Making energy supply secure and curbing energy’s contribution to climate change are often referred to as the two over-riding challenges faced by the energy sector on the road to a sustainable future. Yet there is another key strategic challenge for the energy sector, one that also requires immediate and focused attention by governments and the international community. It is the alarming fact that today billions of people lack access to the most basic energy services, electricity and clean cooking facilities, and, worse, this situation is set to change very little over the next 20 years, actually deteriorating in some respects.

For more than a decade, the IEA’s World Energy Outlook (WEO) has relentlessly focused attention on modern energy access, providing the international community with quantitative, objective analysis. Our latest estimate is that currently 1.3 billion people do not have access to electricity, around 20 per cent of the global population, and that almost 2.7 bn people rely on the traditional use of biomass for cooking, around 40 per cent of the global population (Figure 1). More than 95 per cent of these people are in either sub-Saharan Africa or developing Asia and 84 per cent live in rural areas. Based on the continuation of current levels of investment in modern energy access, the absolute numbers of people without access to modern energy in 2030 will be scarcely changed (though the proportion of the global population so deprived will have fallen). In sub-Saharan Africa, the numbers without modern energy access will have actually increased. Neither the policies adopted today nor the continuation of a business-as-usual approach will do nearly enough to achieve universal access to modern energy services by 2030.

Despite these sobering statistics, some countries have made notable progress in recent years in improving access to electricity and reducing the number of people relying on the traditional use of biomass for cooking. China has been a great success story, with 500 million people in rural areas gaining access to electricity since 1990 and universal electrification expected to be achieved by 2015. In India, the most recent data show that expenditure on electricity was reported by 67 per cent of the rural population and 94 per cent of the urban population in 2009, up from 56 per cent...
In Vietnam, the electrification rate has increased in the last 35 years from below 5 per cent to 98 per cent. Angola and Congo have also both seen the share of the population with access to modern energy services expand considerably in the last five years, mainly in urban areas.

It is crucial that we build on these success stories as access to modern forms of energy is essential for the provision of clean water, sanitation and healthcare, and provides great benefits to development through the provision of reliable and efficient lighting, heating, cooking, mechanical power, transport and telecommunication services. The international community has long been aware of the close correlation between income levels and access to modern energy: not surprisingly, countries with a large proportion of the population living on an income of less than US$2 per day tend to have low electrification rates and a high proportion of the population relying on traditional biomass. As incomes increase, access to electricity rises at a faster rate than access to modern cooking fuels, largely because governments give higher priority to electrification, though access to both electricity and clean cooking facilities is essential to success in eradicating the worst effects of poverty and putting poor communities on the path to development.

Fortunately international concern about the issue of energy access is growing. The United Nations General Assembly has declared 2012 to be the “International Year of Sustainable Energy for All” and the UN Secretary General has launched his Sustainable Energy for All initiative which includes the target of ensuring universal access to modern energy services by 2030. To illustrate what would actually be required to achieve this target, the IEA’s recent, “Energy for All: Financing Access for the Poor,” includes a special Energy for All Case. The results demonstrate that tackling the problem will not cost the earth: US$48 billion is needed each year to meet the goal by 2030. While this is certainly a large amount, it represents just 3 per cent of expected global energy infrastructure over the period. It is also encouraging to see that the importance of modern energy access is being recognised increasingly by many organisations that provide development funding.

![Figure 2: Additional Global Energy Demand and CO₂ Emissions in the Energy for All Case, 2030](source: World Energy Outlook 2011)
We estimate that capital investment of US$9.1 billion was undertaken globally in 2009 to provide 20 million people with access to electricity and 7 million people with advanced biomass cookstoves. This is believed to be the highest level of investment ever devoted to energy access.

As well as making a major contribution to social and economic development, universal access, if realised, would have a significant impact on the health of those currently cooking with biomass as fuel in basic, inefficient and highly-polluting traditional stoves. Based on World Health Organisation projections, in the absence of further action the number of people who die prematurely each year from the indoor use of biomass could increase to over 1.5 million by 2030. The adoption of clean cooking facilities could be expected to prevent the majority of these deaths. In addition to avoiding exposure to smoke inhalation, modern energy services can also help improve health in other ways, such as refrigeration (improving food quality and storing medicines) and modern forms of communication (supporting health education, training and awareness).

For anyone concerned that bringing electricity to 1.3 billion people, and clean cooking facilities to 2.7 billion people, would further dent our chances of meeting ambitious climate goals or of enhancing energy security, our analysis has some reassuring news. It shows that achieving the goal by 2030 would only increase global electricity generation by 2.5 per cent, demand for fossil fuels by 0.8 per cent and carbon dioxide emissions by 0.7 per cent (Figure 2). The small size of these increases relative to the New Policies Scenario – the central scenario of the World Energy Outlook 2011 – is linked to the low level of energy per-capita consumed by the people gaining access to modern energy, and to the relatively high proportion of renewable solutions adopted, particularly in rural and peri-urban households.

So how do we translate the scenario numbers from our Energy for All Case from paper into practice? A good place to start would be to look at the many countries that have already proven that the barriers to achieving modern energy access are surmountable. From their experiences and based on the IEA’s work on energy access financing, there are four key areas where action is needed:

- Adopt a clear and consistent statement that modern energy access is a political priority and that policies and funding will be reoriented accordingly. National governments need to adopt a specific, staged energy access target, allocate funds to its achievement and define their strategy, implementing measures and the monitoring arrangements to be adopted, with provision for regular public reporting.
- Draw on all sources and forms of investment finance to reflect the varying risks and returns of the particular solutions adapted to the differing circumstances of those without access to modern energy. To realise the considerable potential for stepping up the proportional involvement of the private sector, national governments need to adopt strong governance and regulatory frameworks and invest in internal capacity building. Multilateral and bilateral institutions need to use their funds, where possible, to leverage greater private sector involvement and encourage the development of replicable business models.
- Concentrate an important part of multilateral and bilateral direct funding on those difficult areas of access which do not initially offer an adequate commercial return. Provision of end-user finance is required to overcome the barrier of the initial capital cost of gaining access to modern energy services. Operating through local banks and microfinance arrangements, directly or through guarantees, can support the creation of local networks and the necessary capacity in energy sector activity.
- Energy access programmes and projects need to make provision for the collection of robust, regular and comprehensive data to quantify the outstanding challenge and monitor progress towards its elimination. In many ways, providing energy access is an objective well suited to development frameworks such as output-based financing, but accurate data needs to be collected to measure progress. 

In too many countries today, children cannot do their homework because they have no light. Food cannot be kept because there is no electricity. In short, modern society cannot function. This situation is totally unacceptable, both morally and economically. With 2012 being named as the “International Year of Sustainable Energy for All”, all of the important players – including governments, industry, the private sector and financial institutions – have a responsibility to play their part in building further momentum on this crucial issue as it is only through strong, co-ordinated action on a global scale that it will be overcome.

I hope that we can make real progress this year, but regardless of the outcome, the IEA through its World Energy Outlook will continue to push to have energy poverty treated as a central issue in the international energy policy debate.