

developing countries are busy with climate mitigation analysis. There may be a few highly visible individuals working on climate change in developing countries. But you will not find even 0.1 % of energy analysts in the critical power, coal or petroleum ministries, national planning commissions, and power utilities or even in national energy research institutions dedicated to GHG mitigation analysis. In fact, there is dire need for more energy analysts from developing countries to dedicatedly work on GHG mitigation as most often it is concomitant with reduction in local pollution, shift to renewables, promotion of energy efficiency, forest conservation and reforestation and efficient use of irrigation water, etc.

17. B. Sudhakara Reddy (Indira Gandhi Institute for Development Research, Mumbai, India)
[E-mail: sreddy@igidr.ac.in]

The two important issues that have been raised in the SPD relate to self-reliance and capacity-building in the area of energy analysis in the context of developing countries. Even though the approach to energy analysis as knowledge transfer has no boundaries, in the case of decision-making frameworks, one should take into consideration the stakeholder priorities and policies. Similarly, as a tool in implementation mechanism and technology selection, the analysis should be made completely relevant/related to local conditions, requirements, etc. These issues are relevant even in this era of globalisation. The concept of self-reliance is important and has the power to stand up to those forces pushing for "Western models of development". It can still exert a strong pull on the hearts and minds of the majority – except a powerful minority (the class of researchers/analysts, many of whom call the shots at the funding agencies and who can surrender their loyalties to anyone on this earth). Many like me believe that energy analysis is not being done in the interests of our own countries. However, what surprises me most is why many are unwilling to join the ranks of people who pro-

mote self-reliance. Maybe they are afraid of drying up of funds from the West. Individual interests are always subservient to those of society. Unless we change the mindset of energy analysts and look at the problems from the country's perspective, it is extremely difficult to change the style of functioning of donor agencies. Another problem is the lack of leadership that can translate the personal convictions into changing the system. We need many leaders with a passion for self-reliance and a capacity to redefine the traditional notions of technology and scientific research in developing countries like India. For many, talking about development and sustainability is only a passing fashion. As Gandhi had pointed out, "It is essential that we should inculcate a sense of self-respect, self-confidence and self-reliance to promote the power of decision-making among the people. We should not blindly follow the beaten track but find the true path for ourselves and fearlessly follow it." A violent and bloody revolution would be a certainty one day unless there is a voluntary abdication – sharing for the common good – of riches and the power that riches give. The greater and faster the devolution of power the speedier is the development of our society at large. The rich nations and the funding agencies they control should pay attention to the suffering of the millions around the globe and allow each country to develop its own model relevant to its needs and resources rather than impose models that are suitable and successful in their own settings.

18. Robert Socolow (Princeton University, Princeton, USA)

[E-mail: socolow@princeton.edu]

It is an honor to be invited to comment on the 1984 SPD. The ideas of the SPD have had a huge influence on me.

I was one of the principal facilitators of a remarkable four-analyst, four-continent collaboration on energy analysis already under way at the time of the SPD and still in place. The four analysts are José Goldemberg (São Paulo, Brazil), Thomas Johansson (Lund, Sweden), Amulya

Reddy (Bangalore, India), and Robert Williams (Princeton, USA). The ideas of the SPD influenced our choices of problems and our ways of working together. Indeed, the ideas of the SPD may even have been generated, in part, from a need to define the relationships among us.

We frequently discussed what kind of work each of us should pursue, and, more specifically, what problems bearing on developing countries those of us from industrialized countries should and should not pursue. The answer we arrived at is captured in the SPD: "... institutions from the developed countries [should] channel their concern for developing country problems into three areas of work: (1) basic research on the fundamental aspects of energy analysis and planning, rather than on actual analysis or on energy devices of specific importance to the developing countries; (2) technology assessments which are invaluable to developing country analysts; and (3) information support to developing country energy groups."

For the most part over the past two decades, I believe, we have adhered to this formulation^[3].

The SPD is as relevant today as in 1984. Today there is an efflorescence of country-level analysis on behalf of global climate change. The methodologies of climate-driven carbon accounting are almost the same as the methodologies of energy accounting, and so perhaps we should not be surprised that the same sociological pathologies in energy studies addressed in the SPD are being replicated in climate studies.

The invitation to discuss the SPD in an ESD forum in energy last year noted "the major diversion of extremely scarce Southern energy analysis talent into greenhouse gas mitigation analysis". One can argue that such pathologies are even less tolerable in climate studies, because the global atmosphere inextricably links the country-level climate policies of every country. Anything that undermines the ability of a developing country to innovate on behalf of climate mitigation is not only a local loss, but also a global loss.

Reading the SPD today, I am

struck by the fact that an argument that would surely be made today is almost absent. The missing argument is that good energy analysis cannot be done in the absence of good cultural analysis – that good local energy analysis requires deep immersion in local culture and day-to-day interaction with that culture.

To be sure, the SPD calls for analysts “steeped in the structure and traditions” of the country being studied. But the SPD does not explain why this is important. It does not make the case that being steeped in tradition is essential in interpreting tradition. It does not say, simply: *culture matters!* Why?

The methodology of the energy analysts at the time of the SPD was largely based on the evaluation of *technological potential*. Quantify the potential to achieve energy efficiency in some function, and, sooner rather than later, that potential will be realized. This methodology is pretty good at predicting the improvements over time in the performance of an engine or a window.

But potential-driven energy analysis does not have a major cultural component. The same potential for efficiency exists in the automobile, the refrigerator, and the steel mill everywhere. It follows that, given the necessary resources, all analysts, no matter where they are located, can equally well analyze every kind of energy use in every part of the world. The model is natural science: a chemist anywhere, given the necessary resources, can do every sort of chemistry. Good chemistry does not depend on good cultural analysis. Because the signatories of the SPD accepted the natural science model, they were not able to make what today appears to be one of the strongest arguments for indigenous energy analysis.

The era of the SPD was a heady time for energy analysts. Many of us had spent a decade challenging the dominant view that aggregate national energy use was tightly coupled to gross national product. We were seeing the vindication of our work as, throughout the industrialized world, national energy use leveled out while

economic growth continued. Success breeds complacency, if not arrogance. We convinced ourselves that all that was needed to bring about beneficent energy use in the developing countries was to extend our methodology to these countries. It all looked so easy in the early '80s.

A few years after the SPD, there was a rude awakening. National energy use started to climb again. Engineering prowess was aimed at creating more powerful car engines instead of more efficient ones. Cars and homes got bigger. The lesson in these trends? *Culture matters!*

Today, those involved in energy and climate analysis appreciate the crucial significance of cultural questions. Examples: will Europe embrace the sports utility vehicle? How strongly will India commit itself to the air-conditioning of homes, workplaces, and public places? How will Japan and Russia react to sharply reduced birth rates and, soon, a falling population?

Returning to the subject after 18 years, the ESD invitation asks provocatively: “Was the whole emphasis on capacity-building in developing countries unnecessary, even misplaced?” On the contrary, the message of the SPD was needed, and it was on target. The developing countries must not repeat the poor technology choices of the industrialized countries. Rather, they must invent new pathways. This can only happen through argument conducted largely inside their countries. The advice of all outsiders is suspect: they (we) are rarely given the benefit of the doubt. The expectation is that the advice being given, however well-meaning, will thwart development.

We human beings have a huge energy problem, with both local and global aspects. The good news is that new technologies and policies *can* be identified that will accelerate development, alleviate poverty, mitigate environmental impact, and reduce international tensions. The bad news is that the day is still distant where strong indigenous groups in all of the major developing countries are investigating such technologies and policies at the country level. The SPD

points the way to a future where such strong groups have emerged, where these groups are coordinating their efforts toward global objectives, and where the work is being shared intelligently and sensitively.

19. Robert H. Williams (Princeton University, Princeton, NJ, USA)

[E-mail: rwilliam@princeton.edu]

In agreement with the SPD, I understand self-reliance to mean, not self-sufficiency, but having the ability to shape one's own destiny. Notably, in the context of globalisation, self-reliance can be enhanced by the market power brought in by restructuring aimed at improving economic efficiency (if the restructuring is “done right”). I emphasised this point in my article on advancing energy technological innovation in a competitive electric power system in the ESD special issue on Public Benefits and Power Sector Reform (Volume V No. 2, June 2001). The following is a direct quote from this article that illustrates this point:

“The combination of rapid energy demand growth plus environmental and energy market reforms could potentially transform developing country energy markets into favorable theaters for energy technological innovation. Under these conditions, developing country governments would have considerable market power to direct the course of this innovation – including the power to induce the private sector to provide those environmental energy technologies that they believe are well-suited to their development needs. With large internal markets, large rapidly industrializing countries in particular have an opportunity to become market leaders for selected sustainable energy technologies, with eventual export capability.”

20. Ernst Worrell (Berkeley, CA, USA) [E-mail: EWorrell@lbl.gov]

ESD has invited us to react to the validity, relevance and usefulness of the need for self-reliance in energy analysis in a globalising world. The reduced importance of nation-states in the globalising economy may lead

some to the belief that with the "free" flow of capital there is also a free flow of people and knowledge. However, I would say the contrary is true. If anything the need for self-reliance in determining the energy future of the developing countries has increased in the age of globalisation. Let me illustrate this with some (random) observations.

- The economic size of many transnational companies is larger than that of most developing countries.
- The total volume of official development aid (ODA) to developing countries has decreased.
- At the same time the foreign direct investment (FDI) by companies has increased.
- However, FDI bypasses the largest part of the developing countries, and is only focused on a few countries (with the bulk going to China nowadays).
- The Wall Street definition of long-term being three months increasingly seems to take hold of industry and government programs, demanding immediate results that can be "sold" to the share- or stakeholders.

In times like these developing countries need to be more vigilant to make sure the interests of the local population are supported in a sustainable fashion, and not used for the short-term benefit of a few in the boardrooms in industrialised countries or in the villas of the local elite. Sustainable development depends critically on the ways the energy system is developed in developing countries with billions of people without access to modern forms of energy services. In that sense, 19 years later, the SPD is still timely.

However, there are elements that would need adaptation. First of all, the statement that "specialised training is not essential for work on energy analysis" is in my view incorrect and may be one of the reasons why we have not been successful in building a network of energy analysts in developing countries. Energy analysis can only build on the in-depth training of analysts in a broad array of topics, ranging from engineering to

economics and ecology. Ordinary disciplinary programs do not provide the multitude of tools needed in the field of energy analysis. Multi-disciplinary education programs always have a difficult time to survive in the educational structure built on these same disciplines. We need to build strong communities of energy analysts in every country, which collaborate on projects and in education. These educational programs will provide not only the basis for the training of many individuals, but also the basis for building regional programs, reducing the reliance on projects as the primary financing mechanism. Six years ago I had the pleasure to visit and work at the University of São Paulo, and was impressed with the program and especially the presence of students from many Latin American countries. These students were trained in energy analysis and will go back to their countries, being part of a broader network. Likewise, I have had the opportunity to work with many brilliant people from Africa through the AFREPREN network, which is sponsored as a *program* by several Scandinavian development aid agencies. Programs are key to support the development of a domestic community of energy analysts, but we can develop the infrastructure to be able to successfully manage and develop programs. Also, especially in a globalising world there is a strong need for international collaboration, both from developing and industrialised countries.

In this sense I have to disagree with the invitation to the discussion on the SPD (Volume 6, No. 2, p. 5). I think the climate change debate can actually help to build those energy analysis programs in developing countries, and through that contribute to sustainable development of their societies and economies. Climate change is a driver for changes in the energy system, which if applied wisely will help to design sustainable development paths for the energy systems in developing nations around the world. The key is to do the "right thing" for people in developing nations within the context of climate

change to reduce a potential future burden, with which the industrialised countries are now faced. The disadvantage of a global problem like climate change is that it will hurt the most vulnerable groups first, despite the historic responsibility of the Northern industrialised nations. This demands a discussion on equity in the response, strategy that unfortunately some industrialised nations are not willing to undertake. This highlights the need for self-reliance in a community of energy analysts to be able to assess the needs of their countries critically.

However, I am afraid that the end-use oriented development-focused approach cannot be considered conventional wisdom, as evidenced by the recent National Energy Policy pronounced by the Bush Administration in the United States. Supply of energy services in the most energy-efficient way possible is key in reducing the current and future emissions of greenhouse gases, but is still not recognised by many. Climate change abatement and sustainable development will be based on many small steps, and will not be solved with a "Manhattan" project. A critical analysis of energy use and development patterns is key to making the needed changes. Much work remains ahead, in developing and industrialised countries, underlining the need to build our community, across borders and in all countries. ■

Notes

1. It was a pity then, that one of the founding fathers' (sic) first actions was to go cap-in-hand to the G-8 to ask for money to finance this plan.
2. This statement benefited greatly from comments on its early draft by Satish Agnihotri, Sharad Lele, Gilberto Jannuzzi and Girish Sant. However, these are my views, and these individuals may or may not agree with everything I have said.
3. Here is an exception: we departed from the ground rules in the first area in the 1990s, when two Princeton students, successively, looked deeply into the fuel-cell-powered motorbike. All the while, we believed that this "device", especially because of its potential impacts on air quality, would have greater application in developing countries than industrialized countries. In encouraging this research, I rationalized that the motor vehicle industry throughout the world, as much in the developing countries as in the industrialized countries, is preoccupied with the automobile and disinclined to innovate on behalf of the vehicles that, in the hundreds of millions, are the chosen mode of personal transport for those who gain enough wealth to invest in a successor to the bicycle.

Invitation to join a discussion on self-reliance

Though the book *Energy for a Sustainable World* (1988), which contributed significantly to the new paradigm for energy, focussed primarily on what energy systems should achieve, it was also concerned about how this product should be achieved, i.e., the process that should be followed. In particular, there was stress on the importance of building indigenous capacity and of strengthening self-reliance in energy analysis. In fact, workshops with this objective were organized at Princeton (1980), São Paulo (1984) and Princeton (1998) hoping to stimulate new South-South and South-North collaborations.

In these efforts, self-reliance, a situation in which people exercise their own efforts, abilities, powers and judgements, was central both to the approach to energy analysis and to the methodology of working together. It is central to the philosophy because development has no meaning without self-reliance, and to the methodology because self-reliant development has no meaning without self-reliant analysis and planning.

After twenty years, the balance-sheet shows mixed results. The end-use-oriented development-focussed approach is now widely accepted and may even have become conventional wisdom. But the record with regard to self-reliance is less satisfying. On the one hand, alongside the token mentioning of capacity-building, the strengthening of self-reliance is not being adequately ensured in most energy programmes and activities. One even wonders whether it is on the agenda of those organizing these programmes and activities. On the other hand, there is a proliferation of Northern-located energy analysts (often expatriates from developing countries) to intercept the donor funding for energy analysis pertaining to developing countries. In addi-

tion to their proximity to Northern donors, their advantage is their nexus with elites in developing countries. They soon develop a vested interest in competing with and undermining indigenous capacity.

Also, energy analysis is still dominated by analysts from the industrialized countries. The contribution from developing countries is negligible. Obviously, capacity-building in developing countries is given lower priority even by organizations that are supposed to be committed to this challenge. Capacity-building is unfortunately a slower time-consuming process, and programme executives in a hurry do not sufficiently emphasize the task. One must also note the negative and counter-productive role played by the major diversion of extremely scarce Southern energy analysis talent into greenhouse gas mitigation analysis for developing countries even though the global warming problem has arisen primarily from Northern energy consumption patterns.

Against this background, a doubt arises – was the whole emphasis on capacity-building in developing countries (i.e., indigenizing energy analysis capacity) unnecessary, even misplaced? Clearly, the issue deserves discussion. To initiate this discussion, this journal is reprinting below the *Declaration on Self-Reliant Energy Analysis and Planning*, which was an outcome of the 1984 São Paulo workshop. With all the experience of the past two decades and the entry of new actors, the original declaration deserves fresh scrutiny. Can it survive in its pristine form with regard to its validity, relevance and usefulness in today's globalizing world?

Straightaway, it can be seen that the declaration does not distinguish explicitly between self-reliance and self-sufficiency, i.e., between autarky and autarchy. In fact, this possibility of confusion was realized almost

immediately and in 1988 the book *Energy for a Sustainable World* took care to stress the distinction in the following words (Page 62). "Self-reliance refers to the ability of individual people or whole nations to support themselves. It also has to do with their independence, whether it be in everyday life or foreign policy. As it is used here, self-reliance is not synonymous with 'self-sufficiency'. The latter implies that an individual or a village or a nation uses only its own resources to meet its needs. Self-reliance, on the other hand, takes into account the uneven distribution and development of resources in the world and encourages human exchanges in the form, for example, of trade or aid so long as dependence is avoided. Dependence inhibits a people's ability to make independent decisions and to act in their own best interests. Dependence, whether it be dependence on a welfare state or an international ban or on another country's oil, leads to external controls."

This journal has taken the initiative to provide a forum for the discussion. An effort will be made to elicit the views of the original signatories of the 1984 São Paulo Declaration. [The text of the São Paulo Declaration is reproduced below on Pages 6-8.] Comments on the document will also be invited from the participants of the December 1998 Princeton Workshop on "Catalysing South-North and South-South Collaborations on Energy Strategies for Sustainable Development". And of course, the readers of ESD are invited to offer their opinions. These views will be published after suitable editing in a later issue of ESD, followed perhaps if warranted by a fresh declaration. ■

Amulya K.N. Reddy, *International Energy Initiative*, 25/5, Borebank Road, Benson Town, Bangalore-560 046, India

Declaration on Self-reliant Energy Analysis and Planning

(São Paulo, June 7, 1984)

We, the undersigned, are a group of independent energy analysts from both the industrialized countries and the developing world. We are cooperating on a voluntary and equal basis to carry out studies focussing on the end-uses of energy.

Our approach is based on the viewpoint that energy is only one among a number of major global problems. We believe that energy strategies must be consistent with the solutions to the other global problems, and advance the global goal of sustainability, which involves the components of equity, economic efficiency, environmental soundness, long-term sustainability, self-reliance and peace. This global goal requires different emphases in the developed and developing countries, and in particular implies that energy strategies must contribute to the achievement of need-oriented, environmentally sound, self-reliant and peaceful development in developing countries.

We are also of the view that these requirements of energy strategies can be satisfied by scrutinizing how energy is used, and by whom, and for what purpose, that is, by taking an *end-use approach*.

Self-reliance, by which we mean a situation in which people exercise their own efforts, abilities, powers and judgements, is central both to our approach to energy analysis and to our methodology of working together. It is central to our philosophy because development has no meaning without self-reliance, and to our methodology because self-reliant development has no meaning without self-reliant analysis and planning.

An end-use-oriented energy strategy has to be locale-specific in character to a large extent and

therefore tailor-made for each country. Its successful development depends upon (i) detailed information about the country, (ii) intimate knowledge of the local setting and context, and (iii) involvement in the process of national development. Our global effort therefore is guided by the principle that country studies should be done by native energy analysts, permanent residents of their own countries, steeped in the structure and traditions, and committed to the future of these countries.

Self-reliance, by which we mean a situation in which people exercise their own efforts, abilities, powers and judgements, is central both to our approach to energy analysis and to our methodology of working together.

By the same token, countries with similar needs, resources and problems require similar strategies, and therefore, the development of regional strategies should be achieved through regional efforts based on the efforts of energy analysts living in that region. And, at the level of developing world as a whole, the stress should be on South-South cooperation for the formulation on energy strategies.

This stress on self-reliance has been stimulated in part by some disturbing features in the manner in which otherwise well-motivated aid in the area of energy analysis and planning is distributed and utilized. We refer here to the fact that the energy-related assistance provided by international institutions, aid

agencies and donor countries usually makes inadequate contribution to the growth of indigenous expertise and to the building-up of local institutions in the field of energy with self-reliance failing to attract high priority in the agenda of these institutions. Consequently, the natural time constants associated with the learning process tend to be replaced with impatient demands for time-targeted solutions.

In identifying individuals and groups for advising on and executing projects, international institutions, aid agencies and donor countries usually turn first to "experts" from the industrialized countries, and only as a last resort to potential analysts from the developing world. Thus, it is the consultants and groups of the industrialized countries that execute most of the energy-related projects that are funded by international institutions and donor countries. As a result, the bulk of the funding in these projects gets recycled back to the industrialized countries.

Even more important is the temptation for these "experts" and consultancy groups to concentrate on the energy issues of developing countries, instead of working on the energy problems of their own countries. The continuation of funding and consultancies for Third World energy problems to such individuals and groups in the industrialized countries usually results in a weakening of the self-reliance of developing countries – in other words, there is a vested interest in not fostering indigenous capability and in not building up local institutions. An unhealthy competition also develops between foreign and local analysts for the analysis of local energy problems.

This leads to the classical pattern where the raw material – in this case, energy data – is collected in a developing country by native personnel and then transported to the imperial metropolis where the real value-added takes place by processing. But, the know-how of processing – in this case, energy analysis – remains in the imperial metropolis.

Unfortunately, many networks have come into being based on what is often referred to as the *hub-and-spokes* structure in which the developing country groups which collect the data have to depend via spokes on a hub group in an industrialized country for the analysis of their data and even for collaboration with each other.

There is little justification for such a hierarchical organization of energy analysis when a considerable amount of research talent is often available in the developing countries. The point is that specialized training is not essential for work on energy analysis. We have become convinced therefore that each country can draw upon its trained scientists and engineers to develop its capability in energy analysis and planning by education-through-commitment and learning-by-doing.

The whole process has been facilitated by the rapid developments in microcomputers during the past few years. The analysis of energy data no longer requires expensive mainframe computers. At quite a low cost, indigenous groups can be each given a powerful modern microcomputer and made self-reliant in energy data processing with the aid of widely available software.

The pattern of support to energy analysis and planning described above effectively constitutes an undermining of self-reliance and the antithesis of development. These consequences, we are sure, are not the intention of the international institutions, aid agencies and donor countries. On this assumption, we

would like to offer the following suggestions.

The basis of our suggestions is that *how* energy analysis and planning is carried out and by *whom* are as crucial as *what* results emerge from this exercise. We submit that the long-run benefits of funding the learning curve of energy analysts from the developing countries and of investing in the building up of local energy-related institutions far outweigh the narrow short-term efficiency costs which might have to be paid for depending upon indigenous personnel and institutions rather than foreign "experts" for energy analysis and planning. Thus, the perspective should be that strengthening the self-reliance of developing countries in energy analysis and planning is as important an objective as carrying out these tasks.

There must be shift in focus from project funding to program support. Such a shift implies that time-targets have to be thought of much more in connection with the program as a whole rather than with the component projects that are assembled into the program.

If international institutions, aid agencies and donor countries are to develop the patience to ensure the learning process which individuals and groups from developing countries must necessarily go through, there must be a fundamental change in the perspective of these donors.

In the first place, there must be shift in focus from *project funding* to *program support*. Such a shift implies that time-targets have to be thought of much more in connection with the program as a whole rather than with the component pro-

jects that are assembled into the program. These programmatic time-targets can include the time necessary for the initial learning phase, the growth of expertise and the building up of appropriate institutions. Also, program supports must include a specific component for the strengthening of self-reliance in energy analysis and planning, that is, for the growth of indigenous capability and the building up of local institutions in the area of energy.

The shift in focus from projects to programs is essential for another important reason too. The project-mode of funding may have been quite appropriate for supply-oriented energy projects, which are usually large in scale and few in number. But, energy projects focussed on demand management and on the end-users of energy tend to involve very many diverse technologies tailor-made to suit regional and local conditions, and these technologies are often small-scale in character. Hence, a large number of small projects are involved in the demand-management and end-use-oriented approach, and the implementation of such an approach is impractical with project-type support, in which the disbursement of funds is closely administered on a project-by-project basis by the funding agency. For this reason too, it is desirable to reorient aid from specific projects to broad programs for which the detailed allocation of program resources and time is largely the responsibility of the local institution in accordance with the overall program objectives.

A third reason for suggesting a shift in focus from project funding to program support is that time-targeted projects executed by foreign "experts" rarely leave behind in the developing country a legacy of expertise and institutional vehicles for articulating that expertise. Usually, the developing country remains as dependent on foreign "expertise" as before the project. On the other

hand, program support, which includes growing indigenous expertise and building institutions, leaves the developing country more self-reliant in energy analysis and planning.

The change in perspective and in mode of operation of the funding agencies suggested above implies other shifts in emphasis. Thus, the approach proposed here involves as much concern with the *process* of energy analysis and planning as with the *products* and with *people* and *institutions* as with *reports* and *papers*. The constant concern should be with whether self-reliance is growing or not.

This alteration of attitude does not preclude either contributions from industrialized country institutions to the energy problems of developing countries or the use of foreign consultants and institutions for special assignments. But, it does impose some guidelines for the involvement of these individuals and institutions in the development processes.

The suggestion is that institutions from the industrialized countries should scrupulously avoid using their advanced intellectual and infrastructural resource base to compete with corresponding institutions from the developing countries. This guideline would be satisfied if institutions from the developed countries channel their concern for

developing country problems into three areas of work: (1) basic research on the fundamental aspects of energy analysis and planning, rather than on actual analysis or on energy devices of specific importance to the developing countries; (2) technology assessments which are invaluable to developing country analysts; and (3) information support to developing country energy groups.

The suggestion is that institutions from the industrialized countries should scrupulously avoid using their advanced intellectual and infrastructural resource base to compete with corresponding institutions from the developing countries.

With regard to foreign consultancy services, the plea is that *before* they are recruited, it must be proved that they are both essential and unavoidable; that when they are hired, they must elaborate on the measures which they will take to associate local groups with the projects and programs; and that *during* and *after* the work, they must report on the growth of local capability and

the building up of institutions. And ideally, it is indigenous institutions, which must subcontract out assignments to foreign consultancy services.

Further, to ensure that the foreign assistance is contributing to strengthening indigenous capability, the bulk of the aid should be spent in the recipient countries.

We submit that if these suggestions are adopted by international institutions, aid agencies and donor countries, then we will witness a burst of self-reliant energy analysis and planning in the developing countries, and thereby a major thrust towards the self-reliant development of these countries.

We would also suggest in conclusion that though the present discussion and proposal concentrates upon energy analysis and planning, the issues are generic in character and are valid in a much larger context. Thus, what has been stated here in connection with energy can be extended to policy studies on development, science and technology policy, women, etc. ■

José Goldemberg (Brazil)
Thomas Johansson (Sweden)
Mark Mwandosya (Tanzania)
Rosendo Pujol (Costa Rica)
Amulya Reddy (India)
Kedar Lall Shrestha (Nepal)
Robert Williams (U.S.A.)

As regular readers are aware, *Energy for Sustainable Development* has published special issues on several subjects during 2000-2002. Some more special issues are being considered and planned. In addition, we have in the recent past received useful suggestions for special issues, especially based on conferences or collaborative projects, from our friends in the energy community. We welcome ideas for special issues from readers. Such suggestions should contain details of the likely papers that could go into the issue and of the probable guest editor(s). Suggestions should be sent to:

Amulya K.N. Reddy, Publisher and Editor, Special Issues, Energy for Sustainable Development, 25/5, Borebank Road, Benson Town, Bangalore-560 046, India.
E-mail: ieiblr@vsnl.com