



Energising Renewable Energy Entrepreneurship

Enunciating the Categorical Imperative of Private Sector Engagement

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Enunciating The
Categorical Imperative
Of Private Sector
Engagement

By

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For my sainted father
Girish Chandra Mathur
To whom I owe my
Existence
And My
Essence

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Preface

I am happy to be presenting to your audience a narrative on how the engagement of the private sector, in the renewable energy industry, will energize entrepreneurship in this sector. The underlying belief in the expounded tenets of this book, is that Kant's third formulation of the categorical imperative best captures the moral relations that exist among corporate stakeholders. Kant would view the private sector as a moral community in which all of the stakeholders would both create the rules that govern them and be bound to one another by these same rules. The merits of Kant's categorical imperative are said to consist in this: that it firmly establishes the reign of reason; elevates the dignity of man by subjecting in him sensibility to reason and making rational nature free, supreme, and independent; overcomes egoism by forbidding action from self-interest; and upholds morality by the highest authority. Hence my adherence to this moral view of the private sector.

Moral relations are reciprocal and I envisage that engagement of private sector in the renewable sector ought to not only create clean energy, profits, but *moral capital* too. Reason, while dictating the moral law, determines human actions too. Consequently, I recommend a regime which will oversee the emergence of a triadic stakeholder relationships that has a moral symbiosis to it. This will bond the private sector, its customers, and the local community and environment in a common oneness. Thus, a moral community committed to energizing the renewable energy industry through engagement of private sector entrepreneurs shall see the light of day.

This book traverses the various regions of the subject. It explores the underlying economic realities which necessitate the involvement of the private sector for the promotion of renewable energy. It assesses the barriers to private sector engagement. their removal and consequent impact. A case study of private sector Operations in renewable energy is presented. We also review as to how human capital and its endogeneity are critical determinants of entrepreneurial income growth. Clean energy entrepreneurship is discussed and a need for creating an inventory of initiatives is spelt. Strengthening laissez faire In renewable energy economics ensuring the free play of market forces and ensuring elements of competitiveness in renewables is delineated. Promulgative compulsions that will ensure protection to entrepreneurs are numbered out. Some econometric delineations which are essential economic considerations for an entrepreneur are also touched upon. Finally a Toolkit on "How To Engage The Private Sector" is Appendiced. Happy Reading.

The Author

Chapter - One

Underlying Economic Realities Which Necessitate The Involvement Of The Private Sector For The Promotion Of Renewable Energy

Introduction of private sector interest in promoting renewable energy entrepreneurship depends on creating an deep groundswell of conditions that promote profit making in this sector. One important barrier to private sector clean energy entrepreneurship is the high prospect of losses. These losses can be due to risks that are either “systemic” or project-specific. Systemic risks arise from the general exposure of private sector projects to country risks in terms of the overall investment climate. These risks are exacerbated by the lack of effective fiscal, monetary, and exchange rate policies; weaknesses in the corporate governance framework and practice; and deficiencies in the regulatory environment. It is therefore, important to establish a conducive policy environment, especially a well-established regulatory framework to mitigate political and commercial risks.

Inviting the migration of private sector for the promotion of renewable energy is an imperative for 21st century economies. This phenomenon can be influenced and implemented only if we understand the underlying economic realities which have traditionally influenced the successful participation of the private sector in any chosen area of operation. It is because of these underlying economic realities that private sector engagement and involvement is important for the promotion of renewable energy. These underlying economic realities are:

Underlying Economic Reality 1:

Sustained economic growth reduces poverty.

In East Asia and the Pacific, the region with the strongest growth in the 1990s, annual per capita GDP growth of 6.4% resulted in a 15% decline in the rate of poverty (using the \$2 a day criterion), and in South Asia 3.3% annual growth led to an 8.4% decline. In contrast, the slow growth of 1.6% in Latin America and the Caribbean and 1.0% in the Middle East and North Africa caused a marginal deterioration in poverty rates. More dramatically, negative growth rates increased poverty rates by 1.6% in Sub-Saharan Africa and 13.5% in Europe and [Central Asia](#).

Underlying Economic Reality 2:

The Private Sector Alleviates Poverty :

The Private Sector directly negates poverty by:

- A] Contributing to economic growth, and introducing market forces.
- B] Empowering poor people by providing them with affordable services and consumer products, increasing choices and reducing prices.

The first creates employment and income growth. The second improves the quality of life for the poor. The resulting interaction, between those at the base of the pyramid and the private sector, creates opportunities for direct involvement in the market economy.

Underlying Economic Reality 3:

Innovative Private Sector Can Deliver Low-cost goods And Services To Consumers Across All Income Ranges.

More than 4 billion people in the world— those who earn less than \$1,500 a year—make up the “bottom of the pyramid” markets. The quality of goods that poor people purchase—whether food, water or financial services—is almost always substandard.

Often, an informal private sector fills the gaps with goods of higher prices and varying quality. It serves an important need, for informal economies sustain the majority of poor families in many countries. Yet the advantages of economies of scale and scope are missing from the lives of people at the bottom of the pyramid. Some of the barriers are poor marketing and poor distribution.

The private sector is already meeting the needs of poor people in places governments do not reach. In some countries, for example, the government has little impact on the poor. In the slums there are no health services, no public education and no infrastructure. This story repeats itself across the developing world.

In many cases, where services exist, they are provided by private sources. Anywhere from 15% to 90% of primary education is provided in private schools. Some 63% of health care expenditures in the poorest countries are private, almost twice the 33% in high income countries that belong to the Organisation for Economic Co-operation and Development.

With the right attention and regulatory requirements, privately provided services can help meet the needs of poor people. Recent data on the distribution of new water connections by income quintile from three countries in Latin America show that 25–30% of the network expansion was targeted at the lowest fifth of the income profile. Put simply, an innovative private sector can find ways to deliver low-cost (even sophisticated) goods and services to demanding consumers across all income ranges. It can sell to the urban distressed area as well as the poor rural village or town.

It can develop distribution links to the consumer in the village and so be better able to harness knowledge about the actual needs of this segment of the market.

It can keep costs low through outsourcing, for greater flexibility.

Underlying Economic Reality 4:

Employment is the key link between output growth and poverty alleviation

The link is equally clear between economic growth and strong private investment. A study of 50 developing countries from 1970 to 1998 examined the relationship between private and public investment and growth and incomes. Countries with higher growth featured higher private investment. But for output growth to contribute to poverty alleviation, it must translate into incomes of the poor.

For wage laborers and salaried workers, the quantity of employment and the rate of pay are crucial. For the self-employed, productivity and returns are important, influenced by technology, inputs and prices. Employment is thus the key link between output growth and poverty alleviation.

Underlying Economic Reality 5:

Market-oriented Business Ecosystems Comprise Many Forms Of Private Enterprise Coexisting In A Symbiotic Relationship

The behemoth corporates and the vulnerable poor are both co-existential, and critical, organs of a private economy. They often manifest in entrepreneurs themselves— frequently of necessity, operating informally, trapped in subscale enterprises. We endorse the view that market-oriented business ecosystems comprise many forms of private enterprise coexisting in a symbiotic relationship. The ecosystem generally includes multinational corporations, large domestic companies, cooperatives, small and medium enterprises and micro-enterprises, with formal and informal players. It thus encompasses the farmer in the field as much as the multinational company.

Underlying Economic Reality 6:

Women Constitute The Majority Of Microentrepreneurs

In many developing countries, women constitute the majority of micro-entrepreneurs in the informal economy and a significant percentage of the formal sector. Many of them are illiterate and live in poor rural communities. And setting up their own enterprises—generally micro-enterprises—is usually the only possibility for them to be employed and earn an income on their own. In many countries, women face more barriers to market opportunities than men.

In Latin America and the Caribbean between 25% and 35% of formal sector micro-enterprises and small and medium enterprises are owned and operated by women. The results show that women are gaining in business ownership. The number of sole proprietorships owned by women grew dramatically from 1990 to 1998 in numbers, gross receipts and net income. Recent appraisal of the economic contribution of the woman-headed businesses in some countries show that they provide an increasing number of jobs, as well as a growing share of GDP. In the USA, for example, 38 per cent of the businesses are owned by women, employing 27.5 million of people, one in every five workers. In Poland, also, 38 per cent of the businesses are women-owned. In Hungary, their proportion reached 40 per cent.

In the Philippines women own 44% of the microenterprises, more than 80% in rural areas. In Zimbabwe women run the majority of microenterprises and small enterprises (67%), while enterprises run by men tend to provide proportionally more of the household income and have more employees.

Underlying Economic Reality 7:

Entrepreneurship By Individuals Is Often At The Root Of Such Moves By Big Corporations, Which Have Had Major Positive Impacts On Development.

Entrepreneurship exists in large companies, where individual executives take the initiative to innovate and expand the business. There are many instances of large companies that have targeted bottom-of-the-pyramid markets and developed products and processes to serve the poor profitably or to operate sustainably in very challenging environments.

Entrepreneurship by individual engineers and executives is often at the root of such moves by big corporations, which can have a major positive impact on development.

Underlying Economic Reality 8:

Entrepreneurship Flourishes Most In Small And Medium Firms

Entrepreneurship also drives many civil society organizations, and it exists in government and public administrations. Individuals in these organizations have the drive to innovate and pursue opportunities with the passion and dedication of an entrepreneur, albeit with little if any pecuniary reward.

Entrepreneurship flourishes perhaps most in small and medium firms with significant potential to grow and innovate.

This dynamic segment is typically the hotbed of entrepreneurship and innovation. It can drive economic growth, create jobs and foster competition, innovation and productivity.

Chapter - Two

Barriers To Private Sector Engagement Their Removal And Consequent Impact

Barriers To Private Sector Engagement:

Private sector engagement is crucial to the promotion of renewable energy. Clean energy promotion partnerships must involve public, private, voluntary and community sectors. Indeed, private sector involvement has been a requirement for many of the clean technology based initiatives of recent years.

There are many good examples of private sector involvement in clean technologies' promotion where businesses have brought energy, skills, experience leadership and resources. The evidence is, however, that such engagement is fragile and that in many cases the private sector just stops turning up. The barriers responsible for this **drop-outism**, are well documented, and these are:

- business doesn't understand or accept the need to get involved
- business doesn't see 'what its in it for me'
- involvement is expensive in time and resources, especially for smaller businesses struggling to make ends meet
- the fear that it's going to turn into a request for money
- a loathing of public sector bureaucracy and the procedures that often go with partnerships
- the feeling that central government controls prevent local stakeholders getting on with the job
- lack of understanding of or trust in other partners (and the belief that other partners do not understand business)
- the plethora of organizations engaged in representing the business sector
- the fear that this is just another partnership.

Research has shown 'there is little evidence of the mutual understanding between local authorities and the business community that both partners recognize is essential for effective engagement'.

Removal Of Barriers To Private Sector Engagement Will Promote Growth. Why Is Growth Needed:

Growth creates jobs that use labor, the main asset of the poor, and represents the primary path out of poverty for those at the bottom of the economic ladder. As growth proceeds, private sector employment becomes the major source of economic support for the majority of workers and their families.

Growth also increases the tax base enabling governments, acting on good governance principles, to finance labor market programs and provide basic social services such as health and education that are also a necessary part of any direct poverty reduction programs.

Private sector funding for public utilities and infrastructure also relieves pressure on public budgets, enabling governments to direct more resources to social spending. Governments with limited spending or borrowing capacity are able to utilize such capacity for expenditures that the private sector cannot make.

Removal Of Barriers To Private Sector Engagement Will Lead To Poverty Reduction

Development of the private sector is crucial to sustained, rapid economic growth, a necessary condition for achieving the overarching objective of employment creation and poverty reduction. Experience has shown that growth, complemented with direct intervention, is one of the most powerful weapons in the fight against poverty.

Removal Of Barriers To Private Sector Engagement Will Lead To Broadening And Deepening Of Capital Markets.

There is a second core thrust, which encourages the broadening and deepening of capital markets. This has been associated with reduced vulnerability and financial sector distress given the bank-dominated systems, and is therefore a powerful tool for avoidance of crisis and the economic hardship it brings, especially for vulnerable population groups. The need of the hour, therefore, calls for the adoption of an operational strategy for private sector operations, which ought to have four main elements:

- (a) focusing primarily on existing strengths in infrastructure and capital markets;
- (b) extending country and sector reach and pursuing projects in new areas on a pilot basis;
- (c) making wider use of innovative financial instruments; and
- (d) building strategic alliances and partnerships with other development agencies.

Barriers to the engagement of the private sector can also be removed by the RE Entrepreneur.

This will call upon her/him to work upon micro-environments, which are within the ambit of control of the entrepreneurial activity. In some such light the YES Campaign recommends that the renewable entrepreneur ought pay special attention to the following:

Creation Of Cost-effective Mechanisms Support Systems.

The financial health and growth of renewable energy entrepreneurs are key to the economic prospects of most economies. Cost-effective mechanisms to support renewable energy entrepreneurs should be pursued, through investment funds or local institutions. New commercial approaches to micro finance may provide opportunities for private sector financial institutions to participate in the sector.

Employment Of Information Technology.

The use of information and communication technology (ICT) has tremendous potential in helping renewable energy entrepreneurs “leapfrog” development and combat poverty.

Provision Of Adequate Social Infrastructure.

The provision of healthcare and education is an area that seems to have potential for increased private sector participation. These sectors can benefit from private financing because public funds are insufficient to meet requirements and private sector involvement often increases operating efficiency. Mobilizing private capital for these sectors could be highly developmental, allowing the public sector to focus finance on the “nonbankable” parts of the healthcare and education systems.

Creation Of An Effective Private Sector Organisation.

The Entrepreneur will have to design a customised organisation that is measured to have have a strategic fit, with the needs of the business plan. This new organization will enable her/him to have more focused and innovative operations through

- (i) a more manageable span of control at the team level;
- (ii) a critical mass of sector-focused staff;
- (iii) closer mentoring, skills development, and knowledge sharing;
- (iv) more effective planning and use of resources;
- (v) improved external visibility; and
- (vi) better accountability.

Impact of Private Sector Operations:

Private Sector is important to the promotion of renewable energy sector because of its developmental value impacting. These have been found to be:

- (i) job creation,
- (ii) skills training and management development,
- (iii) growth in upstream and downstream businesses,
- (iv) transfer of technology and sound business practices,
- (v) social development through provision of social services,
- (vi) environmental protection,
- (vii) expanded financing options, and
- (viii) sound corporate governance.

Creation Of The Value-added Contributions Scorecard:

Measuring the effectiveness of an RE Entrepreneur is also an important element in contributing to the overall promotion of clean energy through the private sector route. It would be great if we can create a “Scorecard” that can evaluate the value addition contribution-valence of the entrepreneurial activity in consideration. The evaluative parameters may include:

- ◆ catalytic value in terms of the amount and terms of private debt financing and/or the types of private sector lenders mobilized;
- ◆ improvements brought about in loan tenure and financial structure of the project, thereby making the project financially sustainable;
- ◆ impact of those improvements on the project’s long-term viability and on service quality and/or cost to the consumer over the long-term;
- ◆ improvements to concession contracts (e.g., termination payment mechanisms, tariff adjustment formulas, government performance undertaking) so that the project becomes bankable;
- ◆ improvements in environmental and social risk mitigation, including public consultation;
- ◆ improvements in the degree of consumer satisfaction with the services the project provides;
- ◆ the ability of private sector loan covenants to enforce long-term compliance with public objectives, including those included in concession contracts, to ensure and enhance developmental benefits;
- ◆ contributions to improving corporate governance in the project company; and,
- ◆ the introduction of unique beneficial feature (e.g., socially responsible investment, clean technology, etc.) to the project.

Removal Of The Barriers To Private Sector Engagement Will Ensure Private Sector 'Smart' Grant Support For Non-revenue Generating, Socially-oriented Activities

There are limits to the amount of resources that private companies can commit to non-revenue generating, socially-oriented activities. Grant support may sometimes be required to encourage and broaden the scope of activities to directly address the needs of the poor. For example, an occupational training program for handicapped war victims has been proposed to be incorporated into a commercial project in Cambodia, enabling war victims to learn marketable skills.

A similar program has been proposed for a hotel chain to train abused girls in catering and other hotel skills.

Neither can be incorporated without grant funding.

Chapter Three

A Case Study Of Private Sector Operations In Renewable Energy

The *Royal Dutch/Shell* Group: Carbon-constraintment

The **Forbes Top Ten** has rated **Royal Dutch/Shell Group** as the No. 1 in its Top Ten List This is the No. 1 RE Company too. **Royal Dutch/Shell's Shell Renewables** was established to pursue commercial opportunities in solar, wind, and other renewable energy technologies. By 2050, Shell expects the world to double its energy demand. The world needs low-emission and low-carbon energy. but people are unlikely to tolerate increased pollution, extra infrastructure and the possible effects on the climate. It will take more than a decade before alternatives can compete effectively with fossil fuels. It will take several other decades before they deliver a large share of our energy. Shell believes there is a viable and exciting future in renewables: from a social, environmental and economic perspective.

Energy businesses like Shell cannot embrace renewable energy just because of the environmental and PR benefits. Nor can we expect governments to keep funding renewable energy indefinitely, or consumers to pay more for it, when cheaper energy sources are available to. Shell Renewables is active in solar photovoltaics and wind energy. Other divisions of Shell are involved in pursuing biofuels, geothermal energy and Hydrogen. By 2007, the Group expects to invest \$500 million to \$1 billion, subject to ongoing economic review, in further developing these business areas. The key objective for the solar business is to grow in line with the market, which is currently growing at around 25 percent a year. In the wind business, Shell is focusing on developing and operating wind farms, and selling "green" electricity. Shell has, over the years, developed some best practices, some of which are enunciated below:

Best Practices Enunciation No 1:

How Royal Dutch/Shell Group Employs Scenario Planning To Explain Uncertainty

Scenario planning is not the only tool of the existential strategist, but it is the preeminently appropriate tool for dealing

with existential freedom. Scenario planning first flourished in the context of large corporations such as Royal Dutch/Shell Group of Companies, businesses whose planning horizon was so long that predictions based on extrapolations from the past would almost certainly be outrun by a fast-changing reality.

Royal Dutch/Shell did well with scenario planning in the 1980s. When other oil companies were planning to increase prices for oil, on the basis of extrapolations from the price increases in 1973 and 1979, the planners at Shell developed a range of scenarios, narrative extrapolations from knowable potentialities, that included both price increases and scenarios for falling prices, a thought that was unthinkable to planners at the other oil majors.

When oil prices crashed in 1986, Shell was the best prepared of the global oil companies, and its fortunes rose accordingly.

Since the 1980s, scenario planning has been embraced by many other companies, so many that, by the turn of the millennium, scenario planning ranked as the No. 1 planning tool among corporations polled by the Corporate Strategy Board. Of course, this is good news for scenario planners. But it is also good news for everyone else.

Scenario planning opens up a range of possibilities, for good and ill, much broader and wider than traditional tools that strive for a single right answer. Scenario planning helps us to entertain worst-case scenarios, as responsible managers must.

Just as **Heidegger** argued that a sense of our own mortality can sharpen our sense of the fragility of our assumptions, so the [development of best- and worst-case scenarios](#) can awaken us to a sense of the preciousness of life. By encouraging thinking about a divergent range of possibilities rather than a consensus forecast, scenario planning can draw on both the motivation that comes from a fear of vividly depicted failure and the inspiration that comes from a skillfully drawn success.

Upside scenarios can raise the sights of an organization mired in stagnation. Where [essentialism](#) condemns us to more of the same old thing, upside scenarios instill a sense of existential urgency about higher possibilities. **Upside scenarios** can function like the “inner game of golf” or “inner skiing.” Mind over matter. But before the mind can steer matter in the right direction, the appropriate image needs vivid framing, whether it's a golf swing, or a new success strategy. Shell believes that Upside scenarios can do for companies what a Tiger Woods tape can do for golfers.

Best Practices Enunciation No 2:

Carbon-Constraining A Non-Renewable Energy Dependant World

Shell shares the widespread concern that the emission of greenhouse gases from human activities is leading to changes in the global climate. Delineated below is Shell's approach to climate change and how Shell taking steps to decrease their own emissions and how they are assisting their customers to reduce theirs.

Shell believes action is required now to lay the foundation for eventually stabilizing greenhouse gas concentrations in the atmosphere in an equitable and an economically responsible way. It is time to pursue stable, market-based policies that help energy users and suppliers pursue innovative energy solutions.

Recognizing that oil and gas will continue to provide an important share of the world's growing energy needs during this century, Shell for its part, is:

Taking action now on climate change by:

Actively managing greenhouse gas emissions in their worldwide operations such that by 2010 GHGs are still 5 percent or more below 1990 levels, even while we grow their business. By the end of 2002 Shell had met their first GHG target, reducing emissions by over 10 percent compared to 1990, through efforts such as the elimination of continuous venting. Although their emissions rose in 2003 as business activities increased, but Shell remains on track to meet their 2010 target of 5% lower emissions than in 1990, mainly through **ending continuous flaring by 2008** and improving energy efficiency

Shell is taking the following measures to manage future emissions by :

- ✎ Measuring their own products' GHG emissions worldwide, subject to independent assurance.
- ✎ Implementing aggressive new energy conservation programmes.
- ✎ Ending continuous operational flaring by 2008.
- ✎ Developing new technologies to capture and store Co2.

- ✎ Taking account of future GHG emission costs in all new investments.
- ✎ Being a leader in trading GHG allowances in emerging international markets.

Shell is Helping their customers reduce their emissions by:

- ✎ *Promoting natural gas as a cleaner alternative for electricity, heating and transport.*
- ✎ *Offering alternative energy options such as solar, hydrogen and wind power.*
- ✎ *Providing lower emission fuels and the fuels needed by lower emission engines.*
- ✎ *Advising customers on ways to improve their energy efficiency.*
- ✎ *Using innovative technology to create lower carbon products & services.*

Supporting policies that promote:

- ✎ A stable regulatory regime that includes non-industrial emitters, does not distort markets and gives companies the confidence to make long term investments to moderate GHG emissions.
- ✎ Credit for early action.
- ✎ New lower carbon technologies. International cooperation and agreements to deal with this global issue.
- ✎ Involving developing countries and helping them get onto a lower emissions energy path, for example via the Clean Development Mechanism.
- ✎ Flexible market mechanisms like effective “cap and trade” emissions trading schemes.
- ✎ Natural gas as an important enabler of lower-carbon-intensity economic growth.
- ✎ More effective energy use by consumers by encouraging energy efficient equipment and behaviour. the risks and seize the business opportunities that will emerge in a carbon-constrained world.
- ✎ A well-to-wheels perspective that encourages energy producers to take measures that result in lower end user emissions.

Acting now and encouraging others to do the same is part of being a responsible corporate citizen.

Chapter Four

Human Capital And Its Endogeneity

Critical Determinants Of Entrepreneurial Income

Economies seeking to introduce renewable energies are slowly realising that these new technologies have an income growth horizon. However, to realize their potential, it has become important to give cognizance to newer realities that shape the implementation of traditional laissez faire economics; which, alone will promote the flow of corporate interest into this clean energy technology sector.

One of the first palpable bouyants that need acceptance as a tenet of policy planning, is the factor of human capital accumulation being an important determinant of per capita income growth.

Critical Determinant No. 1:

Human Capital Is An Endogenous Function Of Growth

Evidence based on econometric models suggests that human capital accumulation is an important determinant of per capita income growth. The potential endogeneity of human capital has received scant attention. It is little known that empirical research findings have demonstrated that endogeneity is unavoidable. The gap between the theoretically-predicted contribution of human capital to growth, and the contribution estimated in most studies is increasingly receiving attention. Nearly all studies that address this problem, however, address the problem as one of measurement, or specification error. Very few studies address the possibility that human capital is an endogenous function of growth. The most likely reason that most studies do not address this possibility is that appropriate instruments are difficult to find.

It is now a settled belief that increases in human capital per person lead to higher rates of human and physical capital investment and per capita economic growth. Moreover, it has been the experience of several economies that rising human capital per person increases productivity in the market place, reduces fertility rates and thus increases output per capita. Thus, human capital is most surely an endogenous function of growth.

Potential endogeneity of human capital is evidenced in findings which determine:

A] **That human capital is, in fact, endogenously determined.**

It is now fairly believed that increases in human capital per person leads to

- ✎ Higher rates of human physical capital investment, and,
- ✎ per capita economic growth.

B] **That Coefficients On Human Capital Accumulation Are Robust;**

The estimated coefficients of human capital accumulation, discovered by one study, are robust to the inclusion of other variables that influence economic growth. These findings appear not to be driven by outliers and are robust to the inclusion of a wide range of variables considered important determinants of economic growth and factor accumulation in preceding literature. These estimates also provide limited empirical evidence in support of the *Lucas Human Capital Externality* theory.

C] **That Previous Estimates May Be Biased Downward**

Simultaneity between human capital accumulation and economic growth, suggest that downward based estimation could be a possibility. Therefore, endogeneity should be seriously considered in studies of economic growth.

D] **That Human Capital Accumulation Is A Significant Determinant Of Rising Per Capita Income.**

Microeconomic evidence of the positive relationship between schooling and wages supports this prediction. Estimates using macroeconomic data demonstrate that the initial stock of human capital is an important determinant of economic growth, but empirical estimates of the effects of changes in human capital (human capital accumulation) poorly match theoretic predictions.

Effect of Government and lenders' programs to realize optimal economic benefits from entrepreneurship.

These are often larger than the private benefits accruing to entrepreneurs. However, the effect of formal schooling, one of the most prominent manifestations of human capital, on entrepreneur performance has not yet been measured consistently. This is due to shortcomings in the empirical strategies applied so far. It has been felt that private sector entrepreneurship cannot go forward till there is adequate schooling in the relevant arts and sciences of renewable technologies and modern management precepts in business development. Solving complex problems and making entrepreneurial decisions utilizes, amongst others, an interaction of both tacit and explicit knowledge. Individuals may increase their knowledge through formal education such as university education while informal education is gained through work or 'life' experience.

Human capital theory in general indicates that previous knowledge plays a critical role in intellectual performance.

Previous knowledge assists in the integration and accumulation of new knowledge as well as the integration and adaptation to new situations. Knowledge may be defined as either tacit or explicit. Tacit knowledge refers to 'know how' which are the often non-codified components of a given activity. Explicit knowledge refers to 'know what' and is knowledge conveyed in procedures, processes and in institutions such as educational establishments.

Accumulation of human capital, for instance by means of schooling or specific types of experience, is not only acknowledged for its productive effect on the quality or quantity of labor supplied, but, it has also value as a signal of productive ability in labor markets without complete information.

Meta-analysis Based Empirical evidence: the effect of education on entrepreneur performance The relationship between schooling and entrepreneurship entry and performance has been measured in various empirical studies. Van der Sluis, Van Praag and Vijverberg, economic thinkers of no mean merit, provide an analytical review of empirical studies into the impact of schooling on entrepreneurship selection and performance. They have performed a meta-analysis in order to assess whether there are any consistent findings from the vast empirical entrepreneurship and economic literature with respect to the impact of educational attainment on performance in and choice of entrepreneurship.

On the basis of a meta-analysis, it is found that the returns to education for entrepreneurs need to be measured with the same methodological rigor as the studies on employees do. Especially, the neglect of the endogenous nature of schooling is a problem.

The first conclusion, i.e. That education has a significantly positive impact on entrepreneurs' performance, is supported and thus ought to be maintained. The second, conclusion was that the estimated rate of return to education for entrepreneurs was 6.1% on average. This conclusion is not supported by the currently discussed results that account for endogeneity and unobserved heterogeneity. The return to education for entrepreneurs turns out to be much higher, and comparable.

The third conclusion of the meta-analysis was that the returns to education are slightly higher for entrepreneurs than for employees in the United States, whereas the opposite was found for Europe. This conclusion is not supported by the results from the first application discussed: the returns for entrepreneurs in the US are shown to be much higher than the returns for employees (respectively 14.2% and 10.7%). The result of this study, and therefore assumedly most previous studies, is not plagued by problems of selectivity. This turn around finding must be somewhat puzzling in the light of the traditional studies that test screening hypotheses: apparently entrepreneurs cannot be maintained as an assumedly unscreened control group. This might explain why PVP find that capital constraints for entrepreneurs are relieved when the level of education is higher. The fourth conclusion from the meta-analysis was that all previous studies, utilizing OLS, had generated potentially biased results. This potential bias, as was argued, is due to the neglect of problems related to endogeneity and unobserved heterogeneity. Previous studies that account for such problems when estimating the returns to education for employees had indeed pointed out that this bias generated by OLS estimation was significant in the case of employees.

Lenders are more willing to provide funds to more highly educated entrepreneurs, by a substantial percentage. The extent of capital constraints in turn effects an entrepreneur's income negatively leading to this significant indirect effect.

Further studies that explore the distinct effects of manifestations of human, social or financial capital that are presumably inter-related could increase our understanding of the inter-relatedness and substitutability of such types of entrepreneurial capital.

Critical Determinant No. 2: **Human Capital Formation Through Adequate Schooling**

Entrepreneurship is becoming an increasingly prominent issue in both academic and policy circles. Entrepreneurs are often credited with innovating new products, discovering new markets, and displacing ageing incumbents in a process of 'creative destruction'. But it is also recognized that if entrepreneurs face constraints such as limited human capital, then these economic benefits might not be realized.

This realization has prompted several governments to devise public programs to encourage entrepreneurship. Underlying most of these programs is a belief that human capital affects entrepreneurs' performance in practice. *The measurement of the (determinants of the) return to entrepreneurial (human) capital is therefore, very important.*

Chapter Five

CleanEnergy Entrepreneurship

Defining Entrepreneurship, Identifying Barriers & Identifying a Need For The Creation Of An Inventory Of Initiatives

Prelusion

Most of the research in the field of entrepreneurship focuses on entrepreneurial activity within the private sector. This is commonly termed “economic entrepreneurship”, although it has been given other names, such as “commercial entrepreneurship”. Economic enterprises, brought about through entrepreneurship, are organisations that are created to generate profits via economic activity, that is, the main outcome of economic entrepreneurship is wealth creation for those who own the enterprise. Most research regarding entrepreneurs’ characteristics, skills and behaviours is based on those operating within the private sector for the primary purpose of personal economic gain.

The private sector can play an active role in the design and implementation of youth enterprise programs. The specific role of the private sector in youth enterprise programs can be wide-ranging. It can include providing information, training and financial or technical support. In addition, mentor-based programs, which may offer informal advice on financial or operational management, are popular. Program sponsorship is also an avenue for private sector support, where a private company sponsors a program. The paybacks for a larger company’s becoming involved in supporting a youth enterprise program may include a more positive public profile or possibilities for new business. Private sector involvement can also provide new training and development opportunities for businesspeople that participate.

One of the main barriers to entrepreneurship experienced by unemployed youth is access to capital, since many people in this situation have extremely limited financial resources. Therefore, most programs aimed at this target group incorporate either the provision of start-up finance, or assistance in obtaining capital. Income support is also sometimes provided. Enterprise training, skill development, career advice, mentor support and assistance in research and development of business plans have also been found to be important parts of program packages.

Defining **RE Entrepreneurship**

Many unemployed people approach self-employment as a last resort. Indeed, some may even lack basic skills necessary for employment. Therefore, care must be taken to ensure that a young unemployed person with inadequate skills or unrealistic expectations does not attempt to enter the risky world of business unprepared for its demands.

The stimulation of RE entrepreneurship requires us to understand the essentials of what is “**RE Entrepreneurship**”. The literature reveals a lack of consensus with respect to defining the terms “**entrepreneurship**” and “**entrepreneur**”, much less “**RE Entrepreneurship**”. Although trait approaches to defining entrepreneurship are common, a behaviorally based approach is to be preferred. There are several reasons for this:

- 📖.. the approach is more logical, in that trait based approaches represent circular arguments;
- 📖.. trait based approaches imply, incorrectly, that entrepreneurial qualities are innate, and therefore cannot be learnt and fostered through experience and appropriate training; And
- 📖.. it is easier to measure behaviors than it is to measure traits.

Hence, a generally accepted, behaviorally based definition of RE entrepreneurship is required. This will facilitate the design and evaluation of policies and programs designed to encourage this activity of promoting “**RE Entrepreneurship**”. We can suggest a definition, based on a review of the relevant literature. It will also be important to separate sub-categories of “**RE Entrepreneurship**”, such as social RE entrepreneurship, allowing this type of behavior to be measured separately.

We have identified seven behavioural elements as being the core characteristics of an entrepreneur:

- ✍️ Creating an organisation;
- ✍️ Identifying and pursuing opportunity;
- ✍️ Innovation / creativity;
- ✍️ Attitude to resources;
- ✍️ Risk-taking;
- ✍️ Pursuit of growth; and
- ✍️ Creating value.

Barriers to entrepreneurship

It is apparent that entrepreneurial activity is beneficial for developing countries both at a micro level – in terms of creating stable and sustainable employment for individuals – and at a macro level – where it significantly increases a nation's GDP. Yet many developing countries have been unable to create and maintain the favourable environment needed to foster SMME development. There are a number of barriers which entrepreneurs in developing countries face which entrepreneurship support initiatives can help address. The factors affecting entrepreneurial activity can generally be divided into four categories:

- ▷ **Infrastructure:** Quite often the barriers to starting and maintaining a business come down to simple, yet often insurmountable factors, such as lack of roads, facilities, electricity or phones.
- ▷ **Legal and regulatory framework:** Governments need to have a positive perception of entrepreneurial activity, reduce the administrative burden on entrepreneurs, and coordinate among their agencies to ensure that the necessary resources are directed where they are needed.
- ▷ **Financial support:** A major stumbling block for many potential entrepreneurs at the lowest end of the economic spectrum is lack of access to the credit or seed funding necessary to start a business. Entrepreneurs who are starting up larger businesses face difficulty raising investment capital and a lack of sound market-based policies.
- ▷ **Social:** The concept of entrepreneurship is not native to every culture or society. The fear of failure can be a barrier. Creativity and innovation are not always valued traits. Many developing countries have social systems that create dependence and hopelessness. Women and minorities especially need role models to demonstrate the positive outcomes to innovation and risk-taking.

An additional barrier is the overarching mindset that entrepreneurship cannot be taught, that it is a creative and innovative way of thinking that comes inherently to some people and not to others. While it is true that some individuals are gifted with creativity to develop new ways of doing things, creativity alone is not sufficient. Ideas must be matched with basic skills and an understanding of business practices – and these are things that can be taught to help burgeoning entrepreneurs create successful businesses.

Need For An Inventory Of Initiatives:

A Brevitised History Of Recent Initiatives

It is increasingly recognised that effective and sustainable development assistance must be tailored to country circumstances and built upon a foundation of private sector investment and the participation of the nation's poor. Entrepreneurship support offers a new model for fighting poverty and ensuring economic growth in developing countries and it has come to the forefront of activities to bridge the digital divide and deliver development aid.

From the G8 to the United Nations to a wide range of ground-level initiatives, many efforts are underway aimed at stimulating the growth of small, micro and medium-sized enterprises (SMMEs) to bring economic opportunity to those who need it most. Small businesses are often the backbone of the private sector in the developing world, creating jobs and providing a tax base for local government, which provides revenue for things like improving basic infrastructure, schools, and hospitals. And frequently SMMEs offer the only employment available to millions of poor people throughout the world. In a new twist on the old adage, it is not a question of whether to give a man a fish or teach him to fish: what is needed to make a real difference is "fishing schools".

A significant number of initiatives support entrepreneurship and foster the potential SMME sector in developing countries; however, the services provided and the geographic areas served vary widely. For example, Trickle Up helps small and micro businesses in 32 countries around the world with planning support and small seed funds, while Endeavor works in four South American countries to assist mediumsized high-growth companies to connect with angel investors and finance institutions. And the Cape IT Initiative (CITI) is an example of a locally driven effort; it aims to foster the growth of an information and communications technology (ICT) sector in the Western Cape region of South Africa with its Bandwidth Barn business incubator.

There are also several high-level initiatives in planning that may result in considerable resources being devoted to entrepreneurship support during the year ahead. Following the G8 Digital Opportunity Task Force (DOT Force) report issued in May 2001 a public and private sector group was tasked with devising a concrete outcome under Action Point #4 which calls for G8 Governments to "foster enterprise and entrepreneurship for sustainable economic development".

The Enterprise Steering Committee of the World Economic Forum (WEF) has created the Enterprise Channelling Organisation (ECHO) as a new model for delivering development aid at ground level that offers support to entrepreneurs through donations of human and other resources instead of money, and it is currently being piloted in two countries.

The Business Enterprise and Entrepreneurship Working Group (WG #6) of the UN ICT Task Force has a mission to "foster enterprise and entrepreneurship for sustainable economic development, including poverty alleviation with an emphasis on women and youth employment", and it offers hope as a forum where a number of leading efforts could come together under one umbrella.

And the Global Digital Opportunity Initiative (GDOI) being driven by the Markle Foundation, UNDP and an illustrious steering group is also expected to weigh in on the matter. This survey of the field and inventory of initiatives aims to spur thinking about facilitating SMME development by looking at the various kinds of entrepreneurship support initiatives (ESIs) that are available and what they provide. It is intended as a resource for connecting like-minded ground-level initiatives, so they can exchange information, learn from one another and avoid duplication of effort. It is also intended as a report to the various international planning efforts currently underway; to inform their deliberations about the value-added they can bring to this area.

There is growing evidence of a significant causal relationship between entrepreneurship, economic growth and poverty reduction.

Small, micro and medium-sized enterprises (SMMEs) are often the backbone of the private sector in the developing world, creating jobs and providing a tax base for local government. And frequently SMMEs offer the only employment available to millions of poor people. Yet many developing countries have been unable to create and maintain the favourable environment needed to foster SMME development.

Potential entrepreneurs and many existing companies in developing countries need help to execute on their ideas and build successful businesses.

Entrepreneurship support offers a new model for fighting poverty and ensuring economic growth and it has come to the forefront of activities to bridge the digital divide and deliver development aid. A significant number of ground-level initiatives are already underway.

There are also several high-level initiatives in planning that may result in considerable resources being devoted to entrepreneurship support during the years ahead. The needs of this crucial sector must be understood to frame an effective and sustainable approach to modern development aid. *Entrepreneurship Support Initiatives (ESIs) come in a variety of shapes and sizes, and they offer a range of services to SMMEs and entrepreneurs.*

We should select model initiatives that are notably successful, innovative, or representative of a particular type to illustrate the kinds of ESI services that are available and the methods that are being used to promote entrepreneurship. We should cover a range of programmes - from local community RE initiatives to large international efforts. Emphasis may also be accorded to international initiatives that work at a community level because this approach is growing in prominence and is proving to be an effective model. The entries ought to be grouped according to type and geographic region, and each should include a brief description of the activities, giving a quick but comprehensive overview of a broad range of ESIs. The inventory is intended as an organic, growing document; it represents a small step in cataloguing the array of entrepreneurship initiatives that exist.

Wealth creation is increasingly seen as a vehicle for social change and social entrepreneurship is on the rise. Following the approach of a few trail blazing organizations, there is a wave of new initiatives that emphasize public/private partnerships and incorporate basic business principles, emphasizing accountability and measurable results. Careful screening of the participating entrepreneurs is a common trait. More efforts are tapping into the power of human connections by building relationships among like-minded individuals and organisations so they can share experiences and contacts. And of course, increasingly ICT is used both in the delivery of ESI services and as a foundation for successful SMMEs.

We should create an inventory of initiatives aims to spur thinking about facilitating SMME development by looking at the various kinds of entrepreneurship support initiatives that are available and what they provide.

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Chapter Six

Strengthening Laissez Faire In Renewable Energy Economics Ensuring Free Play Of Market Forces And Elements Of Competitiveness In Renewables

The private sector will come forth and participate in the promotion of renewable energy, as well as undertake the societal management needs of an economy, if adequate legislative mandate to protect the interest of the private sector has been put in place. The free play of market forces and elements of competitiveness have to be ensured in an irrevocable manner. The following recommendations are based on sound economic principles and are a categoric imperative for the engagement of the private sector, as well as, the promotion of entrepreneurship in the emerging renewable energy technologies.

Recommendations One: **Strengthening The Competitiveness Of Renewables**

Promoting Competitiveness Is The Key To Real Sustainability

Today's support schemes for renewables are leading to financial burdens for household and commercial electricity consumers. This is a deterrent for creation renewable energy entrepreneurs. Most of the support schemes do not sufficiently encourage the renewable electricity generators-entrepreneurs, to reduce the costs and make their products saleable, but, simply guarantee revenues over an extensive period of time.

The manner in which renewables are being increasingly promoted is actually counter-productive, as it jeopardizes the competitiveness of the renewables industry all over the globe. Such 'promotion' distorts the competition for effective solutions to reduce greenhouse gas emissions by setting unrealistic quantitative targets for renewables. This is however impeded in many countries by lengthy and complicated administrative procedures, as well as, unreliable access to the grid.

Therefore, the following is recommended

1. support those **promotion systems** that strengthen the competitiveness of renewables and exclude an over-financing of renewable energy plants in case of technological and economic progress.
2. prevent increasing and significantly different **burdens on commercial consumers**
3. **reconsider** the setting of national **quantitative targets** that do not allow an efficient allocation of renewable energy plants in the single market.
4. **replace** the specific support schemes for renewables after **2010 by general instruments** for the reduction of greenhouse gas emissions. .. encourage the Member States to **streamline project planning and permission** procedures and set up an “one stop shop” especially for small projects and to insure **reliable access to the grid**.
5. provide for a harmonized support scheme.

1. FEED-IN SYSTEMS

Most of the countries apply feed-in systems in the form of fixed prices or market price plus a bonus for renewables; or renewables obligations (quotas) combined with green certificates. Many systems **destroy market forces** almost completely by fixing the revenues for electricity generators. Other systems maintain the function of the market price by encouraging the generators to care for the marketing and sale of their products. A short-term success of the fixed-price schemes a remarkable increase in the capacity of renewable electricity plants - may lead to **serious long-term disadvantages** because companies in those states do not gain experience in a competitive environment, which is necessary for the growing renewables export business. While high "subsidies" for renewable plants create new jobs in this line of business, the **net result** for the entire economy in terms of **growth and employment will be negative**. In most of the Member States **promotion measures are financed by allocating the costs to the electricity consumers**.

Therefore, the promotion systems do not only jeopardize the competitiveness of energy-intensive industries in some countries the surcharges result in a power price increase of about

10 percent but generally reduce the consumers' budgets. Financial means are not available for other investments any longer and thus the surcharges have negative impacts on the job market.

2. TARGETS

In the long run, **quantitative targets shield** renewable energies from **effective competition**. Competition should not be replaced by a centralized planning process. Today's governments do not know the adequate proportion of renewables for the future. We think that there are no convincing economic and ecologic reasons to set targets for the time after 2010, as has been done in many economies.

The additional problem of national targets for renewables is that they prevent the search for the most suitable and cost efficient sites for renewable energy plants in the single market. We will prefer the promotion of a sound overall concept for all technological options to reduce greenhouse gas emissions preventing the accumulation of financial burdens. If the existence of market failures is restricting the diffusion of renewable energies, then addressing those failures directly will provide efficient results.

Setting targets for greenhouse gas emissions gives a lot of opportunities (e.g. higher energy efficiency, CO²-sequestration, nuclear energy) to reduce these emissions.

Only the forces of competition will discover the most efficient renewable energy technologies.

5. Setting Achievable Goals:

The objective of doubling the share of renewable energies in the power base from 2000 to 2010, ought to be laid out in specific and realizable terms. For example by 2010 renewables ought to be made to contribute at least 12.5% to the generation of electricity. The mid-term goal for 2020 should be defined as at least 20%. This will offers stakeholders a clear framework for the expansion of renewable energies.

6. Prescribing Macro-eco-geographical Goals:

With an objective of doubling the share of renewables we should also target the following:

- ✎ **To permit** the sustainable development of energy provision in the interests of climate, nature and environment protection,
- ✎ **to reduce** the macroeconomic costs of energy provision by reflecting long-term external effects,
- ✎ **to protect** nature and the environment, to contribute towards preventing conflicts over fossil energy resources and
- ✎ **to promote** the ongoing development of technologies to derive power from renewable energies.

Recommendations Two:

Transitioning To Private Sector Financing:

Needs And Necessitates For Clean Energy Entrepreneurs

Many RE entrepreneurial companies have difficulty raising private-sector financing, even though they are technically proficient and might have had little difficulty obtaining public-sector sponsorship. Commercialization and successful transfer of technology to the marketplace is difficult. It is complex, nonlinear, and interactive. And, as we will discuss, it is expensive. Obtaining adequate financing is central to successful RE commercialization.

A pragmatic focus on business fundamentals could help many more energy start-ups become successful in the marketplace. There is much more substance to the commercialization problems faced by clean energy entrepreneurs than the adage that “these markets don’t exist,” or that “these technologies need investors with a so-called double bottom-line perspective,” where a public good complements making a shorter-term economic profit. The purpose of this paper is to help entrepreneurs commercialize clean energy, technology based products. We hope that by shedding light on the private capital investment process and the characteristics and strategies of entrepreneurs who obtain financing, we can assist and encourage others to do the same.

Entrepreneurs often assume financial hurdles will be significantly lower once they have perfected their technology. Many are surprised to learn about the business requirements that must be addressed – beyond having a great technology – to attract the interest of the venture capital community.

In a classic chicken-and-egg scenario, energy entrepreneurs need private financing to turn their new technology into marketable products; but private financiers often want marketable products and a well-rounded business plan before they risk any funds. How can these hurdles be overcome? What do successful entrepreneurs have in common besides a good technology? It has been found that successful clean energy entrepreneurs:

- 1. Take time to understand and involve the financial community early in the developmental process,*
- 2. Strengthen business fundamentals early in the commercialization process, thereby significantly increasing value in the enterprise, and*
- 3. Are focused and driven by market considerations.*

These characteristics will definitely give the entrepreneur an upper hand in attracting private-sector financing. Moreover, the chances are the strongest when firms have all three characteristics; one or two is rarely sufficient. The most successful companies tend to have key managers that develop comprehensive strategies around these areas and are well schooled in making the business a success.

Our recommendation to renewable energy entrepreneurs, who are seeking private sector finance, is to focus on the following:

I. Understanding and Involving the Financial Community

Successful entrepreneurs educate themselves on the variety of financing options and how to position themselves to obtain funds. Obtaining financing is a “**contact sport**.” By involving investors early on, the chances of successfully commercializing a technology increase for several reasons. These are:

1. Early involvement builds trust and mutual understanding, which is critical to obtaining financing.

2. Investors will have time to become knowledgeable and comfortable with a new technology and target market.
3. Building financial contacts saves the entrepreneur considerable time during the fund-raising process.
4. And, finally, a referral from a trusted colleague in the financial community may be the most important endorsement an entrepreneur can get during the fund-raising process.

To help the entrepreneur identify and involve the appropriate financial partner(s), corresponding to the stage of their business, he must be made to provide a summary description of the major equity financial players. Additional topics should include bootstrapping and project finance, which typically involve both debt and equity. We should also identify the stages of development for entrepreneurial ventures where the various equity partners typically become involved, along with typical investor requirements and some discussion of investor risk considerations.

II. Strengthen Business Fundamentals

Though being familiar with the financial community is an advantage, it is not enough to ensure financing. Building a business that will attract investment means strengthening business fundamentals early by pursuing a parallel path of technology development and enterprise development.

Successful entrepreneurs recognize that a strict technical focus in the early phases of development probably will result in a great technology, but great technologies rarely succeed by themselves. However, great businesses using good technologies usually do succeed — and usually get financed.

Unfortunately, because of

- ✎ the high cost of renewable energy technology development,
- ✎ the pressures and constraints of commercialization

do not always allow start-up companies to address critical business fundamentals in a timely manner.

As a result, many clean energy companies build “uneven” organizations with strong technical skills but weak business skills. This imbalance can keep a company from successfully attracting financing. Although they assume they are ready for seed or start-up financing, in reality, they have not satisfied basic business planning milestones.

III. Moving from a Technology to a Market Focus

Investors are acutely aware that the market is the source of profits. In fact, private-sector investors often use market robustness as a way to indicate the value of a business and to deal with a host of uncertainties and other risks. If the market size is sufficiently large, then errors in financials, such as projected costs and market share, may still allow the venture to be viewed positively by the investors. Thus, successful entrepreneurs are focused on the market.

These entrepreneurs rely heavily on market information to design and build a product that customers need and will pay for. Clean energy entrepreneurs face an added challenge of explaining or defining a market that is just emerging.

Such is the case for “disruptive technologies,” which offer a different value proposition. Many of these new markets must be created and developed, while attempting to sell in to existing markets where the entrenched competition is fierce and may have an unfair market advantage, particularly in the short term.

Moreover, the risk perception of energy deals is higher because the characteristics of energy deals are much different than the typical high-tech software or biotech deals. Many angels and Venture Capitalists are accustomed to seeing investments with higher margins, a shorter commercialization time frame, and less capital intensive.

In many ways, renewable energy technologies are a challenge for some VCs. But, with that said, the market is seeing an amazing growth in the number of VCs interested in financing energy technology deals.

Chapter Seven

Promulgative Complusions

Legislation Enactment Pre-requisites To Ensure Migration Of Private Sector Into The Renewable Energy Industry

Migration of the private sector into the renewable energy industry can only be ensured if strong legislative protection, based on sound principles and experience, is promulgated in favor of entrepreneurs. The objective of the enactments ought to aim for a substantial increase in the share of total power supply, which is derived from renewables, to at least 15 per cent by 2010 and at least 25 per cent by 2020. To make this possible, the overall framework for feeding in, transmitting and distributing electricity from renewable energy sources will be considerably improved. This will maintain planning and investment security for manufacturers, plant operators, investors and banks. Drawing on positive experience the renewable basis for producing power can thus be expanded with even greater efficiency.

The above will offer private sector stakeholders a clear framework for the expansion of renewable energies. Macro-objectives of statute ought to include :

- ✎ permitting the sustainable development of energy provision in the interests of climate, nature and environment protection,
- ✎ reducing the macroeconomic costs of energy provision by reflecting long-term external effects,
- ✎ protecting nature and the environment,
- ✎ contributing towards preventing conflicts over fossil energy resources and,
- ✎ promoting the ongoing development of technologies to derive power from renewable energies.

Therefore, the following statutes and principles are recommended for enactment in all economies seeking private sector engagement in renewable energy generation and transmission. These are as follows:

Promulgation Tenet No 1: The Priority Principle

This principle provides for the priority

- ✎ Purchase*
- ✎ Transmission of, and*
- ✎ Payment for,*

such electricity by grid system operators and for a nationwide equalisation scheme covering this purchase and payment. It is clear from the duty to connect such installations without delay and as a priority that the connection of plant deriving power from renewable energy sources also has priority over the connection of conventional power plant.

Promulgation Tenet No 2: Improved Grid Integration Of Plants Using Renewable Energies

As the share of renewables in overall power generation grows, so does the need to continue integrating renewable energy installations into the grid. The legislation that creates incentives for the operators of plant using renewable energies to work with grid operators to establish a power generation management scheme in their mutual interest, ought to be enacted. This is particularly important with regard to grid upgrades and load balancing. It assumes the consent of both plant and grid operators, both of whom stand to gain from the new provision if they make appropriate use of it. The total cost of power generation and distribution can be reduced, leading to lower prices for consumers, too.

Promulgation Tenet No 3: Clearer Rules On Payment Obligations: Augmentation Of The Well-tried Principle Of Exclusivity

The well-tried principle of exclusivity with regard to payments should be augmented into an accepted industry norm. This stipulates that priority must always be granted to forms of power generation which rely fully on the renewable energies.

Promulgation Tenet No 4: Making Record Keeping Mandatory

To permit a more effective integration of renewables into the grid system, plants with a capacity of 500 kilowatt or more ought to be obliged to measure and record their output. This will improve the database for power generation from renewable energies, making it easier for the grid system operators responsible for delivering power to plan ahead. The plant operators should have the right to carry out their own measurements, meaning that they can either perform this task themselves or instruct an entity of their choice to do so. The grid system operator should be entitled, in return, to access the measurement data.

Legislating Customized Payment Regimes

Proposed Promulgation No 1

Power from small-scale hydroelectric plant

Small, newly constructed plant with up to 500 kW capacity on an existing barrage weir or dam should be included in the **exclusivity payment principle**, if by their 'green' practices good ecological status is achieved as a result or if ecological status is thereby substantially improved. Small plant with capacity up to 500 kW which is not constructed on an existing barrage weir or dam or which is constructed without complete cross coverage may also be included. This is to create a balance between the concerns of nature protection and the use of river energy and is designed to prevent additional modifications to small rivers and streams still in their natural state. This will be in the interest of foliage and fauna. Good ecological status should be evidenced and demonstrated by the submitting an official report.

Proposed Promulgation No 2

Payments for power from landfill gas, sewage treatment gas and mine gas

Payments for power from landfill gas, sewage treatment gas and mine gas should also be standardized and proper incentives introduced. Thus, provision should also be kept in the budget to ensure appropriate increase in the minimum payable rates if the power is generated using innovative processes such as fuel cells, gas turbines, the organic Rankine cycle, the Kalina cycle or the Stirling engine.

Proposed Promulgation No 3

Payments for power from biomass

A number of studies had shown that the existing rates for small biomass plant are much too low to tap potential to a desirable extent. A new payment category at a higher rate, therefore, needs to be introduced, specially for capacity up to 150 kW. This payment priority should also apply to power from all biomass plant irrespective of the date of commissioning.

Proposed Promulgation No 4

Payments for power from geothermal energy

Two additional capacity thresholds at 5 MW and 10 MW with higher rates of payment needs to be introduced for power generated using geothermal energy. Most legislations concentrate only on one threshold that is at 20 MW. But the plants currently under development are considerably smaller, resulting in higher unit costs.

For the production of electricity. This trend is extremely important as it will enable geothermal plant to respond better to base load and the need to adapt power to demand. Since the use of this energy source is still in its embryonic stage the annual decrease of 1% ought to only apply to plant commissioned after 2010.

Proposed Promulgation No 5

Payments for power from solar radiation

Facade-mounted installations ought to qualify for an additional rate/kWh. If the installation is not integrated into the facade or on the roof of a building, it is only eligible for payment if it has been commissioned for certain legally defined land categories and within the framework of a local development plan. This provision should be framed and designed to ensure that building does not take place on ecologically sensitive land and that community consultation entails the broadest possible degree of local assent. From a cut off date the annual decrease for new installations ought to be 5%. For installations which are not integrated into the facade or roof of a building or sound barrier, the rate of decrease ought to be in the neighborhood of 6.5% p.a. from the relevant cut-off date, to be determined as per the local conditions.

Proposed Promulgation No 6

Payments for power from on-shore wind farms

Yield based rates systems ought to be applied to Power from wind conversion. The specific breakdown into initial and base rate should be determined by the "reference yield" for the plant in question. Plant which is unable to achieve at least 60% of the reference yield at the planned site ought not to be eligible for payment. This will quash any economic incentive to install wind turbines on sites with poor wind conditions.

Coastal areas in particular should be offered incentives for repowering, i.e. the substitution of older, smaller installations by state-of-the-art, high-output turbines. Technological advances in wind conversion over recent years give grounds to assume that wind farming will continue to expand in spite of lower rates of payment.

Proposed Promulgation No 7

Payments for power from off-shore wind energy

The objective is a rapid development of off-shore wind conversion. Wind farms are classified as off-shore if they are constructed at least three nautical miles off the shoreline. The rates ought to be greater for installations built at a greater distance from the shoreline and at greater depths: for every additional nautical mile beyond 12 nautical miles the rates ought to be increased.

Legislating Mandatory Securitization Schemes

Enhanced legal security for purchase, transmission and payment

The following Statutory Provisions ought to be included in every enactment for the promotion of renewable energy.

Proposed Promulgation No 9:

There ought to be no need for contracts :

The new provisions should establish beyond doubt that the plant operator is directly entitled, by way of a legal obligation, to connection, purchase and appropriate payment by the grid system operator and that the grid system operator may therefore not make compliance with these obligations provisional to contract. Nevertheless, it may still be naturally possible to conclude a contract, and this may offer a useful opportunity to regulate above all technical matters concerning the plant's integration into the grid.

Proposed Promulgation No 10:

Sliding scale :

This provision which should address situations in which different minimum rates apply depending on plant capacity, as in the case of biomass or photovoltaics. It should ensure that the payment will always be an aggregate of pro rata sums for each applicable capacity threshold. The sliding scale in this provision ought to prevent payments suddenly increasing substantially when a threshold is passed. Thus, the enactment of this crucial cumulative principle is the only way to avoid an unfair distribution of payments between installations of different sizes and as a result it will help to rule out excessive or inadequate incentives.

Proposed Promulgation No 11:

Payment period :

With the exception of hydroelectric power, payment will be made for 20 calendar years, to which is added the remainder of the year of commissioning. The rate of payment applicable during the year of commissioning will be maintained throughout this period, with the exception of the transition from initial to base rate in the case of wind energy. The annual decrease only applies to payments for plant constructed in subsequent years.

Proposed Promulgation No 12:

Legal constraints on setting-off payments :

Legal constraints ought to be mandated to ensure that inequitable set-offs sans mutuality may not take place. This provision should ensure that any claims for payment made by the grid system operator may not be offset against payments to which the plant operator is entitled if such claims are disputed or have not been legally established. This provision is designed to prevent grid operators with superior economic power, who continue to hold a natural monopoly, from obtaining unduly high costs for metering, billing, reactive power or supply servicing from the plant operator by setting off payments and making plant operators carry the litigation risk.

Proposed Promulgation No 13:

Simplified preliminary injunction procedure :

A new provision which makes it easier for plant operators to obtain a court injunction imposing temporary connection, purchase and payment for the power they general, ought to be put in place. The need for such a provision is ascertained due to the widespread practice of civil courts in dismissing petitions for injunction on the grounds that they could lead to later claims for damages. This meant that it was usually impossible for plant operators to assert their rights by way of a provisional legal remedy, and in many cases they abandoned their projects as a result. This obstacle to the expansion of renewable energies will be eliminated by the new paragraph. The provision however, should not simplify the grounds on which the injunction can be sought and adequate financial protection is afforded by the option of claiming damages.

Proposed Promulgation No 14:

Ensuring Enhanced Transparency And Legal Security For Connection And Network Costs By Statutory Enactment: Mandatory Disclosure Schemes:

A clear distinction should be drawn between the cost of plant connection to be borne by the plant operator and the cost of essential grid upgrades to be borne by the grid system operator. A new criterion which may be considered for this distinction: a network upgrade is also deemed to occur wherever technical facilities are created which pass into the ownership of the grid system operator or which are necessary for operation of the grid system. This will complement the considerations developed in case law, and which settled by now.

Grid system operators can take account of the costs incurred by upgrading the system when they fix charges for use of the system. In this event they should be required to disclose such costs. This duty to disclose serves to achieve the necessary transparency. Its aim, in the interest of protecting consumers, is to prevent costs being passed on to power consumers unjustifiably.

Another new provision relates to the plant operator's duty to bear the cost of all metering devices required operationally to record the electricity transmitted and received by the plant which is generating power from renewable energy sources. This provision is designed to prevent separate devices being installed for received and transmitted volumes, which would incur unnecessary expense.

This new provision should stipulate that for plant with an overall capacity of up to 30 kilowatts which is located on a site with an existing grid connection the existing point of connection shall be regarded as the most suitable point of connection. This is because existing site connections are essentially capable of absorbing the volume of electricity fed into the grid by plant with a maximum installed capacity of 30 kW. Any grid system operator wishing a different point of connection to be used must bear the resulting costs.

Proposed Promulgation No 15:

Nationwide Equalisation Scheme

A nationwide mechanism for equalising the power purchased and paid for, preventing regional inequalities in the treatment of electricity consumers and by means of its distributional effects ensuring that the cost of expanding renewable energies remains relatively low, ought to be introduced. The scheme should be managed by the grid system operators and power utilities. One basic priority should be emphasised:

The transmission grid operators will in future equalise differences in the volume of electricity purchased within their zones of responsibility without delay; and secondly, power generated pursuant to the EEG will no longer be passed on to the utilities as an even stream but in line with a profile which approximates to actual patterns of supply. Immediate equalisation between transmission grid operators will cater for their desire to see an even distribution of the requisite demand for equalisation, while profiled forwarding to power utilities will promote the integration of renewable energies into the power system.

Proposed Promulgation No 16:

Statutorily Enjoined Transparency :

To enhance transparency, succinct and clear statutes should be drafted and enacted, so that a duty to publish data on energy volumes and payments, broken down into the different technologies for generating power from renewables. Greater transparency will also be achieved by applying a pre-defined standard calculation method when publishing incremental costs and the overall costs of implementing the proposed Act. In order to obtain more useful information about the expansion of renewable energies and the management of the nationwide equalization scheme by the grid system operators, a self-regulatory organization ought to be created. Once this has been established, any plant operator wishing to claim entitlements under this proposed Enactment will be obliged to list the plant concerned in the Register of the self-regulatory organization.

Proposed Promulgation No 17:

Mandating Hardship provisions

The hardship clause added, to regulate the situation of power-intensive manufacturing industry has been extended to cover more enterprises and the time limit has been removed. Power-intensive manufacturing companies ought to be covered by the hardship clause if their power consumption is greater than 10 GWh and their ratio of electricity costs to gross value added exceeds 15% . To compensate for the expanded reach of the hardship clause, the total volume of relief should be capped. As the quantity of power which does not have to be purchased from privileged companies must be redistributed among other consumers of electricity, these have to make a greater contribution towards the expansion of renewable energies. A 10% cap needs to be imposed on the share that is to be redistributed under the hardship mechanism.

Proposed Promulgation No 18:

Guarantee Of Origin For Power From Renewable Energies

The promotion of electricity from renewable energy sources in the internal electricity market requires standardized rules to be established for issuing a guarantee of origin. The new enactment should create a basis for guarantees of origin for power from renewable energies to be issued by authorised entities, thereby also serving the interests of consumer protection. The following data must be included in the certificate:

- ✎ type of energy used and essential components;
- ✎ in the case of biomass, whether this is biomass as defined by the Biomass Regulation;
- ✎ name and address of the plant operator;
- ✎ quantity of power generated,
- ✎ period in which it was generated and whether the power was paid for in accordance with new enactment;
- ✎ location, capacity and commissioning date of the plant.

Proposed Promulgation No 19:

Prohibition Of Multiple Sales

The rules that clearly define that the positive environmental properties of power from renewable energies, and in particular the fact that no additional carbon dioxide is emitted, may not be sold more than once, should be drafted and enforced. To this end, therefore, there ought to be a prohibition on multiple sales of the power from renewable energies itself. This prohibition should also extend to the concomitant guarantees, and it is not permissible to simultaneously accept payment and forward a guarantee for the same electricity. This prohibition should also cover landfill, sewage and mine gas or gas from biomass which is fed into a gas network.

Proposed Promulgation No 20:

Clearing House

Provision should be made for a clearing house to be established as and when required. This may be used to settle fundamental disputes and to pre-empt the seeking of legal remedies before a civil court. As a new feature, this clearing house may now address issues which do not directly concern grid connection.

Legislating Bonus Regimes

Proposed Promulgation No 21:

Bonus for use of regenerative raw materials:

The higher costs incurred when using regenerative raw materials ought to be given its due. A key finding to emerge from the studies was that the rates paid are not sufficient to encourage the use of regenerative raw materials, such as energy-rich plants. Allocating relevant rates is a key factor in developing additional biomass options, now that the potential for using waste wood and organic waste is largely exhausted. A legal mechanism ought to be put in place that will automatically increase the rates whenever power is derived exclusively from plants or parts of plants left over from agricultural, silvicultural or horticultural operations or landscape management which have not been subjected to any further treatment or modification beyond the requirements of harvesting, conserving or conversion in a biomass facility and/or from liquid manure or specific types of distiller's residue. The bonus for regenerative raw materials should apply to both new and existing plants.

Proposed Promulgation No 22:

Bonus For CHP Power:

A Bonus may be statutorily created which should be an actionable claim. It is important to note that this increased rate may only be claimable if power and thermal energy are produced together.

Proposed Promulgation No 23:

Bonus For Innovative Technologies:

The bonus rates for power generated in plants where cogeneration is at least partially in operation and if the biomass is being converted by means of innovative processes (e.g.: thermochemical gasification, fuel cells, gas turbines, the organic Rankine cycle, the Kalina cycle or Stirling engines).

Chapter Eight

Econometric Delineations

Essential Economic Considerations For The RE Entrepreneur

For the Math minded aficionados, we are reproducing some of the critical econometric delineations that dot the literature pertaining to employment and entrepreneurship in the private sector.

Efficiency wages

The literature on so-called *efficiency wages* originated from the idea that the wage does not only play the role of price that leads to labour market equilibrium, but also that of incentive for worker commitment. The underlying hypothesis of this literature (conceived by Solow, 1979) is contained in the *effort function*:

$$(w \text{ e } e = \text{with } e' > 0 \text{ e}'' < 0$$

(at least for relatively high wage levels)

which indicates that the effort made by the worker in the workplace (e) is an increasing function of real wage obtained.

This hypothesis entails a particular formulation of the production function:

$$Y = f[n, e(w)]$$

where y is production, which increases with the quantity of production factors used (in the short term the only variable factor of production is the quantity of labour used: n is the number of workers) but also with worker effort, which depends on real wage

The entrepreneur decides how much to produce, maximising his/her profit function:

Finally, having taken account of the role played by wages as an incentive for worker commitment the entrepreneur conducts his/her maximisation profit strategy so as to maximise wages per unit of efficiency. Wages are no longer able to play their traditional function of balancing labour demand and supply. Thus involuntary unemployment may arise; and this is the point that Solow sought to raise by constructing this model.

Up to this point we have laid the microfoundations of entrepreneur behaviour, not that of workers. To examine the latter, we will use the model by Shapiro and Stiglitz (1984) which describes the way in which the worker decides how much effort to supply in a situation in which he/she cannot be controlled unless the entrepreneur is willing to incur monitoring costs.

In this situation the worker may exploit the information asymmetry thus arising (he/she knows the level of effort he/she is producing while the entrepreneur has to maintain a monitoring cost) to gain benefit from it (he/she is in a moral hazard situation).

Unemployment and real wages: the bargaining power theory

Marx, with his idea of a “reserve army”, and Kalecki, with his contributions in 1939 and in 19713-surely well known by Goodwin, can be considered the first to advocate the importance of “bargaining power” to explain the relationship between unemployment and real wages.

The Kaleckian “distributional cycle” was the first attempt to analyse economic cycles through sophisticated procedures relating dynamics and income distribution. According to Kalecki, investment decisions and actual investments are not simultaneous but they experience a time lag. Moreover, such decisions are driven by the following mechanism of profit maximisation: capitalists obtain positive profits that are reinvested, hence the higher the profits the greater the investments will be. Since profits represent the remuneration to capital, the income distribution between capital and labour is, according to Kalecki, a core element of the capitalistic dynamic. In this sense, Kalecki is a precursor of Goodwin’s formulation.

The second key factor in Kalecki’s analysis is the theory of income distribution. Unlike previous Marxian literature, which focused on the role played by distributive conflict, Kalecki showed that the class struggle was transposed into collective bargaining, affecting income distribution due to the union’s bargaining power.

In this view unemployment is a mechanism to control union bargaining power and prevent workers taking possession of the whole surplus in full employment conditions. It is for “political reasons” that capitalist economies do not have a permanent “full employment condition”.

Appendix

How To Engage The Private Sector Toolkit

Private sector engagement is crucial to regeneration and renewal, but there are many barriers to successfully engaging businesses in neighbourhood work and even more to keeping that engagement going. Business people walk away if it seems a waste of time. Business engagement may stem both from the business role as investor, employer or supplier and from recognition of social responsibility and wishing to make a commitment to the community.

A strategy for private sector engagement will have several elements:

- **making the case** persuading business that there is real benefit in engagement with renewal
 - **getting business on board** finding and engaging business and agreeing what might be their best contribution
 - **taking stock** knowing what has already gone on and what are the needs of local businesses
 - **practical steps** taking action; there are many good practice initiatives often supported by Business in the Community
- keeping it going** making sure that engagement is not just a one off.

What's the issue?

Private sector engagement is crucial to clean energy partnerships and must involve public, private, voluntary and community sectors. Indeed private sector involvement has been a requirement for many of the renewable energy based initiatives of recent years.

There are many good examples of private sector involvement in renewal where businesses have brought energy, skills, experience leadership and resources. **The evidence is, however, that such engagement is fragile and that in many cases the private sector just stops turning up.** The barriers are well documented:

- business doesn't understand or accept the need to get involved
- business doesn't see 'what its in it for me'

- involvement is expensive in time and resources, especially for smaller businesses struggling to make ends meet
- the fear that it's going to turn into a request for money
- a loathing of public sector bureaucracy and the procedures that often go with partnerships
- the feeling that central government controls prevent local stakeholders getting on with the job
- lack of understanding of or trust in other partners (and the belief that other partners do not understand business)
- the plethora of organisations engaged in representing the business sector
- the fear that this is just another partnership.

Research has shown 'there is little evidence of the mutual understanding between local authorities and the business community that both partners recognise is essential for effective engagement'. Many social studies on employment have pointed to many examples of mainstream businesses getting involved in deprived communities to promote entrepreneurial activities, but argued that more might still be done by businesses - large as well as small and medium sized.

This is reinforced by recognition that business has much to do to improve its practices. The most recent study of jobs and enterprise in deprived areas suggests that employers can also discriminate against people in their recruitment practices and reinforce the barriers experienced by individuals living in areas of low employment. 'Demand-side' barriers related to employers' practices include:

Refusal or reluctance to consider unemployed people for vacancies

- ✎ discrimination on the basis of race, age, disability or 'post-code'
- ✎ use of informal recruitment channels which cannot be accessed by workless people
- ✎ requiring formal qualifications and work experience when they are not essential to do the job.

The key issues are, therefore, that businesses' needs are:

- to understand why it is in their interest to be involved
- to be able to measure and demonstrate the impact of their activities both on the private sector itself and on the wider community.

and that local partnerships must engage the private sector in a way which:

- meets mutual objectives
- provides clear benefits to businesses is seen by them as practical, useful and lasting.

A Strategy for Engagement:

It's simply not enough to think that private sector men and women will just come along to partnership meetings, and keep coming. They have other things to do. Moreover, just like the voluntary or community sectors, the private sector is diverse there are multi-nationals, there are the major utilities; there are manufacturing, retail and service sector businesses. There are those with minimal experience of the needs of disadvantaged areas. Not all of them want to be involved all the time; some don't want to be involved at all. You need to be able to explain what it is you want from the private sector, when you want it, and for how long.

You need to be able to say why the sector will benefit from private sector engagement. Above all you will need to show how private sector can benefit from such engagement.

There are two basic ways in which the private sector gets involved:

- as an organizations wanting to be successful and generate profit, whose engagement stems from its role as investor, employer, supplier
- as an organization recognizing a corporate social responsibility and wishing to make a commitment to the community

In practice these two kinds of involvement are complementary. For many private sector corporate social responsibility activities underpin long term profitability. Strong and stable communities may bring easier recruitment of labour, closer local services, reduction in crime and vandalism (which impact on staff and customers), lower insurance premiums, even a bigger local market with greater spending power.

These benefits may not be immediately obvious to private sector, or they may think it's someone else's job to get the problems sorted out. They may wish to be involved but not know how to do it.

Given all of this, it is crucial for a neighbourhood partnership to develop a well thought-out approach to engaging the private sector. This is just as important as thinking about how to best engage the voluntary sector or the local community. Responding in an ad hoc way to different project possibilities, a knee jerk reaction to a telling off from the regional Government Office or phoning up a few businesses just because the Minister is visiting won't do. What is needed is a clear strategy for private sector engagement so that everyone knows how you mean to go about it and what their contribution can be.

A strategy for private sector engagement will have several elements:

- making the case
- getting business on board
- taking stock
- practical steps
- keeping it going

Having a strategy will help public, private and community partners to clarify the purposes of private sector involvement what benefits you want to derive, what companies want, what they can expect to get out of it, what you have to offer and what can actually be done.

Making the Case

You can draw on national and local sources to explain why getting involved is good for business. Nationally, Business in the Community (BitC have a look at their web-site) suggests several kinds of gain:

- creative opportunities for staff development
- a wider range of employee volunteering opportunities
- enhanced commercial awareness and innovation amongst staff through working with small businesses and community enterprises
- an insight into other markets
- new and diverse sources of local recruitment
- public recognition and respect for socially responsible business practice.

You can point to good practice case studies on the web for private sector interested in locating in deprived areas in relation to:

- solving recruitment problems
- recruiting people and developing markets
- developing and making better use of your staff
- getting major developments off to a successful start
- establishing new operations in disadvantaged areas
- making the most of what private sector can do together
- benefiting from local partner resources.

Getting Business On Board - Recruitment And Retention Of Private Sector Partners

Begin by deciding what role you expect private sector to play in your local partnership. There are strategic roles:

- partnership member representing business on the partnership (or on one of its theme groups) and taking an active part in its work
- active supporter active interest, spreading the word, recruiting new business, opening doors
- consultant commenting on plans and giving feedback on the needs and hopes of business.

There are also more operational/action oriented roles:

- project partner promoting ideas and developing projects that will help deliver the neighbourhood strategy
- local employer offering training, positive recruitment, mentoring
- specialist adviser offering specialist advice on business planning, human resources, IT and financial management.

When you have thought through precisely what role you want the private sector to play, develop a list of possible private sector and individuals in private sector that you want to involve. You can draw on contacts you know or can easily find out about local private sector obviously, but also people likely to be sympathetic to involvement. Find out about the corporate social responsibility staff in big firms. Use relevant member organisations - the Chamber of Trade or Commerce, the local Traders' Association or a Business Forum. Is there a local Common Purpose?

Capitalise on direct approaches – personal referrals or word of mouth contact. And be sure that when you have sown the first seeds of interest you are able to follow up with concrete messages about the benefits to business, the jobs that a business person might do for you and so on.

- Remember business from outside the area. It is unlikely that there will be many large businesses actually within a neighbourhood renewal area so look for those businesses nearby, or those whose business might have a local link in terms of employees or markets. The BRIDGE program makes links between smaller local business and larger firms which may be a little way away
- remember less well connected or invisible businesses – minority ethnic businesses or small local traders. People running these businesses will be independent, busy and under pressure, and so harder to reach. Some form of outreach may be necessary
- remember the diversity of business and the need to take different approaches to large and small firms
- remember that many of the businesses may have been – or still are involved in some other initiative, an Education Action Zone, the Learning and Skills Council, an Employment Zone, a College Board of Governors, an Education/Business Partnership
- remember the social economy, the local not for profit sector which may provide lots of services and jobs locally.

Taking Stock: *Make Inventory Of Businesses On Negative List*

Taking stock will make it easier to establish a common and shared agenda and make sure that you don't simply repeat past mistakes or ask the private sector to do things that they were asked to do by someone else last year. In taking stock you might need to:

- find out what consultations have already taken place – just like residents, businesses don't like being asked the same questions time after time
- establish the needs and concerns of businesses in the locality and don't ignore the needs of those that are hard to reach - small business and BME businesses, for example
- find out how businesses are already engaged and make use of it. Try to find out why business is *not* involved

- check out the competition for their interest other partnerships, other requests for involvement (e.g. sponsorship of the arts or of local events)
- map out the actions that business would be willing to take and the people who would be willing to be actively involved
- identify the resources time, expertise, staff - which business might be able to offer.

Some Assisting Organizations You May Contact:

- **The Business Broker** initiative has been developed to help Local Strategic Partnerships engage the private sector. It assists in meeting job floor targets, building enterprise and supporting renewal. It currently involves a Business Broker in each region and a support unit at Business in the Community
- **Partners in Leadership with Community Enterprise** matches people in business with managers of social enterprises through a two way mentoring relationship. Partners work on leadership issues and finding business solutions to the challenges they face
- **Cares** is a business-led employee volunteering programme through which employees give their time and skills to the communities in which they live. It is organised through a network of local Cares partnerships and encourages a range of community-focused activities and action days
- **The Phoenix Fund** supports entrepreneurship in disadvantaged areas, helping to develop self-confidence and determination in local people and communities. It includes a Development Fund
- **Business Bridge** brings together small firms to discuss key issues facilitated by a large company. Groups of managers from around ten small firms (owner managers with up to 50 employees) meet monthly with two facilitators to gain better management skills and access to a local network
- **Seeing is Believing** was introduced to inspire local business managers to get involved, to make a difference to communities, to spread involvement more widely across their own companies and to share the message with others. The Seeing is Believing approach encouraging engagement by visits to and exchange with workers and residents in disadvantaged areas is now widely adopted

- **Three Steps**, an approach developed by BitC through a market towns initiative in the Eastern region, brings together key local stakeholders (externally facilitated) to develop a 'business proposition' for the town, to agree an agreed 'prospectus, and target the wider business community through a Seeing is Believing' visit.

Keeping it Going:

The evidence is that whilst there may be initial enthusiasm for engagement, business men and women soon tire of 'talking shops', and remain involved only where there are real things to do and real benefits to be seen. But ensuring migration of the private sector is a long term task and it is essential to work towards sustainability and build long term commitment to renewable energy.

It's about mutual learning between new partners research has shown that 'many private sector organisations struggle to make the connections between their own business interests and practices and wider considerations'.

In part this is a cultural issue business needs to understand the challenges involved in turning round neighbourhoods and to accept there is no quick fix. 'Seeing is Believing' occasions or similar visits, study tours and so on will help, but you need to take steps to maintain the level of interest which may have been stimulated. This will rely on:

- good communication face to face contact and use of existing networks and channels of communication what about a regular item on the Chamber of Commerce or Trade agenda, or a regular visit to the company chief executive, board or owner
- regular feedback make sure that business people know what's going on and how what they have done has helped make a difference, however small
- building relationships arrange regular (though not too frequent) meetings over the long term in order to tie down commitment and get dates into diaries
- use language that business people will understand avoid jargon, avoid bureaucratic styles, understand that business works in different ways in relation to holding meetings or taking decisions
- engaging the organisation as well as the individual make sure that its not just one enthusiastic manager that's involved, but that her or his senior managers know what's going on and that the business is exercising its social responsibilities.

Do's and Don'ts

DOs

- Make sure that you keep in touch with the people you are trying to engage and make them feel valued and wanted
- play to the skills and knowledge of individuals and companies
- make efforts to involve the less well-connected businesses.

DO NOTs

- Make it difficult to engage with lots of meetings or design heavy agendas
- expect too much from people who are very busy focus their time and energy
- forget to tell people what has been achieved as a result of their input ask for money.

Actions Summary:

- Prepare a 'shopping list' of what you would like to get from the private sector
- find out the existing networks of local businesses in the neighbourhood and the city/district a whole
- find out more about small and BME businesses in the neighbourhood
- look at the web and see what's happened elsewhere
- decide what roles you want the private sector to play
- prepare a special local case for persuading business to get involved
- talk to Business in the Community
- identify a few key private sector people and try to get them to do the publicity for you
- be absolutely clear what benefits the private sector are going to get from engaging with you

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This book has been commissioned by The Global Environment Facility (GEF). GEF is an independent financial organization that provides grants to developing countries for projects that benefit the global environment and promote sustainable livelihoods in local communities. GEF projects address six complex global environmental issues:

- ✧ Biodiversity
- ✧ Climate Change
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- ✧ The Ozone Layer
- ✧ Persistent Organic Pollutants (POPs)

The Global Environment Facility (GEF) is a mechanism for international cooperation for the purpose of providing new, and additional, grant and concessional funding to meet the agreed incremental costs of measures to achieve agreed global environmental benefits in the areas of biological diversity, climate change, international waters, and ozone layer depletion. Land degradation issues, primarily desertification and deforestation, as they relate to the four focal areas will also be addressed. In carrying out its mission, the GEF will adhere to key operational principles based on the two Conventions, the GEF Instrument, and Council decisions

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- ✧ The European Bank for Reconstruction and Development (EBRD)
- ✧ The Inter-American Development Bank (IDB)
- ✧ The International Fund for Agricultural Development (IFAD)
- ✧ The UN Food and Agricultural Organization (FAO)
- ✧ The UN Industrial Development Organization (UNIDO)

GEF Project Information

Since 1991, GEF has provided grants for more than 1,300 projects in 140 countries.

About The Author

Navneet K. Mathur is a committed thinker who believes that “Thinking is the purest form of work” He learnt the art of penning his thoughts under the tutelage of **Prof. Peter F. Drucker**, Father Of Management, at The Claremont Graduate School (CGS), Los Angeles, USA. He is also the awardee of the prestigious Rotary Graduate Scholarship, for pursuing MBA at The CGS. Navneet is an existentialist who believes that we have all come into existence as agents of Goodness. He believes in the **Kantian Doctrine** of the *Categorical Imperative*, and would like to see the private sector emerge as a moral community that does good while it earns profits. He is also the Editor of ***Renewable Energy Newsletter***, published by **YES Campaign**, Boston, MA, USA, and sponsored by **The Global Environment Facility** the Washington based arm of **The World Bank**; and, the premiere ecology protection multi-national organization of our planet .

Renewable energy is fundamental to sustainable development and is at the heart of any poverty alleviation strategy.

Mohamed T. El-Ashry
Chief Executive Officer
and Chairman
Global Environment Facility
March 7, 2000

This book traverses the various regions of the subject of energizing renewable energy entrepreneurship by ensuring the migration of the private sector into this industry. It explores the underlying economic realities which necessitate the involvement of the private sector for the promotion of renewable energy. It assesses the barriers to private sector engagement, their removal, and consequent impact. A case study of private sector operations in renewable energy is presented. We also review as to how human capital and its endogeneity, are critical determinants of entrepreneurial income growth. Clean energy entrepreneurship is discussed and a need for creating an inventory of initiatives is spelt out. Strengthening laissez faire in renewable energy economics, ensuring the free play of market forces and ensuring elements of competitiveness in renewables, is delineated. Promulgative complusions that will ensure protection to entrepreneurs are numbered out. Some econometric delineations which are essential economic considerations for an entrepreneur are also touched upon. Finally, a Toolkit on "How To Engage The Private Sector" is appended.



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"Renewables will become an important part of the energy mix of the future. We intend to create a significant business in this sector, making the most of the opportunities which this trend will bring."

Karen De Segundo
CEO,

Shell
Renewables

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