

**Energy and Climate Change Working Session:
Financing Clean Energy
2006 Clinton Global Initiative Annual Meeting
September 21, 2006**

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FEMALE SPEAKER 1: Ladies and gentlemen, please welcome our panelists for Energy Poverty. Executive Director from Fundacion Solar, Ivan Azurdia Bravo; Chairman of Development Alternatives, Dr. Ashok Khosla; Founder, Green Belt Movement, Professor Wangari Maathai. And please welcome back our moderator, John Podesta.

JOHN PODESTA: Well if we could quiet down a little bit and we have a wonderful panel this afternoon. We begin by exploring those opportunities that I talked at the very beginning of the last panel that seemed so exciting but I think we got to turn our attention in reflection now. Again on the two billion people who on less than \$2.00 a day and what it means to live without access to modern forms of energy. And I am excited to be sitting next to one Wangari Maathai who started the Green Belt Movement an empowerment movement.

And again, I would ask you to either take your discussion into the hallway or more appropriately calm down and quiet down.

And let me begin Wangari with you and ask a question. You created that movement of creating a virtuous cycle of planting trees with women in villages and it created that cycle of virtue. There is also a cycle of destruction that goes on when people search for energy, when they are out and they are going after trees, deforestation. And I wonder

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whether you can talk just what it is like for people to try to go search for energy sources in the poorest villages and amongst the poorest people.

WANGARI MAATHAI: Well, thank you very much, Mr. Chairman and I am really privileged to be here. And to have listened. I have sat in this hall throughout since yesterday and I have learned so much. One thing I noticed is the fact that we are not only talking very much the energy that a lot of the poor people use and that's the biomass. And specifically wood fuel.

That of course has a double edge because to certain extent these people need energy like all of us and they use that form of energy, which is also at the time very important for sustainability of the environment. So as they cut the trees, as they use dung or as they use agricultural waste, they are in a way undermining their livelihoods. And so what we have been trying to do is to break the cycle of poverty which this kind of thing puts them in. but I can tell you that I'm also a member of Parliament and the contingency that I present when I go to the people and they are asking me for things to do. One of the things that they really ask for is energy. And they are not asking for firewood because they are already planting trees. They are asking for electricity.

And the mass of electricity that we have comes from - some of it is geothermal. Some of it is hydro. And some of it

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is from oil. Now as far as the one that comes from hydro, which of course is the form of energy we are talking about here, is dependent on whether you protect your forest and whether you are able to capture rain and have rivers flowing.

So one of the activities that the Green Belt Movement is involved in protecting the mountainous forests which are very, very important for our rain forests and for the rivers to flows so that our dams can remain full and be able to produce that hydro energy.

So I am really very, very happy and I want to commend you very, very strongly because you are being proactive. You are being, yet you are responding to what I hear President Bush said the other day that America is addicted to oil. And what I have seen here is a genuine and very passionate effort to get out of that addiction which is really wonderful. I just wish the other part of the world could be as awake to the fact that we have to move to cleaner energies.

JOHN PODESTA: Thank you very much. Ashok in your work with the development alternative groups you talk about bringing the idea of sustainable livelihoods to a large scale. Could you just talk about what stands in the way of the rapid deployment of renewables and how do you bring renewables to a large scale.

ASHOK KHOSLA: Well, I think that's been the question. Renewables are essential and an important part of

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the solution but it's actually energy services that people need. They are not really, nobody looks at a kilowatts or calories they need. They basically need energy for a variety of purposes. For pumping water, for lighting, for heating, for cooking whatever else. If you could provide those services in different ways, sometimes you could use renewables. Most of the time, you can. It's good. If you are not going to provide those services then it's tough.

Our experience is that most renewables are by their nature local. Whether it's the sun or the wind or the biomass. Therefore, you need to decentralized systems. Therefore, you need technologies that are very different from the ones that have been invented in the past because they were designed to be decentralized. Most Western energy delivery systems are very centralized. I go through the grid for electricity or through transportation systems, which are very large scale.

And so the kind of approaches needed need different technical solutions. They also need different financial solutions. They need very different institutional solutions. So we basically have a lot of hurdles, a lot of barriers to expansion in a variety of areas.

My own experience is that the biggest barrier is nonsystematic thinking. It is the barrier that you are going to, we think in solos and compartments and ways that the rest

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of our world doesn't work actually. And therefore, we think energy. How do we deliver renewable energy? I think that's the wrong question for the following reason. But if you do that, then you miss out on the possibilities of real genuine solutions.

Give you one example. I operate, I run a company DC Power, Decentralized Energy Systems India Limited, which makes power stations in villages based on biomass, gasification or wind or so on. And like any infrastructure whether it's roads or bridges or power stations, the cost, the unit cost of delivering a service, energy, depends on the load factor, on the capacity utilization. You use 30 percent or 40 percent of your plant; the cost is going to be 10 rubis a kilowatt hour. If you use 60 percent, it's going to be 3 rubis. It's a very sharp curve. And it's true of all infrastructures.

Now energy people come and say well our job is to deliver electricity or energy. Without looking at the fact that if you are doing to do that at an affordable price you got also use it. You got to also have downstream applications. Because if you try to sell it at 10 rubis nobody will pay it and you will take off. So essentially the problem is non-systems thinking. Its give them electricity.

And when you do that you basically make virtually impossible to get the ecomonics right. You have to look at

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energy as a part of a bigger economic system, which is to create both jobs, livelihoods, and basic needs [Inaudible].
thanks.

JOHN PODESTA: Ah, Ivan I would like you to maybe just pick right up on that. Yeah, you install energy systems in rural places and what's been your experiences. What are the challenges of integrating traditional knowledge in those communities with new technologies? You install a lot of solar GF thermal, etcetera. And just tell us a little bit about your experience in doing that.

IVAN AZURDIA BRAVO: Yeah. Thank you. First of all, keep in mind that whatever I'm going to say has one obsession in focus, to create jobs where people live.

So renewable energy projects, we do as an excuse to catalyze economic growth where people are living. You keep that in mind. We are not talking about energy. But an input to rural development. Energy is but a means to accomplish all their economic, environmental, and social ends. So, that's really the obsession.

How do we create jobs where people live? Where there is no roads, no health clinics, no bridges, no schooling and so on and so forth. They are isolated, [Inaudible] communities living in Southern Mexico, Guatemala, Honduras and Salvador. How do we reach people who are out of the market?

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So, the first thing that you do is to find what is the competitive edge of these people. What are these people doing in order to survive without any government presence whatsoever? So you identify something that they are doing by now that has some tradeable capabilities. Coffee, might be organic coffee or the potentially to be organic coffee. Cardamom or the potential of precious good woods to be certified that can be certified.

So once you see okay technology for what purpose, with what productive use is this application, then you start saying okay what are the technological options that we have to blend in. but the question goes as you go to this communities that are isolate with no government intervention whatsoever. They don't speak Spanish. They have, they speak their ancient Nile languages but they are surviving there and they are living pretty happily. And you come with this civilian sadoreal [misspelled?] you know. We know better. We are the engineers that teach these. We are going to solve your problems because you are poor.

But poverty is not only measured in terms of box, in terms of dollars. There are very miserable rich people and very happy poor people in terms of bucks. So, what makes this community go around without any government intervention. Think you know there is knowledge there. It is very ancient knowledge on water management and forest management, in

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biodiversity, in the way, they look at the clouds and read the weather patterns and so on and so forth.

So you start rescuing these traditional manner Mayans knowledge and scaling up their potentials as well as you scale down high tech options to create a synchronism of technologies, a blending of technologies. Something that is not quite there. Because we in the West are not listening. We are, we have a very good will. The will to will, the will to power. [Inaudible] talk about that a lot. So we change the world and we are make changes and we commit but we don't listen. We don't listen to those that we are trying to be helping.

So, the first thing is to really try to find what are their needs and try this people, this human beings as citizens. People with right. You have the right to have water and electricity and these services. You are not a victim that needs to be subsidized and needs to be cared because we know better and you don't know anything. I think that the first thing to implement in this thing is not only having a more humble approach but also to be able to listen and to learn from the people that you are going to try to serve.

Thank you.

JOHN PODESTA: Wangari, you said that one of the things you are asked the most in your role in government is how do we get energy out to the villages, to people. And I

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wonder what strategies right now you are using to try to implement that. Did you - are there any lessons from the Green Belt Movement in terms of empowering individuals to provide energy that are applicable in this context?

WANGARI MAATHAI: Well, the majority of the people in the rural areas definitely still use wood as I said or charcoal, especially the large number of poor in the cities. This is very destructive to the environment. But the government does have a program to take electricity to the rural populations. But as we speak, it takes about \$600 per household to bring lighting, not even electricity to use for other utilities but at least to light their houses.

In my own constringency, if you have \$600 you can bring electricity to your house today. But if you are dealing with people who make less than a dollar a day, now you know how many people would be able to bring that electricity to the house. So, electricity is still largely inaccessible to a large number of people.

So, velocity is still a big struggle to provide that energy. And the question is still not is it clean. There's just is it energy.

For the other side because we are concerned very much about the environment, we are constantly trying to encourage the government to ensure that even as you know we have a very strange situation where to burn charcoal Kenya is not

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illegal. To have charcoal in your house and to use it, it is not illegal. But if you are caught in the forest patting trees and turning them into charcoal it is illegal. Since the contradiction that partly recognizes that people will use charcoal no matter what.

So, we are constantly trying to find a balance between allowing people to use this low energy and at the same time protecting the environment. I should mention especially for people who are interested in the current credit, that one of the ways in which we are trying to provide the financial resources for this campaign is to work with companies through the World Bank who wants to reduce their carbon emissions and give resources to the World Bank. So in fact, we have a pilot project at the moment where we are trying to plant trees with these women. So we pay them money for producing trees, for planting them in mountains that need to be ablation and this in turn can help them to get electricity into their houses and cut the need for cutting down trees.

So, Ashok and also my colleague from Latin America, I think that what is important for all of us who work at the grassroots level is the realization that you are dealing with an integration approach to development. But where we recognize that without energy especially electricity or other forms of energy that you don't get directly from the

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environment, you are caught. People are caught in a vicious cycle. So breaking this cycle is extremely important, which is what we are trying to do.

Now if we can find partners who are willing to help plant the trees then we can do two things. We can fix the carbon so we create this carbon sinks and we provide the resources and with those resources they can pacify their energy so that they get away from direct biomass.

JOHN PODESTA: Thank you. Ashok, in trying to move the system along to try to get the energy out to people that Wangari was just talking about, what's the single thing we need to do if there is one - well what's the top of your list. I'm sure there is a hundred things to do. What is at the top of your list?

ASHOK KHOSLA: The very top of my list would be an argument to persuade those who make decisions on our behalf. Those could be people in our own countries, the political leaders in our own countries, could be the people who run the international agencies. It could be the leaders of other developed countries.

An argument that would persuade them, that people in the South, people in poor countries need to solve the problem very rapidly. The argument goes like this. Al Gore has shown us how immediate of the problems climate change are but in most of our analysis I think we tend to look like and quite

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rightly the next 50 years or so as being the time arising during which major changes are likely to take place unless we do something about them.

And if you look at 2055 or 56, 50 years from now. It's hard to imagine a world where unfairness continues in the level at which it is today. It would be very difficult to persuade a world in the 2050 that some people can continue to use 50 times as much energy as other people in the world. seems to me that if you accept that, that it would difficult to sustain a world in which the level of unfairness continues like ours today. Then it will be unacceptable for us to argue that somebody in a poor country should be forced to have - Is that better? - forced to use less kind of materials, resources, energy or whatever, than people in other parts.

Now I plotted on a curve on a chart fertility, the size of families against the use of per capita energy in each country. The data is available. It's from the World Bank or UNDP or whatever else. And I got a dramatically clean curve with a collaboration of 0.96, which is phenomenal.

In other words, if I plot energy use per capita this way and how many babies you going to end up with this way. It's like that. The less the energy, the more the babies. If you extrapolate what will be the numbers of people in the year 2055, if you have continued to have fertility rates that exist today in the poor countries, you are going to end up

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with two and half billion more people than you do if you bring them about to this level.

I think that's a powerful argument that it's in the interest of the rich. It's the interest of the powerful to redistribute energy use today in order for us to be sure that the demographic transition takes place soon. Because basically it's the demographic transition that going to save overall the amount of carbon emissions we are going to put into the atmosphere.

If you got nine billion people the amount of carbon emissions is going to be dramatically more than if you got six and a half billion people. And that's the difference between what happens if you redistribute the amount of energy.

So I believe there is a strong case purely in terms of a 50 year time horizon and calculating how much carbon emission there will be in the world provided everybody has equal access to energy. That we should be now providing much higher levels of energy but at least energy services, not necessarily wasteful energy to the poor today. So it's in the interest of virtually everybody who is actually at the moment monopolizing energy, the rich in our countries in the South as much as the rich in the north, to make sure that the very poorest get a lot more energy now in order for us to have the energy space later on. Thanks.

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JOHN PODESTA: And have you seen any recent changes in attitude on that point? Or do you think we are basically stuck?

ASHOK KHOSLA: We're stuck. I'm not sure that I found very many, I wouldn't say I found very many people who argue against my argument, my thesis. I would say that nobody is willing to make the changes needed in order for you to say I'm using nine tons of coal equivalent today, if I give one-ton coal equivalent to somebody else, chances of my children living in a world that's a lot easier and better for everyone are much higher. I'm not sure anybody is going to do that.

JOHN PODESTA: Ivan you are out there in the field. You are putting projects in. what's exciting you these days? What, we've painted to some extent a bleak picture, what's exciting on your front?

IVAN AZURDIA BRAVO: Well this year I mean I'm in a Sabbatical year after I'm been delegating my 25 years of professional to work in Rwanda - for me it's kind of very good news to be here, you know with ah. I think that it's the leads of all countries and the lead of the world make change in their minds and their souls. We are going to change the planet. It's about individual commitments. This is really exciting to be here today.

We are celebrating also the Equinox. There are ceremonies all over the Myian world, in the scared temples of

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Degal and so on. And also as the World Day dedicated to peace. So it's a good rebration that one that we are living. And in this Sabbatical year that I am doing is I'm research on Mayans science and technology with the idea that the next 25 years of my work could not be only trying to bring western high tech to rural communities but also to try that knowledge because our problem is not going to be climate change, per sey. That's a problem created in the North. The only problem is the vulnerability to the climate liability. I mean Leano, El Nino, hurricanes, storms and so on and so forth.

We suffer for the problem created by the North. So, we live and I think and I have this, this is a hint. This is a morbid because this is a gut feeling. That if we rescue these cosmo vision, this cynical way of mimicking that cynical partners of Mother Earth into high tech options we are going to have better chances. I mean it's like having a forest. If I plant a huge amount of land with one single specie of tree, chances are they are going to get caught in a plaque or fire or something like that. But if I had diversity, if I had different trees some of them might make it down the road. And so this is about having a broader options of technologies.

I think the ingenuity of the North is tremendous. I mean the clings, the Internet. It is no doubt about it. This will be rubbish nonsense to talk about putting questions that

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technological effort and contribution to human progress. But there are other ways to relate to nature that can incorporate the cynical partners of life. The cynical way of renewing and recycling and so on and so forth. And I think that the physical thinking of the west is very linear. Logical framework. Milestones, deliverables, the budgets, allocations, so on and so on. Beginning and end, linear.

If we start thinking that things can be recreated, that things can go around and there is a chance of renewal, then our time is different. For the Mayans for example, time is not a linear thing. It's not a thing. It's like a flower, like a human being. It leaves. It has, it's alive. So, when you think time as something alive it's a different mindset.

So, what I'm trying to do right now is to bridge. Reluctantly I bridge, I mean to create a communication between two cultures one that is powerful and moving forward, and the other one is very backward and underdeveloped. So, the possibilities and the chances are that we are going to learn from each other. That we can create something that is new. That we a look over the ages and to this rush for getting a better life and be more quiet and more complimentary of things that are around of us. I mean I think Henier [misspelled?] says that the things that are near to us are the things that are more away from us. We don't think about this technological mediation that what we have created.

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We think that technology is to serve human kind but it is the other way around. Right now, there is a machine that produces machines without the presence of the human beings. Is that we are controlling technology or technology is controlling us.

Well those are philosophical questions but the practical thing is that how do you get into solving the problems of the people. We have a lot of young people, most 70 percent of the population in central America has less than 17 year old. Either we create jobs over there being creative, being innovative about the things that are already there that can be improved, plus making affordable what is already high tech, frontier technology. Or else we are going to have problems immigrants and we are going to have a lot of violence.

The history of Central America and Mexico is a history of revolutions. If the western world is entangled with these problems in the Far East and the Middle East and they continue to be like that we can not afford to have other political or bills drove by poverty next door or in the back yard. As you or some of Americans old territories.

That will be very dangerous. So the investment right now, the investment should be in creating jobs already there in a way that open markets to products that organic, they are fair trade. They are based in biodiversity because that's the

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only competitive age. We are not going to take to make computers or to make solar panels. That's impossible.

We can offer basically the dessert of the developed world. Sugar, bananas, coffee. How do we procreate better sugar and bananas and coffees? How do we make it more healthy? But the balance of straight is going to be very difficult. How many bananas, containers of bananas, of coffee do we have to export in order to bring high tech options. The bridge, the gap is getting every time bigger. So we have to find ways that all of our products are competitive and appealing to a more educated market. What do they want? Organic coffee, organic products. Not to have fibers and so on and so forth. In this way, we are going to creating a market pool. We are going to be creating jobs over there but also we are going to be opening options for new technological [Inaudible].

JOHN PODESTA: Well that was terrific but we and I want 1- I'm actually tempted to give Wangari just a minute or two maybe to respond to Ivan and say whether that related to your experience in terms of trying to empower people, what he was suggesting which is a really different way of thinking about trying to bring technology to bear in a way that is more appropriate to the way people want to use it. Is that where we got to start which is to ask what they want to use the technology for?

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WANGARI MAATHAI: Well, I guess those of us who work at the grassroots and who are working with the poor people in the developing countries have the frustrations that we know where the potentials are. For example, if you ask me all the technologies that we have been about here, yes, it can be brought there. But I also know that the people there do not have the capacity to absorb these technologies on their own. That you would have to come and for example, extract the different types of energies, convert them, distribute them, and it would solve everything to them because you have the technology and they have the resources but they don't have the knowledge and the skills. But if they are making less than a dollar a day, you are not going to do any business with them. You have the option of maybe exploiting them, just use their resources and walk away with the profits. Or you can decide that you want to help them. But for them to be helped they need with their leaders to put themselves in a position where they can take advantage of the good will that I know is there. I have sensed a lot of good will wherever I go and I know that a lot of people who have come to this Clinton Global Initiative are largely people of good will and they wish they could go there and help.

And I know that there are people here who are thinking how can I go to Africa and help. But I don't want to talk too longer but I want to say that whatever we do to go

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out there and help the poor people, the bottom line is you never help the poor people. You have got to help to help themselves. You cannot go there and do things for them. You have to work with them to help themselves but to do so you need their leadership. That is why some of us don't just go there and say plant your trees or grow food or produce simple energies. We go and we say let us also improve governments so that you have enabling involvement with which you can work and improve the quality of life. But I know that some of you are edging to go there and help. My word is work with the people who are there. Those of us who are been struggling to see if we can help not only improve the economy, not only improve the social situations but also improve the political situation because for Africa to list, Africa is not a poor continent. It's the African people who are poor. And the resources are there, but they are quite often extracted and removed from the continent and the people are left poor.

So to help them it's not to go there and do things for them. It's to help them help themselves acquire knowledge and skills so that they can utilize the resources they have.

JOHN PODESTA: Okay. It is time for you to have a discussion and then we are going to take a little bit of a break. And then we are going to come back, and we are going

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to talk about some the solutions that Wangari just talked about. Thank you.

FEMALE SPEAKER 1: Let's thank the panel for this first round. Some terrific insights. Okay. The two questions for this round and obviously, we will be consolidating tables are how can I help reduce energy poverty. This maybe one of the most difficult questions we face today. And what are the most important steps for bringing clean energy services to the poor around the world.

So again, let me suggest that we actually collapse tables. And facilitators who don't end up with a table in this round, please be sure to - you can join a conversation if you would like. And please be sure to be back here at 5:30.

[END RECORDING - PART 2]

[START RECORDING - PART 3]

FEMALE SPEAKER 1: - Anyello. In yellow. Thank you. So please welcome His Eminence. And we would like to make a suggestion for everyone to move forward and we can make this final conversation a quite intimate conversation between the panelists and all of you who are here. So, if you would just quickly move forward and you don't have to stay with your table mates, just fill in the seats here in the front part of the room.

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Also I want to remind anyone who needs it, there is stimulations translation, the headsets are on your table. One will be English and two will be Spanish and Portuguese. Okay. Thank you. All right.

JOHN PODESTA: My turn?

FEMALE SPEAKER 1: Yep.

JOHN PODESTA: Well we – welcome Cardinal Anyello [misspelled?] and His Eminence celebrated Mass for 10,000 in France this morning. And then his plane was late. But so I think he is more reliable than the airline industry. But we are going – he was suppose to be on our panel this morning. So we are beginning this session in a slightly different way and let the Cardinal begin by giving a few comments.

We have heard a lot about the effect ethanol in Brazil and what it has done for job creation, a million jobs created there in the ethanol industry. And poverty and we wanted to ask him just to give his reflections on what's happening in Brazil on this energy question.

CARDINAL ANYELLO: [Spoken in Spanish]

TRANSLATOR: ... the society here today. And the core wants to be happy. They want to have access to goods and services that science and technology have been providing. But this is not enough to create a society where everyone's rights are respected and I think that the bigger picture here is that of the human rights which are not the same. And some

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are not in the interest of everybody when we talk about research and of assets which technology may offer, not all will have access to such progress. Thus, I would like to reflect a little bit more later on.

JOHN PODESTA: Thank you Your Eminence. We are going to get back to the questions that have come from the audience and I want to begin by asking Ashok a question which is we talking in the last panel about a lot of liquidity in the market, a lot of deal flow, money flowing into energy projects and the question is are they flowing into these energy projects that are really affecting the poorest people on the planet. And are development agencies willing to consider climate change issues their funding projects that might help again in these poorest communities.

ASHOK KHOSLA: John, my own experience is there very little money. I mean I -

JOHN PODESTA: Little money?

ASHOK KHOSLA: Yeah. I see other people saying we get a lot of money for energy projects building big, big power stations and dams, and a lot of other things. But frankly, I've work in this area for 20 years and I'm constantly scrounging around for pennies. And I can't even get those. We have very, very interesting business models. We've decentralized systems. We've got energy technologies that work and have been proved. And in some cases, they need

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scaling up before they can be proved because of the economy's scale, whatever that means.

The fact is that transaction costs on the one hand and delivery systems on the other hand need to be done on a certain minimum scale. And I don't see this money. We've had money from governments like Dutch government for kind of climate change funds. Before CDM, there was IAG, before - so we've got GI money, IAG money, CDM money on pilot scale basis to put up one little hundred kilowatt power station here or four power stations there for villages. But frankly, it's been hard work and I haven't seen the color of this money myself.

JOHN PODESTA: And are the changes in policy that could change that, that you would recommend? That -

ASHOK KHOSLA: Yeah. You see the first policy changes that in all of our countries north, south, east, west, American, India. Conventional energy is hugely subsidized. It subsidized by governments and it's subsidized by nature. Frankly, it's virtually impossible for any new technology to compete with those subsidized prices. So greater electricity is delivered at let us say X cents per kilowatt hour. If you develop a technology that doesn't match that or less, it's not going to go because clearly nobody is going to pay than they have to.

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Subsidies removal of subsidies from conventional energy and maybe some degree of temporary subsidies for the capital investment required. For the new ones, the renewable ones would make a huge difference. Temporary subsidies are sometimes needed because basically the barriers to entry are just too huge to get going.

Apart from that, the other thing is as I said earlier you have to think systems. Plunking a power station in community, a village community, is just a suicide thing from the point of view of economics. You got to do in such a way that it makes money. And that you can only do as I said earlier by putting it in as a part of an industrial system. So that from day one, the power station is actually supplying electricity or whatever at a reasonable cost. So there are lots of other things you need to do but the first thing to do is simply remove the huge subsidies that we have preventing anything else from coming in into being.

JOHN PODESTA: Well Wangari I would like to ask you a question about the impact of oil prices. The Cardinal mentioned the fact that the price has gone up again in Brazil but the impact of oil prices on least developed countries, we have done some work. We are working on this Ethiopia program. Ethiopia spent more on the increase in the price of oil, just the delta in the price of oil since 2002 than the total amount that is spent on public health last year. I want to

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ask this in a more optimistic way though. Does biofuel development offer an opportunity in East Africa or in other parts of Africa that could – for the non-importing countries to break the link and provide jobs for people and repeat the success that they have seen in Brazil.

WANGARI MAATHAI: Well what I know is that at least in Africa where many countries import oil they definitely have to sacrifice essential services in order to get oil. And as we all know it is usually the poor people who get sacrificed by the ruling elites because ruling elites was nevertheless have had to have their electricity. And they have to have their cars, and they have to drive them around. So the kind of people we work with are the ones who are often sacrificed in terms of education, in terms of health. And that's why of course we get very concerned and keep raising the issues of the debts and despite all the complaining that we have done, that continues to be an agenda on the table. Because many countries just can't pay the debts and at the same time provide the essential services that you need for the poor people. But options such as the clean development mechanism, I think that as we said earlier for me anyway this is an area where we can partner with people who want to do something about their carbon footprints. And at the same time, help poor people take care of their environment. Because I have seen definitely the work we do, poor

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communities do benefit by taking care of their environment, protecting their soils, planting trees, and although they band them, it's nothing to compare with the kind of emissions that we find in developing countries.

Therefore when I see the kind of enthusiasm that I have witnessed here at this meeting then I say well those of you who want to get rid of your carbon footprints, we can partner and communities will benefit because they do plant the trees. And the way we do it in the Green Belt Movement, for every tree that's, that will survive those who planted them, get a financial compensation. And if you want to know more about the Green Belt Movement, you could visit us at greenbeltmovement.org. So that you see what we do.

I am quite sure that we can partner and until we do so, then we can only really demonstrate how poor people can benefit. But I think it's one area where good stories can come. Good sexist stories can come that do good for the environment from your prospective and also do good for the environment and the poor communities in the south.

JOHN PODESTA: Thank you. Ivan I think this follows right on which is I think a lot of people were asking the question that was posed in Vice President Gore's comments at lunch which was how can we help developing country leap frog straight to cleaner technologies bypass the development path

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of using particularly the dirtiest of the hydrogen carbon alternatives and is that possible. Is that right strategy?

IVAN AZURDIA BRAVO: Yes, I think it's the only strategy. I mean it's a pattern of survival. We cannot afford to follow the path of the United States or other developing countries. We just do not have the resources, financial resources, the person power to undertake this confirmations. We need the leap frog to get to the new technologies immediately because it's a matter of national security. We are not going to get the petroleum that others are going to be looking for at higher prices.

We simply cannot pay for that in a balance of payment consideration, number one. So to recognize that we have to develop a policy that is not an energy policy. I think the problem with the engineers and all the people that I know working in the energy sector is that we think about mega watts and transformers, super stations and so on. But energy for what. The know how is very important but no why it's even more important. I mean what do we need this energy for. What is the competitive edge of every country? Every country is going to have different products to offer to international market. So where, what type of energy at what price with what natural resources, and what are the agricultural policies of one country, the poverty reduction strategies of other countries and so on and so forth.

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So, we cannot be design energy policies in a vacuum. We have to do a geopolitical analysis of where the energy flows or moving, and the markets are moving, what are the resources that we have and then what are the competitive edges of all countries in different areas of productivity, tourism, agriculture, forestry and so on. Every country is going to be different. And then with that design the energy policies.

In Latin America, we have a tragedy because we don't have the difference between policy and politics. LaPolitica it gets complicated because people think that politics is the same as policy. We are interrelated, core related, build up on each other very different. Policy is the long-term vision of everybody, the board, the reach efficiency, everything. Politics is whole, do we share the costs and the benefits, who compensates the one who are losers and hold to recognize the allocation of resources in the political game among the contingency groups.

So the first thing is to try to help us or government in developing some policies for the agricultural sector, health sector, democracy and so on and so forth and then energy cuts. It's not an energy policy the one that we need. For example, the tragedy of the common [inaudible]. The destruction of the water sheds that we still have in Central America. Few work and water has zero market value. So, the

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policy should be not to create kilowatts but to create a way to pay for them. Environmental services that are given watershed is providing in terms of water and forestry. So, how do you do that?

Kilowatts even if they are subsidized and deformed by market inefficiencies. They have a market value. A percentage of those kilowatts deliver plus the green development mechanism are only niched, specialized carbon trading for a government incentive so we make money so we have a pool of money that we can pay the campesinos [misspelled?] to say okay this is the financial flow that is going to for planting trees because we cannot expect the campesinos to be planting trees and wait for ten years to take advantage of those plantations.

We need to have to create this cross financial banks and the kilowatts are something that is tradeable. A percentage of that plus carbon credit plus government funds can create. So, the development of a small hydro system run on the river, it's not then an energy project. It's a way of adding value to natural resources that otherwise are not going to be there. And insuring that the energy values used by most of the people, 90 percent of the population in [Inaudible] ward, even if they have electricity they consume fuel with their cooking.

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So, we have to take into account that energy is not electricity or forced fuel. It has to deal with firewood at the heart of the household. So I will that leap frogging is something that we have to do regardless of what the north decides to do.

But let me just add one little thing. On the CDM, you know in order for good things to work, I mean the CDM is a great failure for project oriented toward equity. The world needs to move in efficiency and in the private sector, it's aggressive, it's educated, and has the means to move around and the connection and sources for those things happening.

But what happened with equity side of the question. We need two legs to walk. So if we don't create other forms that reviews the transactional cost of the clean development mechanism to pay for sustainable development, and remember that the amortization, the CDM, and the fuel protocol was created not just to fund big private sector project. You want to use with the spirit of sustainable development to help those that left out of the market sector in a way that can bring a sustainable back into their future.

So, that is the type of money is tropical [Inaudible] should be put in your eyes then. Thank you.

JOHN PODESTA: Thank you. All right. We are going to turn things over to David to give us a summary of the themes

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and then I think we have will maybe time for a few last comments.

DAVID SANDALOW: Thanks John. So following a pattern we have seen all day, there was a lot more content provided for the second question than the first question. And ah as far as the how can I help reduce energy poverty. We got three basic concepts, investing in the developing clean energy projects, a fair line from the private sector, investments. Second, contributing donations, contributing to social entrepreneurs. And third set of ideas was around changing the language, discuss the moral, economic, and security reasons for reducing energy poverty. Don't focus on per capita equity somebody said.

Interest from all of you on what are the most important steps for bringing clean energy services to the poor. A lot of discussion about promoting leap frog technologies as Ivan was just talking about. Creating local biomass projects. Cleaner burning wood stoves and following up with local biogas. Foundations should focus on what works on the ground in developing countries. A lot of good ideas around promoting capacity building. Take advantage of robust local leadership, develop social entrepreneurs. Discussions of debt relief, updating development assessment goals to focus on clean energy, and then bundling small energy

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projects so that they can become attractive to lenders. Lots of very, very interesting ideas.

The gems that we liked somebody said reminded us the poor aren't only in the rural areas, they are in the cities too. Something that we discussed yesterday. And then solar power is a 93 million mile extension cord. [Laughter] Thank you.

JOHN PODESTA: Thank you David. Your Eminence much of the discussion today especially on this panel has been on the question on the fact that energy disconnected from a policy of development at the local and village, community level, in cities, in slums can take place. You can't just isolate energy and I wonder whether you might want to reflect on that and talk about what you see as the development needs for the poorest people in Brazil.

CARDINAL ANYELLO: [spoken in Spanish]

TRANSLATOR: I think that for us in Brazil we need education. We need health for everyone. Quality education, not just elementary or primary education that does not continue through the end of training and the educational system. There is school evasion, a great rate of evasion and teenagers are not well feed therefore their capacity for studying is highly reduced.

Therefore, I think that education is the most important motivation for developing a country. Education for

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all and quality education for all. it is not enough to have quotas to favor enrollment in Universities for poor people, for African Brazilians. As happens in the city of Salvador in my diocese there is a great presence of half of descendants and it is not enough to have quotas for these people to enroll in the University, if these people cannot sustain themselves in the University because they have not been duly prepared.

Health is also very important. We need to improve the level of health assistance in an important way. All the rest will be a consequence. If there is good education and good health for all, we will advance, especially the poor people in our society.

JOHN PODESTA: I want to ask a question that I asked Ivan, Ashok, and Wangari, which is, what's exciting you these days. What's giving you hope in this arena in terms of developing new energy sources and getting energy out to the people. Ashok do you want to start?

ASHOK KHOSLA: I think that what it boils down to is that existing technologies, the existing ways of doing things with energy are not adequate and you are going to need new ones. But the ones that you need in poor societies and communities of fed well villages are not ones that are going to be developed in the north. There is no incentive for companies in America or Japan or Europe to develop solutions

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that are not going to make them huge amounts of money and solutions that you need are going to have to be addressed and developed in the south.

What excites me is that there is a resurgence whether it's in Africa or in Brazil or in Latin America and certainly in my country of young people who are now taking responsibility for becoming inventors and elevators in this broad area of water and land and energy. And I've seen a project for which we don't have time now in Columbia that creates huge quantities of energy with virtually no investment whatsoever. And I think the whole new science that is needed of regenerating the countryside which is much biological systems rather than engineering systems based on physics and mechanical energy are going to actually be the solutions. And I think that's very exciting.

JOHN PODESTA: Wangari, I'm going to give you the last word.

WANGARI MAATHAI: Yeah. Thank you very much. I would say that for me the excitement is the need for awareness. I feel really energized to create awareness within our region for people both ordinary people and governments to understand that the change, the global warming is a new thing also for us. And that we are most likely to be the greatest victims of global warming. And I know that awareness is not there. Whether we need to – the signs are coming to us in terms of

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prolonged drought and failure of rainfall to come, crop failures, famine and those of you who been following the East African region, this year we had a prolonged drought that actually caused lost of life of human beings and livestock and wildlife. So and we also know that the snow on Mt. Kenya and on the Kilimanjaro has been melting at a rate we have never seen before.

So, signs are there but it is very, very important that both our leaders and our own people understand that. I'm also very excited to be in a forum like this to see the enthusiasm that is within the civil society and the private sector here in America. And the fact that your government has not yet signed the Kyoto protocol seems to be rather irrelevant because there are some many of you in the area, very, very proactive, which is wonderful. And I do see an opportunity for us to partner in areas where we can. For me instead of being overwhelmed by all the problems especially that we have down there, I find energy in the fact that there is one thing that is doable even with those poor people and that is planting trees.

So any one of you is willing to come and dig a hole, come and join us. [Laughter]

[Applause]

JOHN PODESTA: With that I would just like to close by saying that I want you all to remember that second leg of

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Ivan's two legged person which is that we have to keep our eye on the development side. He was referencing the clean development mechanism, but to try to make sure that as we focus on new energy technologies that become sustainable and low carbon and put us into that solution, we keep our eye on the ball that there are a lot of poor people that Wangari talked about who are going to suffer the most from global warming, and we have to concern ourselves with their development needs as well.

Please join me in thanking the entire panel one more time.

[Applause].

FEMALE SPEAKER 1: And while you are still clapping, another round of applause for David and Amy and Mike who put this all together. Michael. And frankly most important a round of applause to all of you for being here and having this commitment for these three days.

[Applause] I have to make one other quick announcement, which is why I'm up here. Facilitators if you just would take a minute and enter into your computers your top line recommendations to CGI and then gather very quickly up here around a couple of tables because we want to do a little debriefing and thank you.

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Theme team members if you would also migrate up here.
Facilitators you can take computer anywhere close around. You
don't have to go back to your table.

[END RECORDING - PART 3]