an individual, we raised that when I went through that exercise I had that picture my sense after that was panic – how am I going to get to that I cannot afford to put solar water heater on my roof. Eskom we've got power, now they want to pass legislation to force reduction with excessively punitive rates. In terms of concrete steps that communities can take it would be interesting to have more to that.

Q2 I'm one of the tourists that won't be here in 20 years. In Australia we have lots of renewable resources we don't use them though. So green house emission per person are similar to South Africa. I couldn't agree more. Renewable when you build a power station you pore in all that energy every time you build you are locking it in again – the fact that you are building. The cheapest unit of electricity is the one you don't use. Leave a light on in the room when you're not there, we lock that in with everything that you build. The estimate is that a third of energy we use gets thrown away.

Q3 To find money as part of the advocacy role, take insurance companies to give two (2) percent of their income. A lot of pension funds can look into expanding R & D, put that on your agenda it's quite easy. There are lots of people with excess reserves looking to invest – renewable energy is a safe investment.

Responses:

Peter: There are actually some exciting renewable projects in South Africa. I heard of a 100 MW privately funded one this morning. To answer Frank, I've enjoyed the diversity of thought processes and ideologies here – it's such a complex thing and we are all individuals. The biggest thing we can address is to do the things that seem right and logical to us right now. Sitting around waiting for someone else to tell us what to do – if we listen you'll here of better things to use. What I can do is to persuade people to dream. Other engineers have more to do – I trust the collective. We might fail but we will have fun while doing it.

Tasneem: We should leave with the Willis vision – what can we do? In terms of the electricity crisis we can all get conscious. In the Western Cape we were first saved 400 MW per day in 2006 and then forgot. Then the Western Cape performed the worst in the second round. The first step is consciousness. Also think about what you consume individually. As an individual you can do that -deal with inequality and poverty we need the space but we live in a rapidly shrinking world. We have to have an atmosphere budget and different nations have to get involved. Audience member points out that E.S. S. O.P. = Energy Saving Sustains Our Planet.

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