



A Review of Energy in National MDG Reports

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Foreword

Energy is a fundamental prerequisite for achieving the Millennium Development Goals (MDGs). Without access to reliable and affordable energy services, substantial social and economic development simply cannot occur. This is particularly true for women and children, as they are disproportionately burdened by a lack of modern energy services. Although energy is not directly mentioned in the eight MDGs, the way in which energy services are produced and consumed affects all three pillars of sustainable development—economic, social, and environmental—and therefore all MDGs.

In April 2001, at the ninth session of the Commission for Sustainable Development, governments of the world affirmed that, ‘to implement the goal accepted by the international community to halve the proportion of people living on less than US\$ 1 per day by 2015, access to affordable energy services is a prerequisite’. However, the supply and use of energy can have severe impacts on the local, regional and global environment, including climate change which is an increasingly evident threat to all of humanity, particularly for developing countries. In response to this twin challenge, UNDP is fully committed to working on energy for sustainable development as a prerequisite for achieving the MDGs.

This report reviews the treatment of energy-related issues in national MDG reports as part of UNDP’s ongoing commitment to ‘energizing the MDGs’. In addition to helping us understand how energy issues are recognised in the MDG framework, this study highlights useful examples of how countries have attempted to link energy to a broader set of development issues, such as poverty reduction, gender equality, and environmental sustainability and climate change.

Devising and tailoring country-relevant energy targets will be a necessary step to fully integrate energy considerations into the national development discourse. Likewise, appropriate monitoring indicators will be needed to link energy services to a range of national development outcomes, and this study has identified some good practices in this regard.

To achieve the MDGs, developing countries require considerable scaling up of quality and quantity of energy services. Indeed, a future that is based on current energy trends is not sustainable; economically, socially or environmentally. Strong policy actions are needed both in the North and South to move beyond the ‘business as usual’ approach to energy.

We hope this publication will help highlight useful country-level monitoring efforts and show how some countries are integrating energy considerations into their MDG policy planning to address head on the challenge of energy for sustainable development.



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Executive Summary

The purpose of this document is to assess how energy topics are reviewed and discussed in national Millennium Development Goals Reports (MDGRs) and to identify how energy indicators are being used to track development progress around the world.

Originating from the UN Millennium Declaration, the MDGs are global benchmarks of development progress. The goals set specific and time-bound targets for the eradication of extreme poverty and hunger (MDG 1); achievement of universal primary education (MDG 2); gender equality (MDG 3); reduction in child mortality and improving maternal health (MDGs 4 and 5); combating HIV/AIDS (MDG 6); ensuring environmental sustainability (MDG 7); and, developing global partnerships for development (MDG 8).

Country-level monitoring is an indispensable element in assessing progress towards the MDGs and in mobilising resources to assist developing countries in meeting their targets. The national MDGRs are part of this monitoring and reporting process and they serve as important advocacy tools. Although they are not policy-setting documents per se, the MDGRs do offer a window into the development priorities of each country and the policy paths taken by countries to achieve the goals.

Overall, energy reporting in the MDGRs tends to be ‘by the book’, focusing mostly on MDG 7 and its pre-established indicators. Other development issues, like the energy-poverty nexus, suffer a lower level of visibility in these reports. Because it is only under MDG 7 where global energy-related indicators are suggested, it is not surprising, therefore, to find that most of the energy occurrences and discussions in these reports appeared in the chapters dedicated to MDG 7.

This study shows that while there are structural issues associated with how energy is dealt with in the context of the global MDG framework, there are several good practices that are encouraging and we can learn from, in terms of linking energy to a wider set of development issues at the national level. The use of innovative energy targets and indicators and the references to energy access situations are examples of how to include important energy aspects to improve the MDG monitoring framework.

To conduct this study, national MDG reports from 112 different countries were searched for energy keywords—including energy, electricity, fuel, gas, etc.—to capture a wide-angle view of energy in MDG reporting. Some of the general findings drawn from this desk review include:

- ◆ The finding that the MDGRs vary widely on how much energy analysis they offer and how often energy issues are addressed in the reports. It is not uncommon for energy issues to be missing completely from the MDGRs, while some reports explore the topic thoroughly. Specifically:
 - Some 42 percent of reports contain little or no mention of energy;

- Some 32 percent of the reports have a moderate amount of information on energy (i.e., a paragraph or more, offering some statistics or baseline energy information); and,
 - About a quarter of the reports (26 percent) offer considerable coverage of energy issues, with a page or more of content giving a more nuanced analysis of the country's energy situation.
- ◆ If energy is reported on, it generally occurs under the umbrella of MDG 7, or else in discussions of national infrastructure development. In fact, of the 93 reports that do make at least some reference to energy, 74 do so exclusively in the chapter dedicated to MDG 7. Thus, 19 reports make reference to energy in other chapters, usually in the introduction or within discussions of macroeconomic development in the chapters on poverty reduction (MDG 1).
 - ◆ The most popular energy topics discussed are energy efficiency and energy use as a contributor to air pollution, with 43 and 41 percent of the reports addressing those topics, respectively. The reports from African countries, however, most often discuss energy in the context of wood-fuel use and deforestation issues.
 - ◆ A notable 21 percent of reports offer data on national energy consumption, disaggregated by fuel type and/or source. But disaggregating energy data by other variables (such as gender, poverty, or access by urban vs. rural populations) is much less common. Also, only 12 percent of the reports differentiate between urban and rural uses of energy.

A few countries went beyond the global MDG framework to devise energy-related targets and indicators that have been tailored to better fit their national circumstances. This is an encouraging finding. Eleven countries created additional and/or country-specific energy indicators, mostly intended to measure progress towards achieving MDG 7. However, one country, Albania, has created an energy-related indicator to measure progress towards poverty reduction (i.e., MDG 1).

In the energy for sustainable development discourse, it is important to focus on household access to energy services—not merely energy supply or consumption. About 29 percent of MDGRs refer to the energy access situation in the country, either by explicitly stating how many households have access to modern energy services or otherwise noting how many people still rely on traditional fuel sources (and are therefore likely without access to modern services).

The trend of countries tailoring the MDGs to their national circumstances and the observation of additional and/or country-specific energy targets and indicators in the MDGRs is encouraging. With proper monitoring, energy issues gain needed visibility. With greater visibility, energy needs are put on par with other national priorities. And as such, energy solutions can become incorporated as essential components of an MDG-based national development strategy.

1. Introduction

Energy is indispensable for sustainable development and poverty reduction. Without access to adequate quantity and quality of modern energy services, the achievement of the MDGs will not be possible. At present, there are 1.6 billion people in the world, mostly in rural areas, who have no access to electricity. Another 2.5 billion people still rely on traditional fuels—wood, dung and agricultural residues—to meet their daily heating and cooking needs, having serious impacts on the environment and on people’s health. This situation severely limits economic opportunities and the ability to overcome poverty. Major changes in the energy service delivery system are required so that energy can become an instrument for sustainable development.

While there is no MDG directly addressing energy, it is clear that reaching all of the MDGs will require much greater volumes and quality of energy services over the next 10-year period, especially in rural areas.

At the 2005 World Summit held in New York, the governments of the world resolved to ‘adopt, by 2006, and implement comprehensive national development strategies to achieve the internationally agreed development goals and objectives, including the Millennium Development Goals, by 2015’.¹ Energy services are a cross-cutting issue impacting all the MDGs and will be an important ingredient in both global and national strategies to achieve the goals. Recognising this, in the Summit’s Outcome Document, the world community also resolved to ‘accelerate the development and dissemination of affordable and cleaner energy efficiency and energy conservation technologies...bearing in mind that access to energy facilitates the eradication of poverty’.²

Although energy issues are slowly entering the development discourse, many national development strategies do not adequately address the energy access challenge.³ When energy is discussed in national development planning and reporting, the focus is typically on improving energy supply and infrastructure. Energy access for poverty alleviation is a linkage too often ignored in the development planning process.

The ‘business as usual’ approach to energy will not work. To really improve energy access and scale up energy services for achieving the MDGs, changes must start at the national planning level, where goals, policies, and budgets are set. As a result, policymakers need to apply a renewed focus on energy services as a vehicle for development and as an important part of any MDG-based national development strategy.

¹ Section 22 of the 2005 World Summit Outcome Document, online at : daccessdds.un.org/doc/UNDOC/LTD/N05/511/30/PDF/N0551130.pdf?OpenElement

² Ibid.

³ UNDP, *Energizing Poverty Reduction: A Review of the Energy-Poverty Nexus in Poverty Reduction Strategy Papers* (New York: UNDP, forthcoming).

1.1 Background on the MDG Monitoring and Reporting Process

Originating from the UN Millennium Declaration, the MDGs are benchmarks of development progress, based on such fundamental values as freedom, equity, human rights and peace and security. Countries are increasingly tailoring the MDGs to their own national circumstances, building them into national development strategies and policies, and incorporating them into assistance frameworks and programmes.

Country-level monitoring is necessary in order to assess progress towards the MDGs and to mobilise resources to assist developing countries in meeting their targets. To help track progress, the United Nations Secretariat and the specialised agencies of the UN system, as well as representatives of IMF, the World Bank and OECD defined a set of time-bound and measurable goals and targets for combating poverty, hunger, disease, illiteracy, environmental degradation, and discrimination against women.⁴

The MDG framework consists of the eight MDGs and 18 measurable targets (several for each goal). International experts also selected 48 relevant indicators to be used to assess progress over the period 1990–2015, when the targets are expected to be met.

Country governments use these 48 indicators to report their progress in their national MDG Reports or Reviews (MDGRs). The MDGRs are prepared by the country government with active participation from civil society groups and supported by the UN Country Team (UNCT). This societal engagement in MDGR processes is particularly important for instilling national ownership for achieving the MDGs.⁵

The MDGR has a two-fold purpose of providing public information and social mobilisation as ‘a tool for awareness raising, advocacy, alliance building, and renewal of political commitments at the country level, as well as to build national capacity for monitoring and reporting on progress’.⁶ These reports are not meant to be policy-setting documents or contain in-depth analysis and policy prescriptions. Rather, they set baselines for MDG indicators, document successes, and highlight areas in need of improvement. The ultimate objective of the MDGR is to trigger action by challenging and encouraging policy-makers and other actors to accelerate progress for meeting the MDGs at the country level.

Since August 2005, over 100 developing country governments and 17 OECD and donor countries have published MDGRs. Typically, the reports have a chapter for each MDG and discuss the country’s status and trend, achievements, challenges, and solutions for achieving the eight goals. Monitoring progress is easier for some targets than for others, and high-quality data for some indicators are not yet available for many countries. This underscores the need to assist countries in building national capacity in compiling such vital data.

⁴ United Nations, *Road Map towards the Implementation of the United Nations Millennium Declaration: Report of the Secretary-General* (New York: United Nations, 2001). General Assembly Document A/56/326.

⁵ United Nations Development Group, *Country Reporting on the Millennium Development Goals: Second Guidance Note* (New York: United Nations, 2003).

⁶ Ibid.

In addition, the MDGRs provide countries with an opportunity to contextualise the global goals into their own national circumstances. In fact, according to the United Nations Development Group, the process of preparing the MDGR is meant to ‘help define globally agreed objectives into country specific targets to focus the development debate on nationally defined priorities’.⁷ Preparation of the MDGR is an exercise of adaptation, not merely adoption, of the global MDGs and over half of the countries that have issued reports have adapted their MDG framework to some degree.⁸

1.2 Energy and the MDGs

Despite the fact that modern energy services can facilitate multiple development objectives—from combating poverty and improving health conditions to empowering women—there are no formal energy indicators for any of the MDGs, other than MDG 7.

Under the seventh MDG, to ensure environmental sustainability, Target 9 calls for ‘integrating the principles of sustainable development into country policies and programmes and reverse the loss of environmental resources’. It is here that we find the only three indicators that deal with energy (see Box 1). They are as follows:

- ♦ Energy use per unit of economic output, i.e., a proxy for energy efficiency (Indicator 27);
- ♦ Proportion of population using solid fuels (Indicator 29); and,
- ♦ Carbon dioxide emissions per capita, i.e., an indirect measure of energy use (Indicator 28).

Box 1: Energy Indicators in the MDG Framework

Goal 7. Ensure environmental sustainability

Target 9

Integrate the principles of sustainable development into country policies and programmes and reverse the loss of environmental resources.

Indicators

25. Proportion of land area covered by forest

26. Ratio of area protected to maintain biological diversity to surface area

27. Energy use (kg oil equivalent) per \$1,000 GDP

28. Carbon dioxide emissions per capita and consumption of ozone-depleting CFCs

29. Proportion of population using solid fuels

1.3 Rationale, Purpose, and Structure of this Document

Unlike the Poverty Reduction Strategy Papers (PRSPs), the MDGRs are not intended to be strategy-setting documents. However, they do have a relationship with policy- and decision-making at the country level. In fact, beyond merely reporting baselines and progress on the goals,

⁷ Ibid.

⁸ UNDP, *MDG Monitoring and Reporting: A Review of Good Practices* (New York: United Nations, 2005).

MDGRs have an important influence on national development strategies by highlighting how far or close the countries are with regard to the achievement of the nationally tailored MDGs.

Also, a recent UNDP report suggests, ‘Setting PRSP targets aligned with the MDGs is an effective way of splitting long-term MDG targets into time-bound intermediate steps...In low-income countries, integration of the MDG targets into the PRSP process is of critical importance’.⁹ For this reason, energy issues must make their way into the MDG reporting process, to ensure that they also get translated into MDG-based national development strategies.

But, as this study will confirm, in the current MDG framework, energy issues are typically consigned as an environmental concern only, and it is rare to find attention being paid to the energy-poverty nexus. It is necessary, therefore, to conduct a comprehensive review of energy’s role in the MDG monitoring and reporting process to understand how energy is being perceived and used within the MDG framework and to understand where improvements can be made.

Therefore, the purpose of this document is to:

- ◆ Assess how often energy topics are covered in MDGRs and to identify how energy indicators are being used to track development progress, and
- ◆ Identify good examples that illustrate how countries could better monitor the links between energy and a range of national development goals.

National MDG reports from 112 different countries were searched for energy topics to capture a wide-angle view of energy in MDG reporting. The next section of this report describes the methodology used to measure the level of energy reporting in the MDGRs. General findings are described in Section 3. Then, Section 4 highlights best practices and lessons learned from the review of the 112 reports, with subsections on poverty reduction (MDG 1), education (MDG 2), gender equality (MDG 3), health (MDG 4 and 5), and environmental sustainability (MDG 7). Section 5 highlights some regional differences observed in this study, and finally the report concludes with some forward-looking recommendations on how to improve energy reporting in the context of the MDGs and MDG-based development strategies.

⁹ UNDP, *MDG Monitoring and Reporting: A Review of Good Practices* (New York: United Nations, 2005).

2. Methodology

This report is the result of a desk review of the national Millennium Development Goal Reports (MDGRs) that have been published as of August 2005. Reports were reviewed from 112 different countries, covering five regions: Africa, Asia, Arab States, Europe and the Commonwealth of Independent States (CIS) region, and Latin America.¹⁰ Reports from the Organization for Economic Cooperation and Development (OECD) and donor countries were not reviewed for this study.

The 112 reports were scanned for energy keywords such as, ‘energy’, ‘fuel’, ‘electricity’, ‘gas’, etc. When energy keywords were found, the context of the discussion was noted and comments summarised. This consolidated data can be found in Annex B of this report.

Gathered information was analysed to determine both the breadth and volume of energy information—in other words, how often energy is mentioned, how thoroughly energy issues are described and in what context they are addressed (i.e., for which MDG). A qualitative analysis was conducted to draw some emerging trends and conclusions regarding how energy is discussed in the MDG reporting process. Quantitative measures, on the other hand, were used to derive raw numbers and compare basic statistics.

2.1 Quantitative Analysis: Extent of Energy Reporting

This section aims to answer the question of whether energy issues are being reported as part of the MDG monitoring process, and how often or thoroughly this occurs.

Each MDGR was rated on the basis of how much energy-issue reporting it contains, on a scale of 1 to 3, with 1 indicating ‘little or no energy content’ and a 3 indicating a ‘thorough reporting’ of energy content. The scale below describes the criteria used for scoring each report.

Box 2: Depth of Content Rating

1 = **Little or no mention.** Energy keywords did not appear in the MDGR reviewed or only appeared once or twice, or a single energy statistic provided

2 = **Moderate information.** A few lines or one paragraph devoted to energy issues. Some basic statistics or baseline information provided. The report describes energy situation in country.

3 = **Thorough reporting.** Two paragraphs (half a page) or more on energy issues. MDGR offers a more nuanced analysis on energy’s role in sustainable development and in achieving the MDGs.

It is important to note that this rating is only meant to measure the quantity and extent of energy reporting, not the quality or depth of energy reporting. Nonetheless, such a rating is useful, as it

¹⁰ By August 2005, a total of 155 MDGRs had been published by 139 countries, including 17 OECD and donor countries. This study reviewed only the 112 reports from developing countries, which were made readily available in electronic format. When multiple reports were available for a single country, only the most recently published version was reviewed.

provides a quick idea of the perceived salience of energy issues and how they measure up vis-à-vis other development topics in the MDGRs.

2.2 Qualitative Analysis: Breadth of Energy Reporting

The range of energy issues, or breadth, is an important factor to note in order to draw some emerging trends and themes—for example, to see if energy is merely being discussed in terms of its impacts on the environment, or if energy services are being recognised for their contributions towards development. Therefore, this study sought to draw out the energy themes found in the MDGRs, directing particular attention to the following questions:

- ◆ How is energy discussed in relation to each of the MDGs? Do energy references readily occur outside of the MDG 7 context?
- ◆ Does the MDGR report on overall national patterns of energy consumption? Does it provide sub-national information on energy consumption, for instance, at the level of different provinces or regions?
- ◆ Does the report differentiate between urban and rural patterns of energy use?
- ◆ Does the MDGR present information on energy access and/or availability in the country?
- ◆ Does the report offer statistics on how many households have access to electricity or gas?
- ◆ Is there any mention of energy infrastructure or energy services vis-à-vis poverty alleviation? Does the report consider the energy-poverty nexus and the energy-gender nexus?
- ◆ Are fuel supply sources described? Does the report mention share of renewable sources of energy in the national fuel mix?
- ◆ In the context of CO₂ emissions and air pollution, does the report specify the role of energy use?
- ◆ Are any additional, country-specific energy indicators reported on (i.e., beyond the global energy indicators suggested in the current MDG framework)?
- ◆ Are there any references to indoor air pollution and the health effects of solid fuel use?

In addition to noting what energy themes arose in the MDGRs, it was interesting to note *where* in the MDGRs energy reporting occurred. Most MDGRs dedicate a chapter to each of the eight goals, so the chapter location of the energy discussion was noted as well.

3. Review of Energy in the MDGRs: General Findings and Observations

After conducting a broad desk review of the MDGRs and the reporting of energy issues within them, some general metrics and findings can be drawn:

- ◆ Regarding the frequency of energy reporting, while over half of the reports make some reference to energy issues, the remaining reports (42 percent) generally make no mention of energy. A quarter of the reports were found to have considerable coverage of energy topics, devoting half a page or more to energy issues.
- ◆ When energy is reported on, it generally occurs under the umbrella of MDG 7, or otherwise regarding infrastructure development in a country. In comparison, the energy-poverty nexus has received far less visibility and attention in the MDG reporting process.
- ◆ Generally, the most popular energy topics discussed are energy efficiency and energy use as a contributor to air pollution, with 43 percent and 41 percent of the reports addressing those topics, respectively. Other common topics include the use of solid fuel and problems of deforestation as a result of wood fuel use. The reports from African countries, in fact, most often discuss energy in the context of wood fuel use and deforestation issues.
- ◆ A notable 21 percent of reports offer data on national energy consumption, disaggregated by fuel-type/source. But disaggregating energy data by other variables (such as gender, poverty, or access by urban vs. rural populations) is much less common. Only 12 percent of the reports differentiate between urban and rural uses of energy.

Regarding the analysis of energy access and the use of energy indicators to measure progress on the MDGs, this study found the following:

- ◆ About 29 percent of MDGRs refer to the energy access situation in the country, either by explicitly stating how many households have access to modern energy services or otherwise noting how many people are still relying on traditional fuel sources (and are therefore likely without access to modern services).
- ◆ Eleven countries have created additional and/or country-specific energy indicators. For the most part, these indicators are meant to measure progress towards achieving MDG 7. However, one country, Albania, created an energy-related indicator to measure progress towards poverty reduction (i.e., MDG 1).

3.1 Frequency and Extent of Energy Reporting

It is not unusual for energy issues to be completely missing from MDG country reports. In fact, 19 (17 percent) of the reports reviewed do not mention electricity, fuel, or energy services, while a third of the reports contain only minor mentions, with just a passing reference to energy use in the country.

Nonetheless, as Table 1 indicates, over half of the reports reviewed devote a paragraph or more to discussing energy issues (with a 2 or 3 rating). Of these, a small minority, nearly 4 percent of the reports, discuss energy issues quite thoroughly, devoting two pages or more to the topic. These included the reports from Bangladesh, Brazil, Chile, Nepal, and Sri Lanka.

Table 1: Rating the MDGRs Based on Amount of Energy-Related Content

	1 = Little or No Mention	2 = Moderate Amount of Information	3 = Thorough Coverage	Total
Africa	22	10	5	37
Arab States	4	8	1	13
Asia	1	8	10	19
Europe CIS	12	3	7	22
Latin America	8	7	6	21
Total:	47	36	29	112

Rating Key:

1 = *Little or no mention*. Energy keywords appeared once or twice (if at all), or a single energy statistic provided.

2 = *Moderate amount of information*. A few lines or up to a paragraph devoted to energy issues. Some basic statistics or baseline information provided.

3 = *Thorough reporting*. Half a page or more on energy issues. MDGR offers a more layered analysis on energy's role in sustainable development.

3.2 Context of Energy Reporting

Much of the discussion of energy in these reports occurs in the context of the seventh MDG, ensuring environmental sustainability. In fact, of the 93 reports that do make at least a minor reference to energy, **74 of those do so exclusively in the chapter dedicated to MDG 7**. This leaves 19 reports that make reference to energy in other chapters—usually in the introduction, or within discussions of macroeconomic development in the chapters on poverty reduction (MDG 1).

Under MDG 7, the most prevalent energy-related topics are **energy efficiency** (or lack thereof), **carbon dioxide emissions**, and **solid fuel use** (see Table 2). This is not surprising, given that the three energy indicators listed under Target 9 of this goal are designed to measure these three topics.

Outside of the MDG 7 context, the need for expansion of **energy access and infrastructure** for economic development was a recurring theme. Twelve countries reference the need to develop energy infrastructure—four of them citing this as a potential area of global partnership collaboration (MDG 8).

Table 2: Occurrence of Energy in the MDG Country Reports

CONTEXT OF ENERGY DISCUSSION	Percentage of reports that discuss energy issues in each chapter					
	Intro. or Conclusion	CHAPTER OR REPORT SECTION				
		MDG 1	MDG 2	MDG 5	MDG 7	MDG 8
Portion of population using solid fuels	1%				26%	
Energy efficiency (indicator 27)					43%	
Energy as a contributor to CO ₂ / air pollution					41%	
National energy consumption rates / national energy fuel mix					18%	
Use of wood for fuel causing deforestation	2%				27%	
Health consequences / indoor air pollution					3%	
Energy infrastructure vis-à-vis economic development	8%	4%		1%	3%	4%
Portion of population w/access to electricity	3%	1%	2%		9%	
Renewables as share of national fuel mix	1%				7%	
Tariffs and pricing issues for energy	1%				4%	

Note: Percentages based on a review of 112 MDGRs.

3.3 Reporting on Access to Energy

Increasing **access** to modern energy services is the most important aspect of the energy-poverty agenda. While energy is not explicitly referred to in the MDGs, it will not be possible to achieve the poverty reduction goal and other MDGs without a major increase in the quality of and access to modern energy services for the poor. The magnitude of this problem is so great that in most developing countries, tackling poverty and reaching the MDGs will not be possible without addressing the issue of energy access for the poor.

Some 32 countries report statistics on either household use of traditional fuels (such as biomass) as their primary energy source, or they provide statistics on the portion of population that has access to electricity. In other words, **29 percent of MDGRs offer some insight on the country's energy access situation** at the household level. For example:

Burkina Faso The report notes that 'only 46 percent of households had access to electricity in 2003 compared to 34 percent in 1998. In rural areas, only 1 percent had access in 2003 compared to 0.6 percent in 1998'.

Central African Republic Report states that, '[d]espite the high (and under-exploited) potential for renewable energy supply (hydro, solar and biomass) only 1.9 percent of households in 1993 and 6 percent in 2000 had access to electricity. ...The prohibitive cost on electricity is a limiting factor toward the access of energy services by the poor'.

Congo Report notes that '67 percent of households use wood fuel as primary sources of energy.' Regarding ways of improving lives a slum dwellers: "increase

	access to electricity’.
El Salvador	Report estimates that 2 million do not have access to electricity. Use of gas (propane) for cooking has increased, and use of bio-fuel for this purpose has decreased.
Viet Nam	Report states that ‘[b]y the end of 2004, the national power grid reached 900 poor communes. All districts and 90 percent of communes throughout the country have electricity’.

Annex A contains a more complete summary of the energy access reporting that was found in the MDGRs.

It is interesting to note that of this group of 32 MDGRs, nearly half are from African countries. This underscores the finding that in African countries, access to energy services (or lack thereof) is a concern worth noting.

A few countries are more deliberate in the way they address energy access issues and go a step beyond merely reporting statistics to provide more insight. The report from Afghanistan provides a good example, as indicated by the following excerpts (see Box 3).

Box 3: Excerpts from Chapter 10 of the Afghanistan MDGR (2005)

From Page 84:

The proportion of the population using solid fuels is as high as 100 percent in rural areas and should be brought down to 90 percent in rural areas and 80 percent in urban areas by 2015. Achieving this objective depends on the availability of alternative energy sources as well as the level of awareness of communities.

From Page 86:

MEETING THE TARGETS

To achieve the MDG on environmental sustainability, a number of measures must be urgently undertaken. Besides increasing the proportion of land areas under protection and ensuring effective protection as well as increased afforestation, the Afghan population must have access to cheap non-solid fuels. Examples of other poor countries show that it is possible to achieve a transition from the use of coal and wood toward gas and solar energy in 20 years.

Also, increasing electrification should be pursued in rural areas. Currently, only 6 percent of the Afghan population have access to a regular supply of electricity, “and electricity consumption per capita at 12 kwh/year is among the lowest in the world; only 234,000 customers are connected to the public grid, approximately 30 percent of whom are in Kabul. The other provinces have even less access, and rural areas are virtually un-served. Modern or efficient energy services are a pre-requisite for increasing productivity and improving the quality of life.

3.4 Target-Setting and Tailoring Energy Indicators

The global MDG framework consists of 18 targets—several for each MDG—which are to be met by the year 2015. To monitor the progress towards these targets, the framework includes 48 indicators which measure social, economic, and environmental conditions.

But in order to track progress on the MDGs at the **national** level, the global MDG targets and indicators are also meant to be adapted—not merely adopted—to reflect national development priorities. As such, countries are increasingly tailoring the suggested targets to meet their different national needs and objectives and using the MDG country reports as a platform for integrating additional standards and measures for tracking their development progress. More than half of the countries that have issued MDGRs have, in fact, adapted the targets and indicators to some degree or another.¹¹ This is a significant finding. It demonstrates that many countries are willing to take ownership of the development agenda, and they are doing so by:

- ◆ Tailoring the eight MDGs or adding new goals;
- ◆ Tailoring the 18 global targets and/or incorporating additional, country-specific targets to reflect national circumstances and better address national priorities and needs; and,
- ◆ Developing their own indicators, in lieu of or in addition to the 48 global indicators, to better track their progress towards tailored targets and goals.

What do these trends imply for the energy and sustainable development agenda? A handful of countries have begun to tailor their MDG frameworks and introduce **energy-specific** indicators or targets.

It is particularly encouraging to see some countries develop indicators that go beyond merely measuring the supply or consumption of energy. Some countries, though there are only a few, have developed targets or indicators for **energy access and use of renewable sources**. Regarding renewable energy, three countries (the Central African Republic, Lebanon, and Thailand) have developed indicators to measure access to renewable energy sources or the share of renewable sources in the country's energy mix. Costa Rica, Slovenia, and Thailand have also set targets to increase the use of renewables by 2015.

Unfortunately, energy access indicators—indicators which measure the ability to access energy services at the household level—are not commonly used in the MDGRs. One exception is the MDGR from Benin, which includes indicators to measure household use of gas and electricity.¹² Such indicators give a more accurate picture of the economic and social conditions in a country, and when monitored over time can illustrate the impact of energy services in long-term economic growth and development.

¹¹ UNDP, *MDG Monitoring and Reporting: A Review of Good Practices* (New York: United Nations, 2005).

¹² Benin does not have data for these indicators yet, which underscores the need to step up efforts to collect this kind of information.

Tailoring of Goals

Although a number of countries have expanded the MDG agenda by adding one or more country-specific goals, none has yet established an energy goal per se. However, Viet Nam has introduced the Viet Nam Development Goals (VDGs), including four additional goals for vulnerability, governance, ethnicity and infrastructure. The goal to develop ‘Pro-Poor Infrastructure’ includes a target to expand power for lighting.

Developing Energy Targets

One country, Albania, has created an energy target and associated indicators for monitoring poverty alleviation under MDG 1 (see Box 4). The Albanian report provides an notable example of how energy indicators can be used to track progress on a variety of development objectives.

Box 4. Setting Country-Specific Energy Targets and Indicators: An Example from Albania

The government of Albania has set ambitious targets that go beyond the MDG framework, including an energy-related target and indicators to monitor progress towards achieving MDG 1.

Albania **MDG 1**: Eradicate extreme poverty, hunger, and other dimensions of poverty

Target 1: Halve, between 2002 and 2015, the proportion of people living in extreme poverty;

Target 2: Reduce, between 2002 and 2015, the proportion of people who suffer from malnutrition;

Target 3: Reduce unemployment, between 2002 and 2015, to reach EU standards;

Target 4: Establish an open trading and financial system for inclusive economic growth;

Target 5: Make information and communication technologies available;

Target 6: Increase availability of electricity for all.

Indicators: 6.1 Increase power generation (generation GWh)

6.2 Reduction of transmission losses (Annual losses GWh [%])

Several other countries have made notable efforts to solidify the objectives of Target 9 with additional energy-specific targets, and to help integrate sustainable development into country policies and programmes and reverse the loss of environmental resources. For example:

- ◆ Cleaner Energy Use: Costa Rica, Slovenia, and Thailand aim to increase the use of renewable sources of energy over the next decade. Pakistan has determined to increase the use of natural gas as a cleaner, healthier source of energy.
- ◆ Energy Access: The Central African Republic set a target to generally increase energy access, specifically to, ‘increase from 0 to 10 percent by 2015 the portion of the rural population with access to energy services’, and to ‘increase by 20 percent the access by urban households to modern and renewable sources of energy for domestic and productive uses’. Viet Nam has set a target to “ensure that 100 percent of poor communes have access to essential infrastructures,” and includes lighting power as an essential infrastructure.
- ◆ Emission of CO₂ and Health-Damaging Air Pollutants: The MDGRs of six countries—Bulgaria, China, Lao PDR, Pakistan, Romania, and Ukraine—incorporate country-specific targets for reducing emissions of CO₂ and health-damaging air pollutants. In their MDGRs, Pakistan and the Ukraine mention reducing hazardous chemicals in fuel.

- ◆ Use of Solid Fuels: Cambodia has created many tailored targets, and aims to reduce fuel wood dependency from 92 percent of households in 1993 to 52 percent in 2015.

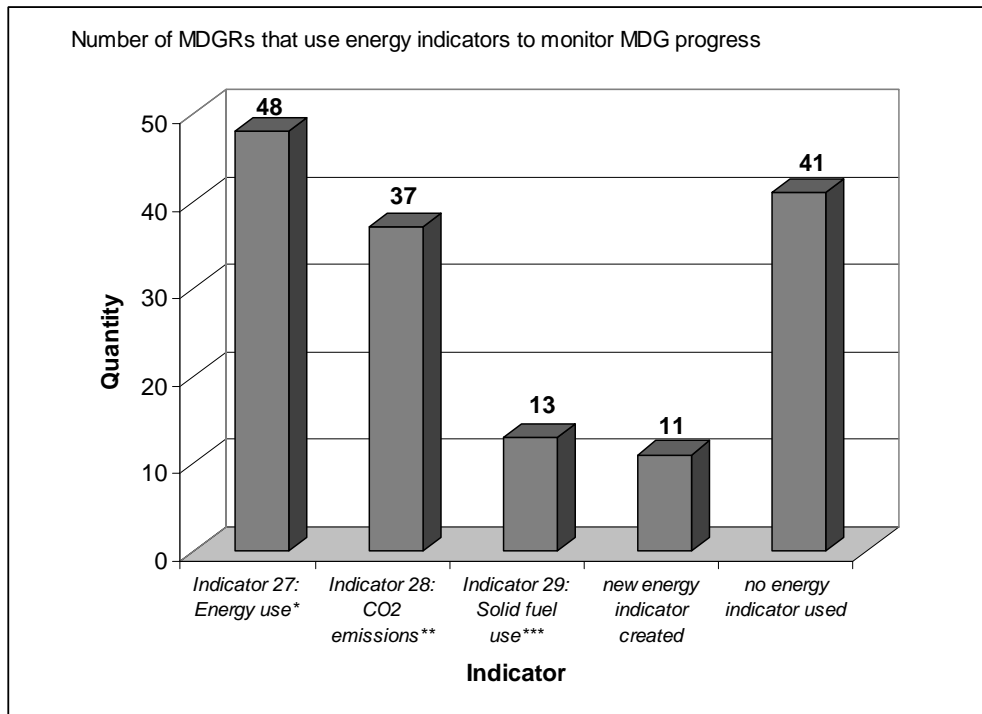
Tailoring of Indicators

Several countries have also modified their indicators for monitoring MDG 7 or have expanded their list altogether. The Cambodia MDGR serves as a useful example. In fact, the Cambodian report presents a table of the global MDGs, targets, and indicators as proposed by international community with a side-by-side listing of corresponding original indicators chosen by the government of Cambodia in consultation with major stakeholders. For instance, instead of using indicator 26, ‘land area protected to maintain biological diversity’, the Cambodian government uses a series of seven different but related indicators, and so on.

The following is a list of **additional and/or country-specific energy indicators** found in reporting of MDG 7:

- ◆ *Benin*. Includes as indicators proportion of households using gas for cooking and proportion of households with electricity, though values are not available and/or offered for these indicators.
- ◆ *Bosnia Herzegovina*. Along with indicators 27 and 28, some additional energy indicators are identified, including electricity consumption and taxes on non-renewable energy sources as a percent of total taxes (yet to be derived).
- ◆ *Cambodia*. Adapts indicator 27 into its own customised MDG framework as indicator 7.9 on fuelwood dependency.
- ◆ *Central African Republic*. Includes an additional indicator on access to renewable sources of energy.
- ◆ *Indonesia*. Includes as an indicator proportion of population using biomass as cooking fuel.
- ◆ *Lao PDR*. Reports on indicator 29 (proportion of population using solid fuels) and on another indicator, emissions from fossil fuel combustion.
- ◆ *Lebanon*. Reports on indicators 27 and 28, as well as energy generated from renewable sources (percentage).
- ◆ *Pakistan*. Incorporates indicator 27 as well as two other energy-related indicators, namely number of vehicles using compressed natural gas fuel, and sulphur content in high-speed diesel (as a proxy for ambient air quality).
- ◆ *Slovenia*. Includes an additional indicator—proportion of renewable sources of energy in gross production of electricity—to monitor its country-specific target regarding increased use of renewable sources of energy.
- ◆ *Thailand*. Incorporates an additional indicator—share of renewable energy in commercial primary energy—as well as the three indicators (27, 28, and 29) included in the global MDG framework.

Figure 1: Energy Indicators in the MDGRs



* Indicator 27: Energy use (kg oil equivalent) per \$1 GDP (PPP)

** Indicator 28: Carbon dioxide emissions per capita and consumption of ozone-depleting CFCs (ODP tons)

*** Indicator 29: Proportion of population using solid fuels

4. Integration of Energy-Related Issues in MDGRs by Goal

As indicated above, although no MDG refers directly to energy, increasing access to modern, affordable energy services is central to reaching all eight MDGs. In this section, we review how energy issues are integrated into reporting on individual MDGs—from MDG 1 on eradicating extreme poverty and hunger to MDG 2 on education, MDG 3 on gender equality, MDGs 4 and 5 on health, and MDG 7 on environmental sustainability. This review includes discussions of how energy appears in the reporting process, how country reports are identifying the energy-development linkages, and how energy indicators can be used more readily to track progress on each goal at the country level.

4.1 Energy and Poverty Reduction

Under MDG 1, countries commit to eradicating extreme poverty and hunger by 2015. Increasing poor people's access to modern, affordable energy services is an important step forward in reaching that goal. Energy is an engine of growth, and reaching MDG 1 will be impossible without ensuring access to sufficient levels of energy services.

Currently, over 2 billion of the world's people have no regular access to reliable energy services. For them, the availability of modern fuels for cooking and heating, as well as gaining access to electricity, could dramatically increase their ability to engage in productive enterprises and earn additional income, thereby reducing poverty and hunger and raising standards of living.

Box 5. Goal 1: Eradicate Extreme Poverty and Hunger

Target 1. Halve, between 1990 and 2015, the proportion of people whose income is less than one dollar a day

Target 2. Halve, between 1990 and 2015, the proportion of people who suffer from hunger

Indicators

1. Proportion of population below \$1 (1993 PPP) per day
2. Poverty gap ratio [incidence x depth of poverty]
3. Share of poorest quintile in national consumption

Indicators

4. Prevalence of underweight children under five years of age
5. Proportion of population below minimum level of dietary energy consumption

Despite the importance of energy for creating additional opportunities to improve poor people's livelihoods, few reports refer to energy in the context of MDG 1. Of the 112 reports reviewed for this study, only six contained any mention of energy in their chapters devoted to MDG 1, with most of the comments focused on the macroeconomic benefits of improving energy infrastructure and supply. Typical of these is a statement in the introduction to the Bhutan report, which notes that, 'development of hydropower and energy-intensive industries are viewed as strategic key elements in unlocking the economic potential of the country and serve as engine of growth'.

Less frequently do countries make direct linkages in their MDGRs between energy services and reduction of poverty and hunger. One of the few such examples is the introduction of the Cameroonian report, which notes that the 'use of wood as energy source by households is due mainly to insufficient income'.

The following excerpts are the only instances of energy reporting under MDG 1 found within the 112 reports that were reviewed for this study.

- Albania** The report notes that the ‘lack of a reliable supply of electricity hinders the profitability (or outright feasibility) of productive investments thus lowering economic growth, again with long lasting effects’.
- Cape Verde** In a list of public policies to alleviate poverty, the report states, ‘rural access to electricity will be essential in promoting income generating activities’.
- Guinea** The report lists as a challenge the insufficient infrastructure and factors of production, including roads, telecommunications, and energy.
- Jamaica** The report mentions the success of some elements of the National Poverty Eradication Programme (NPEP), including rural electrification.
- Sierra Leone** The report notes that the ‘absence of reliable and cost-effective energy supplies, for example...impede private sector activities’.
- Sri Lanka** Under MDG1, the report cites challenges in ‘providing a wide range of infrastructure services to consumers such as electricity, road, transport, communication and water supply, at competitive prices’.

These brief references are the only found instances of energy issues under the MDG 1 header. Yet, for countries to establish enabling policies for MDG 1, it is necessary that they also establish appropriate indicators for energy access in relation to the poor.

4.2 Energy and Education

Under MDG 2, countries commit to achieving universal primary education. Increasing access to modern, affordable energy services can have an important impact on the ability of the poor, especially girls and women, to obtain an education. Energy scarcity and reliance on traditional biomass fuels, such as wood, crop residues, and dung, condemns many women and children to the daily drudgery of collecting firewood, fetching water, and other time-consuming manual tasks. The need for such large amounts of manual labor to meet daily household needs is a key factor limiting children’s enrollment in school.

With increased access to affordable energy services, children are more likely to complete primary education and beyond. Moreover, electricity can bring needed lighting to homes and schools, creating a better environment for children to learn. The availability of energy services can also fuel increased productive activity and generate additional income, thereby enhancing the capacity of poor families to afford school fees.

Box 6. Goal 2: Achieve Universal Primary Education

Target 3.	Indicators
Ensure that, by 2015, children everywhere, boys and girls alike, will be able to complete a full course of primary schooling	6. Net enrolment ratio in primary education 7. Proportion of pupils starting grade 1 who reach grade 5 8. Literacy rate of 15- to 24-year-olds

Only two MDGRs, from Botswana and Mongolia, mention energy services in reference to the second MDG. These reports specified that the lack of electricity access in schools is a problem for primary education, as the following excerpts illustrate:

- Botswana** Report notes that, '[m]any public primary schools on the other hand do not have sufficient ICT resources. Many do not even have access to electricity'.
- Mongolia** Report states that, '[p]roblems of an inadequate supply of electricity and heating, declining quality of buildings and facilities undermine the learning environment of those in school'.

Some country reports do point out that the burden of household chores is a barrier to education, keeping children from being enrolled in school. For example, the Nepal report notes that, '[r]educing the household work and other work of children can contribute to the promotion of primary school enrollment'. In some parts of the world, collection of wood and other traditional biomass fuels, along with fetching of water, can represent a sizable portion of a child's time, keeping the child away from school. Unfortunately, all too often MDG reporting and development planning fail to address these relationships.

4.3 Energy and Gender

MDG 3 commits countries to gender equality and the empowerment of women. For many women in developing countries, energy is a major factor limiting their capacities, opportunities, and empowerment. Women and girls often shoulder the primary responsibility for obtaining traditional fuels, such as wood, dung, and crop residues, to meet household needs, including cooking, agro-processing, and heating. The time demands and physical burdens of collecting fuel detracts from women's opportunities for education, literacy, and the acquisition of new skills as well as time to engage in income-generating activities. This in turn impacts women's status in the community and limits their ability to contribute their time and skills to community leadership. Thus, reaching MDG 3 requires that increased access to modern, affordable energy services be developed in a way that is sensitive to and meets the particular needs of women and girls.

Box 7. Goal 3: Promote Gender Equality and Empower Women

Target 4.	Indicators
Eliminate gender disparity in primary and secondary education, preferably by 2005, and in all levels of education no later than 2015	9. Ratio of girls to boys in primary, secondary and tertiary education 10. Ratio of literate women to men, 15-24 years old 11. Share of women in wage employment in the non-agricultural sector 12. Proportion of seats held by women in national parliament

The MDGR from Bangladesh recognises the energy-gender linkage and provides the only energy reference made in a chapter dedicated to MDG 3, as follows:

Bangladesh Report states that a 'social perception persists that women should remain in the household looking after children, cooking food, cleaning and fetching water and fuel'.

The reports from Djibouti and Afghanistan make similar observations, but they do so in their chapters on MDG 7 instead, as follows:

Afghanistan Report states that '[m]odern or efficient energy services are a pre-requisite for increasing productivity and improving the quality of life. Gender equity and energy issues are also intertwined. For example, measures to reduce the gender gap in education will be difficult as long as girls' time is taken up with fuel collection instead of attending school'.

Djibouti Report notes that the 'gathering of wood is a task endured by females, in particular by adult women to whom the gathering of wood represents 70 percent of their household chores. It takes women a considerable amount of time, coming and going, to gather wood (11 hours on average)'.

4.4 Energy and Health

Under MDGs 4 and 5, countries commit to progress in reducing child mortality and improving maternal health. Meeting these goals will require major improvements in health conditions, and increased access to modern energy services, particularly in rural communities, will play an important, multi-dimensional role in enabling progress on this front.

For instance, energy is needed to produce heat for boiling water for drinking, a critically important health precaution in areas without access to water treatment. The introduction of cleaner household fuels will reduce respiratory disease and other health damage associated with indoor smoke from the use of traditional biomass fuels such as wood and dung for cooking and heating. In fact, indoor air pollution is a leading health risk in developing countries, responsible for 1.3 million premature deaths annually.¹³ Electricity and modern energy services also are necessary for expansion of health clinics and water treatment facilities.

Box 8. Goal 4: Reduce Child Mortality

Target 5.	Indicators
Reduce by two thirds, between 1990 and 2015, the under-five mortality rate	13. Under-five mortality rate 14. Infant mortality rate 15. Proportion of 1-year-old children immunised against measles

Box 9. Goal 5: Improve Maternal Health

Target 6.	Indicators
Reduce by three quarters, between 1990 and 2015, the maternal mortality ratio	16. Maternal mortality ratio 17. Proportion of births attended by skilled health personnel

¹³ World Health Organization, *Evaluation of the Costs and Benefits of Household Energy and Health Interventions at Global and Regional Levels* (Geneva: WHO, 2006).

With only one exception, the MDGRs reviewed in this study made no mention of energy or energy services in the chapters related to MDGs 4 and 5. The report from Mongolia is the only one to make a connection between energy services and mortality rates, noting that:

Poor living conditions, including a lack of access to electricity and low levels of parental education, particularly mothers' education also serve as contributing factors [affecting child and infant mortality].

However, some of the energy reporting under MDG 7 does include the health effects of smoke inhalation and poor air quality, including the following quotes from the MDGRs of Afghanistan, Sierra Leone, and Sri Lanka:

- Afghanistan** Report notes that '[m]ost vehicles are old and poorly maintained, and generators run on poor quality fuel. [T]his is compounded by the use of ovens, stoves and open fires...and toxic fumes that result from the burning of plastic and tires when people face a shortage of firewood and electricity...The Government recognises that 'high levels of air pollution can cause such illnesses as severe bronchitis, emphysema, allergies and asthma as well as cardiac problems'.
- Sierra Leone** Report states that '[i]n excess of 80 percent of the energy used in the country is derived from biomass. Smoke inhalation is unavoidable, causing chronic and acute respiratory infections particularly among women and children who are mainly responsible for cooking food and heating water for the family'.
- Sri Lanka** Report cites the 'high use of biomass as cooking fuel poses a serious health problem in poor households which are badly ventilated....with disproportionate incidence among women and children. What matters in energy for the poor is not the supply as much as the actual end services that are available'.

4.5 Energy and Environmental Sustainability

MDG 7 commits nations to progress in ensuring environmental sustainability. The ways in which energy is produced and consumed have major implications for both local environmental quality as well as on global environmental change. Addressing the environmental impacts of energy production and use while ensuring affordable, reliable energy services for growth and development is a critical challenge for all countries.

To reach MDG 7, conventional approaches to energy must be reoriented. Many countries will need to take steps to address rising demand for wood fuel, a key driver of deforestation and biodiversity loss. The use of cleaner fuels and improvements in energy efficiency are important steps to reduce local air pollution. Cutting energy-related emissions of CO₂ and other greenhouse gases is also an imperative for addressing global climate change.

Box 10. Goal 7: Ensure Environmental Sustainability

Target 9. Integrate the principles of sustainable development into country policies and programmes and reverse the loss of environmental resources.	Indicators 25. Proportion of land area covered by forest 26. Ratio of area protected to maintain biological diversity to surface area 27. Energy use (kg oil equivalent) per \$1 GDP 28. Carbon dioxide emissions per capita and consumption of ozone-depleting CFCs 29. Proportion of population using solid fuels
Target 10. Halve, by 2015, the proportion of people without sustainable access to safe drinking water and sanitation	Indicators 30. Proportion of population with sustainable access to an improved water source, urban and rural 31. Proportion of population with access to improved sanitation, urban and rural
Target 11. By 2020, to have achieved a significant improvement in the lives of at least 100 million slum dwellers	Indicators 32. Proportion of households with access to secure tenure

The bulk of energy-related reporting occurs under Target 9, ‘integrate the principles of sustainable development into country policies and programmes and reverse the loss of environmental resources’. Three broad topics dominated the discussion.

- ◆ *Energy efficiency* was the most prevalent energy topic covered in the MDGRs. Indicator 27, energy consumption per unit of GDP, is as a proxy for energy efficiency. Of the 112 reports, 39 have data to report on this indicator, but many do not have enough baseline data to establish either an upward or downward trend. And although they do not offer statistics for indicator 27, many more country reports discuss energy efficiency more broadly. In total, 49 reports (44 percent) tackle the issue of energy efficiency.
- ◆ *National energy consumption and supply* was also often discussed, with 28 countries reporting data on solid fuel use. Some 23 countries provide data on national energy consumption, desegregating by fuel type. China, Mongolia, and Pakistan all mentioned poor quality of fuel as a challenge.
- ◆ *Wood fuel and deforestation* are other recurring themes of discussion under MDG 7. Some 28 reports describe the use of wood for fuel in their countries, with most of these noting that this practice is leading to severe deforestation. The report from Mexico adds that it is the rural and indigenous populations who are the primary users of wood fuel and that this correlates to a low Human Development Index (HDI) ranking. Morocco notes that the use of wood fuel causes deforestation, contributing to poverty in rural areas. While discussing wood use for energy and cooking, three countries—Indonesia, Sierra Leone, and Sri Lanka—identified biomass as a source of indoor air pollution.

Box 11: Solid Fuel Use

Several MDGRs provided statistics on wood or solid fuel use, including the following:

Botswana	Fuel wood is a dominant source of energy, accounting for 92 percent of supply for rural households and 43 percent for urban.
Burundi	A large portion of the population, 93.7 percent, uses wood fuel for cooking and for lighting.
Cambodia	Over 92 percent of the population depends on fuel wood as their primary energy source. The government intends to reduce this figure to around 52 percent by 2015.
Rep of Congo	Some 67 percent of households use wood fuel as a primary source of energy.
El Salvador	Fewer households (28 percent less) are using solid fuels and biomass for cooking.
Ivory Coast	Solid fuel use has fallen from 90 percent of energy supply in 1993 to 81 percent of in 2002.
Rwanda	Some 97 percent of the population depends on wood for domestic energy.
Tanzania	Percentage of the population relying on traditional fuel use is 91percent.
Yemen	Statistics indicate that 60 percent of the population is still using wood as fuel.
Zambia	Over 80 percent of population has no access to electricity. Energy supply mix is mostly wood fuel (72 percent), followed by electricity (14 percent).

Box 12. Energy Reporting under MDG 7: An Excerpt from the MDGR for Bangladesh

The following excerpt from the MDGR for Bangladesh illustrates some of the energy issues dealt with under the rubric of MDG 7.

Proportion of population using solid fuels

Although not a global indicator, it was considered important for Bangladesh to track the proportion of population using solid fuel.*

About 67 percent of commercial energy consumption is met from natural gas, the remainder coming from oil augmented by hydropower and coal. Only 18 percent of the population (25 percent in urban areas and 10 percent in rural areas) has access to electricity, and per capita commercial energy consumption is among the lowest in the world⁷.

Non-commercial energy sources, such as wood, animal wastes and crop residues are estimated to account for over half of the country's energy consumption. In the 1980s, 65 percent of the total energy supply of the country came from organic fuels. Currently, 20 to 30 percent of the total organic energy demand is met by fuel wood, and the remaining from agricultural by-products and cow dung. As the heavy reliance upon bio-fuel in the rural areas has direct influence on the physiochemical characteristics of soil and the availability of fodder and fruit trees, there is urgent need for introducing alternative energy technology in the rural area. The lack of alternatives has already adversely impacted the greener concerns of the environment and if allowed to continue, will lead the rapid depletion of forest resources.



* The Bangladesh report was written before indicator 29, solid fuel use, was formally added as a global MDG indicator.

Box 13.
Energy Reporting Outside the Traditional MDG Framework: An Excerpt from the MDGR of Azerbaijan

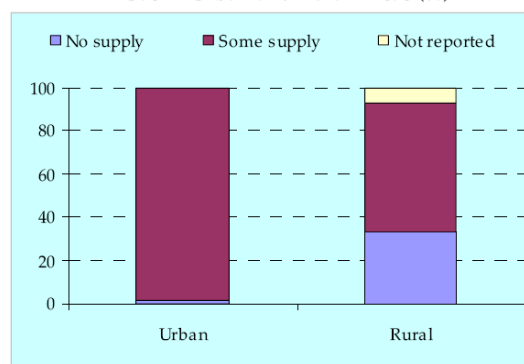
In May 2005, Azerbaijan issued a follow-up report that expanded on its 2003 MDGR and added abundant information on energy use and policies in the country. Unlike most MDGRs, the Azerbaijan reports do not dedicate a chapter to each global MDG. Instead, the 2005 report has chapters on poverty monitoring, economic development, regional policy, infrastructure development, etc., addressing energy issues throughout.

From Chapter 2, ‘Poverty Monitoring’ (p. 51):

■ *Forests*

One of the key reasons for soil erosion is drastic deforestation. In spite of the fact that official figures suggest that the area covered by forest remains unchanged, assessments conducted for other projects indicate the contrary. It should also be mentioned, that household demand for fuel is the main reason of deforestation. It should be stressed that the use of wood as fuel in households has a negative impact not only on deforestation but also, on the status of household members’ health. According to HBS data, more than 33 percent of people settled in rural typed households do not have access to any natural gas resources.

Figure 2.23. Share of Households with Access to Natural Gas in Urban and Rural Areas (%)



Source: HBS 2003

Wood is the main source of heating, especially for people inhabited in rural areas. Eighty-five percent of households are using wood. Studies suggest that especially in Khachmaz, the south-east, south-west and Nakhichevan, the use of wood for heating purposes is increasing.

From Chapter 3, ‘Economic Development and Employment Growth’ (p. 79):

■ *Improving energy supply to the population*

To improve management of energy supply, regional electricity distribution networks have been transferred for a long-term management by “Barmek” and “Bayva” electricity distribution companies. To improve collection rates and ensure efficiency in energy consumption, 97270 (by Barmek) and 29000 (by Bayva) electricity meters

Table 3.1 State Budget Subsidies for the fuel and energy sector, 2003-2004

Organization	2003		2004	
	plan	fact	plan	fact (6 months)
Azerenergy	1500.8	1820.6	1850.0	1058.4
Azerigas	97.8	151.8	326.7	134.7
Azerkimya	--	--	108.0	52.5
TOTAL	1598.6	1972.4	2284.7	1245.6

were installed for consumers in 2003. Installation of gas meters has continued and starting from 2003 around 20 thsd. meters have been installed for population subscribers and 2 thsd. for other consumers’ groups. In general, gas meters have been provided to 9 percent of rural subscribers and 15 percent of Baku subscribers so far with support from the WB. A special programme has been developed by Azerigas and it is envisaged to install 150 thsd. gas meters in Baku, Sumgait, Ganja, Ali-Bairamly cities, Absheron and Gusar regions in 2005. A tender was announced for the procurement of 150 thsd. gas meters of various types in line with the Law “On State Procurement.”

Source: *State Programme on Poverty Reduction and Economic Development 2003-2005: Azerbaijan Progresses Towards the Achievement of the Millennium Development Goals* (May 2005).

5. Regional Differences in Energy Reporting

MDGRs reflect distinct regional differences in how energy-related issues are reported on and discussed. These differences, which are summarised in Table 3 below, indicate the divergent nature of energy-related challenges and needs in the various global regions.

As noted previously, the most common themes in MDG country reports overall are energy efficiency (or lack thereof) and air pollution and CO₂ emissions from energy use. However, the pattern in the reports from African countries is quite different. Here, the principal concerns, as evidenced in MDGRs, are the use of wood fuel and its impacts on deforestation as well as the continued reliance of large proportions of the population on traditional fuels. This suggests that for African countries, improving the efficiency of energy consumption and curbing ambient air pollution are not primary concerns. Instead, the need to reduce reliance on biomass and wood fuel use and introduce the use of modern, cleaner fuels is a more pressing matter for the least developed countries, including many African countries.

In contrast, the impact of demand for wood fuel on deforestation was rarely cited in the MDGRs of countries in Europe and the CIS, where only two countries (Armenia and Azerbaijan) cited deforestation due to a ‘lack of reliable energy supply’. This region is distinctive for its concern about the efficiency or sustainability of district heating systems, with reports from six of these countries citing the use of or the need for improved fuels for residential heat.

As a region, Latin America displayed the greatest interest in increasing renewable sources of energy as shares of national energy supply. Several Latin American country reports discussed improved energy efficiency and household electrification and stated that gas is replacing biomass as a cooking fuel.

Table 3: Regional Patterns in Energy Reporting

<i>Percentage of reports, per region, citing each topic</i>	Africa	Arab States	Asia	Europe & CIS	Latin America
Population using traditional (solid) fuels	30%	30%	42%	5%	28%
Energy efficiency (rise or decrease in consumption)	14%	30%	68%	55%	67%
Air pollution and CO ₂ emissions from energy use	6%	38%	58%	64%	62%
Use of wood fuel as cause of deforestation	54%	23%	21%	9%	5%
Reporting national energy fuel sources	9%	23%	26%	23%	19%
Energy infrastructure vis-à-vis development	14%	8%	37%	23%	19%
Renewable sources as an increasing share of energy supply	3%	8%	16%	14%	20%

Note: Dark-shaded blocks = Topics cited in more than 50 percent of reports.

Light-shaded blocks = Topics cited in 30–50 percent of reports.

Unshaded blocks = Topics cited in less than 30 percent of reports.

6. Conclusion

An inherent problem with regard to energy reporting in the national MDGRs is that most of the documents report on the indicators and targets as they are proposed in the existing global MDG framework. In other words, MDG reporting is still very much ‘by the book’. The reports give baseline and (sometimes) trend data on the 48 indicators associated with the MDGs. Unfortunately, energy formally appears in only two of those indicators, indicator 27 and 29, and indirectly in indicator 28. As a result, reporting on energy is usually consigned to the MDG 7 chapter and rarely does energy appear in the chapters regarding poverty, education and health.

Although they are not meant to be policy-setting tools, the MDGRs do provide a window on how energy is perceived in the development debate. The MDGRs are an important advocacy tool, and, with the growing interest in integrating the MDGs into national development plans (such as the Poverty Reduction Strategy Papers, or PRSPs), these reports may help influence development policy and priority setting. It is important therefore to incorporate energy indicators early on in the monitoring framework.

Devising and tailoring appropriate national energy targets will be a necessary step to ensure that energy is appropriately addressed in the context of national development strategies including poverty reduction strategies. Likewise, indicators that measure progress toward those energy targets must be established in order to gauge a country’s ability to achieve its goals. This study did identify a few best practices. For example, the report from Albania, that adds under its MDG 1, ‘Increase availability of electricity for all’, serves as one example of how energy targets can be set to promote economic and social development.

Setting national targets, including for energy, must be a nationally driven process and tailored to country-specific conditions. As a global starting point, however, the joint Millennium Project/UNDP/World Bank/ESMAP publication, *Energy Services for the Millennium Development Goals* (2005), suggests the following energy targets that are deemed necessary for meeting the MDGs:

1. Enable the use of modern fuels for 50 percent of those who, at present, use traditional biomass for cooking. Likewise, supporting the following:
 - a. efforts to develop and adopt the use of improved cook stoves;
 - b. measures to reduce the health impacts from cooking with biomass; and
 - c. measures to increase sustainable biomass production.
2. Ensure reliable access to electricity to all in urban and peri-urban areas.
3. Provide access to modern energy services (in the form of mechanical power and electricity) at the community level for all rural communities.

With proper monitoring, energy issues gain needed visibility. With greater visibility, energy needs are put on par with other national priorities. And as such, energy solutions can become incorporated as essential components of an MDG-based national development strategy.

ANNEX A
Information and comments related to energy access in the MDGRs

Africa		
1	Burkina Faso	“Only 46 percent of households had access to electricity in 2003 compared to 34 percent in 1998. In rural areas, only 1 percent had access in 2003 compared to 0.6 percent in 1998.”
2	Burundi	Over 79 percent of the urban population uses charcoal for energy.
3	Cameroon	The use of wood as energy source by households is due mainly to insufficient income...in 2001, 78.1 percent of households in Cameroon used solid fuel as energy source against 84.4 percent in 1996. (in Intro)
4	Cape Verde	Public Policies to reduce poverty: rural access to electricity will be essential in promoting income generating activities.
5	Central African Republic	Despite the high (and under-exploited) potential for renewable energy supply (hydro, solar and biomass) only 1.9 percent of households in 1993 and 6 percent in 2000 had access to electricity. ... The prohibitive cost on electricity is a limiting factor towards the access of energy services by the poor.
6	Comoros	“Wood is principal source of cooking fuel for most households.”
7	Congo	Sixty-seven percent of households use wood fuel as primary sources of energy. Regarding ways of improving lives a slum dwellers: “increase access to electricity.”
8	Djibuti	Wood fuel and charcoal represents 20 percent of household energy consumption, causing added strain on the already scarce vegetation.
9	Ivory Coast	Reports a reduction of solid fuel use from 90 percent in 1993 to 81 percent of energy source in 2002.
10	Liberia	Portion of population relying on traditional fuels for energy use is 99.5 percent.
11	Nigeria	Estimates national energy consumption rate, 91 percent of which comes from wood fuel.
12	Rwanda	Currently over 96 percent of Rwandans depend on wood for domestic energy.
13	Sierra Leon	The absence of reliable and cost-effective energy supplies, for example...impede private sector activities. In excess of 80 percent of the energy used in the country is derived from biomass.
14	Tanzania	Percentage of population relying on traditional fuel use is 91 percent.
15	Zambia	Electricity supply is mainly confined to middle- and high-income households in the urban areas. Only 20 percent of the Zambian population has access to electricity, 2 percent in rural areas and 35 percent in urban areas. Most households depend on solid fuels, i.e., wood fuel, charcoal and coal, for their cooking.
Arab States		
16	Yemen	Statistics indicate that 60 percent of the population is still using wood as fuel.

Asia		
17	Bangladesh	Only 18 percent of the population has access to electricity.
18	Cambodia	The lack of investment in renewable energy has led the rural population to rely almost exclusively on wood to satisfy their energy requirements. In Cambodia, over 92 percent of the population is dependent on fuel wood as its primary energy source. The government intends to reduce this figure to around 52 percent by 2015.
19	Fiji	There was a considerable reduction in the percentage of households using wood for cooking fuel, from 63 percent in 1986 to 48 percent in 1996. The main switch was to using Liquefied Petroleum Gas (LPG), which more than doubled, from 13 percent of households in 1986 to 28 percent in 1996.
20	Indonesia	Offers a table on portion of population by different types of cooking fuel.
21	Nepal	The report discusses status and trends of energy consumption, including use of traditional fuels (87 percent of consumption), the gap between urban and rural access, wood fuel for cooking, deforestation and use of LPG.
22	Pakistan	Commercial fuels are not accessible to rural households and the poor.
23	Papua New Guinea	Estimates that over 80 percent of population uses wood as primary source of energy.
24	Sri Lanka	"What matters in energy for the poor is not the supply as much as the actual end services that are available. In 2000, out of the total 8,384 thousand tons of oil equivalents... 49 percent was from biomass."
25	Viet Nam	Ensure that 100 percent of poor communes have access to essential infrastructures. Includes a paragraph on energy access: "By the end of 2004, the national power grid reached 900 poor communes. All districts and 90 percent of communes throughout the country have electricity."
Eastern Europe & CIS		
26	Azerbaijan	There is a lack of reliable gas supply to 92 percent of rural population and to 46 percent of the country's population.
27	Slovakia	Basic infrastructure in Roma settlements: "Most of these settlements struggle with problems of insufficient utility services and social infrastructure – low quality of drinking water, insufficient sewerage, non-existent electricity and gas supplies, unsuitable housing conditions, poor quality of roads, lack of public lighting..."
Latin America		
28	Brazil	Three paragraphs on solid fuel use. Thirty-three percent use solid fuel, of which 27 percent is biomass (firewood and charcoal). "In the residential sector, the traditional use of firewood takes place in regions where it is difficult to introduce Liquefied Petroleum Gas (LPG)."
29	Dominican Republic	Estimates that 2 million do not have access to electricity. Use of gas (propane) for cooking has increased, and use of bio-fuel for this purpose has decreased
30	El Salvador	Indicator 29: Fewer households (28 percent less) are using solid fuels and biomass for cooking.
31	Haiti	Thirty percent of households have electricity.
32	Peru	Links the use of solid fuels to the "quality of life and incidence of poverty," since solid fuels are used mostly by poor populations. Gives some statistics on household use for different types of solid fuels.

ANNEX B Consolidated data

The following table summarises the findings of this investigation by describing for each national MDGR what exactly was reported with regards to energy. The table contains 112 rows, one for each country, with a brief summary of the country’s report. Along with the summary, each report is rated on the basis of *quantity* of energy content—on a scale of 1 to 3, with 1 indicating ‘no energy content’ and a 3 indicating ‘thorough reporting’ of energy content. The scale below describes the criteria for scoring each report.

Depth of Content Rating:

- 1 = *Little or no mention*: if at all, energy keywords appeared once or twice, or a single energy statistic provided.
- 2 = *Moderate information*: a few lines or up to a paragraph devoted to energy issues. Some basic statistics or baseline information provided.
- 3 = *Thorough reporting*: half a page or more on energy issues. MDGR offers a more layered analysis on energy’s role in sustainable development.

Also, the table contains codes to quickly identify what issues or topics were found in the various MDGRs. Each colour or symbol represents an energy-related subject that commonly came up in the review of the MDGRs. The codes are detailed below.

Indicator Code:

Indicates which indicators were used in the MDGR

- #27 = global indicator 27, a proxy to measure energy efficiency
- #28 = global indicator 28, measuring CO₂ emissions
- #29 = global indicator 29, portion of population using solid fuels
- *New* = the MDGR uses a new and original energy indicator
- ⊗ = the MDGR does not report any energy indicators

Subject Code:

Indicates what topics are covered in the MDGR

- | | |
|--|---|
| <ul style="list-style-type: none"> 0 = Solid fuel use 1 = Energy efficiency 2 = GHG / CO₂ / air pollution from energy use 3 = National energy consumption and fuel sources 4 = Use of wood fuel causing deforestation 5 = Health consequences / indoor air pollution 6 = Distinguishes between rural and urban use of energy | <ul style="list-style-type: none"> 7 = Portion of population with access to electricity 8 = Energy infrastructure vis-à-vis macroeconomic development 9 = Renewables as a share of the national fuel mix 10 = Tariffs and pricing issues for energy \$ = Directly refers to the energy-poverty nexus ♀ = Directly refers to the energy-gender nexus |
|--|---|

Region	Country	Rating	Chapter: <i>Mention of Energy, Electricity, Fuel, etc.</i>	Indicators used	Subject Code
Africa	Benin 2003*	2	MDG 7: "The majority of households in Benin use wood for cooking fuel. This practice leads to desertification, air pollution and climactic changes due to emissions of carbon dioxide and other toxic gases." In its conclusion, the report has a table of indicators for each MDG. For MDG7 it includes two energy indicators: "Proportion of households using gas for cooking" and "Proportion of households with electricity", but values are not available and/or offered for these indicators.	New	4
Africa	Botswana 2004	2	MDG7: Wood fuel depletion and lack of alternative forms of energy identified as priority environmental issue. Wood is a dominant source of energy (92 percent for rural households, 43 percent of urban households depending on wood for energy). "This is a threat to biodiversity but technology is yet to deliver viable alternatives for poor people. Nevertheless, there has been a steady decline in dependence on fuel-wood between 1991 and 2001, which most likely reflects rising scarcity values for fuel-wood and growth in household income." MDG2: "Many public primary schools on the other hand do not have sufficient ICT resources. Many do not even have access to electricity."	⊗	4 6 7
Africa	Burkina Faso 2004	2	MDG 7: "only 46 percent of households had access to electricity in 2003 compared to 34 percent in 1998. In rural areas, only 1 percent had access in 2003 compared to 0.6 percent in 1998."	⊗	6 7
Africa	Burundi 2004*	2	MDG 7: "natural [forest] resources have been degraded due to agricultural overexploitation and household energy consumption." About "93,7 percent of households use wood as source of energy (mostly for cooking) and 46.4 percent use it as a source of lighting. Over 79 percent of the urban population uses charcoal for energy." Lists indicator 27, but does not report it.	#29	0 4 6
Africa	Cameroon 2004*	1	In Introduction, under general development context, it is mentioned that a deficit in the production of electrical energy will compromise policy of industrial diversification. "In Cameroon, the use of wood as energy source by households is due mainly to insufficient income... in 2001, 78.1 percent of households in Cameroon used solid fuel as energy source as against 84.4 percent in 1996." Graph: Proportion of households using solid fuels (disaggregated by region.)	#29	0 8
Africa	Cape Verde 2004*	1	MDG1: Public Policies to reduce poverty: rural access to electricity will be essential in promoting income generating activities. MDG7: Mentions a proposed project/programme for developing infrastructure for water and energy production.	#27 #28	8 \$

Region	Country	Rating	Chapter: <i>Mention of Energy, Electricity, Fuel, etc.</i>	Indicators used	Subject Code
Africa	Central African Republic 2003*	3	MDG 7: Includes as indicator: Access to renewable sources of energy and CO ₂ emission per cap. Over 85 percent of households use wood fuel to satisfy their primary energy needs, leading to deforestation and endangering the ecosystem's equilibrium. Despite the high (and under-exploited) potential for renewable energy supply (hydro, solar and biomass) only 1.9% percent of households in 1993 and 6% percent in 2000 had access to electricity. The report offers good data on lighting by source and disaggregated for urban versus rural. Also gives statistics on sources of production and consumption of electricity. The report lists the following "Challenges to take on:" "To increase from 0 to 10 percent by 2015 the portion of the rural population with access to energy services and increase by 20 percent the access by urban households to modern and renewable sources of energy for domestic and productive uses." Policies and strategies: The prohibitive cost on electricity is a limiting factor towards the access of energy services by the poor. Installation of 'artisanal' hydroelectric plants was made possible at reasonable costs via non-governmental organizations (NGOs). This provides a useful precedent for promoting and developing community action.	New #28	0 4 3 6 7 \$
Africa	Chad 2002*	1	No Mention, except gives a baseline value for indicator 27.	#27	
Africa	Comoros 2004*	1	MDG 7: regarding deforestation, "wood is principal source of cooking fuel for most households."	⊗	4
Africa	Congo, Demo Rep 2004*	1	MDG 7: "Country's water sources a potential source for hydroelectric energy" Lists and gives values for Indicator 27 (decreasing), 28 and 29.	#27 #28 #29	
Africa	Congo, Republic of 2004*	2	MDG7: use of wood fuel causing deforestation (67 percent of households use wood fuel as primary sources of energy). Regarding ways of improving lives a slum dwellers: "increase access to electricity." Lists indicator 27 and 28, but no values reported.	⊗	4
Africa	Djibouti	2	MDG 7: Wood fuel and charcoal represents 20 percent of household energy consumption, causing added strain on the already scarce vegetation. Along these same lines, the gathering of wood is a task assigned to women, comprising 70 percent of their housework and an average of 11 hours. Due to desertification, people must travel ever farther to collect wood. Regarding energy consumption, the report offers a breakdown by source, with kerosene (51 percent), electricity (26 percent) wood (10 percent) charcoal (10 percent) and butane (1 percent) listed. No energy indicators used.	⊗	♀ 0 4 3
Africa	Ethiopia	1	No Mention.	⊗	
Africa	Gabon 2003*	1	No Mention.	⊗	
Africa	Gambia 2005	1	MDG 7: "illegal extraction of timber and fuel wood" has led to deforestation.	⊗	4
Africa	Ghana 2003	1	In Appendix, under links between MDGs and Ghana Poverty Reduction Strategy, it is noted under MDG 1 that priority will be given to energy for provision of production in rural areas. Also, use of wood-fuel for poor has led to deforestation.		4

Region	Country	Rating	Chapter: <i>Mention of Energy, Electricity, Fuel, etc.</i>	Indicators used	Subject Code
Africa	Guinea 2003	1	Under MDG1: lack of infrastructure, including energy, is listed as one of the challenges in achieving this goal.	⊗	8
Africa	Ivory Coast 2003*	2	MDG 7: Reports a reduction of solid fuel use from 90 percent in 1993 to 81 percent of energy source in 2002. Under challenges: "promotion of renewable energy"	#27 #29	0 1
Africa	Kenya 2003	1	MDG 7: under challenges: "The sector urgently needs interventions such as alternative, non-wood, energy sources to allow sustainable forest conservation and management." [lists indicator 27 and 28, but no values reported]		4
Africa	Liberia 2004	2	In its introductory chapter, table 1, 'Key Development Indicators,' it includes as one of its 20 key indicators, "Portion of population relying on traditional fuels for energy use." The statistic provided is 99.5 percent. MDG 7: target 27 reported. Among challenges described for MDG 7: "Lack of regulations for firewood collection" and "limited capacity for biodiversity, conservation and efficient energy use." [indicator 27 and 29* reported] *29 used not under MDG 7 but as Key Dev indicator.	#27 #29	0 1 4
Africa	Madagascar 2001*	1	No Mention.	⊗	
Africa	Mali 2004*	1	No Mention.	⊗	
Africa	Mauritania 2002*	1	No Mention.	⊗	
Africa	Mauritius 2003	1	MDG 7: one paragraph on indicator 27. "Mauritius will play its part in reducing greenhouse gas emissions, by increasing the use of bagasse in power generation, developing other renewable energy sources and a range of measures designed to encourage greater economy in the energy use, including the introduction of more realistic charges for electricity consumption."	#27 #28	1 2 9 10
Africa	Mozambique 2002	1	No Mention.	⊗	
Africa	Namibia 2004	1	States country's 2006 target for indicator 27, but that is the only mention.	#27	1
Africa	Niger 2003*	2	MDG7: Estimates national energy consumption rate, 91 percent of which comes from wood fuel. Its use eroding natural habitats. Priorities will be placed on developing alternative sources of energy.	⊗	4
Africa	Nigeria 2004	3	MDG 7: The production, transportation and use of energy have had considerable environmental consequences, ranging from deforestation to air and water pollution. Oil spillage identified as a key problem. Offers a breakdown of average annual commercial energy use, by type/source. Reports no significant gain in efficiency. "Major Challenges" include: "Fostering the adoption of efficient and environment friendly technologies for the generation, transmission and distribution of energy in the face of crisis."	#27 #28	1 2 4 3

Region	Country	Rating	Chapter: <i>Mention of Energy, Electricity, Fuel, etc.</i>	Indicators used	Subject Code
Africa	Rwanda 2003	1	MDG7: "currently over 96 percent of Rwandans depend on wood for domestic energy. This, combined with settlement and farming activities, has resulted in considerable deforestation." [Indicators 27 and 28 listed, but not discussed/reported]	#27 [†] #28 [†]	4 0
Africa	Sao Tome 2004*	1	Intro: Energy briefly mentioned as part of infrastructure development, one of several government priorities. MDG 7: use of fuel wood among poor households listed as one cause of deforestation.	⊗	4 8
Africa	Senegal 2003*	1	No Mention, but does report a baseline on indicator 27 and 28.	#27 #28	
Africa	Sierra Leone 2005	3	Under MDG 1: "The absence of reliable and cost-effective energy supplies, for example...impede private sector activities." Under MDG 7: the demand for wood fuel creates an urgent need to protect the country's forest resources. "In excess of 80 percent of the energy used in the country is derived from biomass. Smoke inhalation is unavoidable, causing chronic and acute respiratory infections particularly among women and children who are mainly responsible for cooking food and heating water for the family." Under MDG 7/Priorities for development assistance in Environmental Areas: "Encourage the use of energy-efficient technologies." Indicators 27, 28 and 29 identified, or acknowledged, but values not reported.	#27 [†] #28 [†] #29 [†]	4 5 8
Africa	Swaziland 2003	1	No Mention.	⊗	4
Africa	Tanzania 2001	1	MDG7: Percentage of population relying on traditional fuel use: 91 percent. Felling of trees for wood fuel identified as environmental problem.	⊗	0 4
Africa	Togo 2004*	1	MDG 7: Mentions the "prohibitive cost of those sources of energy that are an alternative to wood fuel" as a problem.	#27	4 10
Africa	Uganda 2004	1	No Mention.	⊗	
Africa	Zambia 2004	3	Intro: under socio-economic context "Over 80 percent of population has no access to electricity." MDG7: Energy consumption has stayed the same per annum while GDP is increasing. "National energy consumption consists of 72 percent wood fuel, 14 percent electricity, 12 percent petroleum and 2 percent coal. Electricity supply is mainly confined to middle- and high-income households in the urban areas. Only 20 percent of the Zambian population has access to electricity, 2 percent in rural areas and 35 percent in urban areas. Most households depend on solid fuels, i.e., wood fuel, charcoal and coal, for their cooking. For instance in 2000, 97 percent of rural and 62 percent of urban households used solid fuels for cooking. This high level of solid fuel utilization contributes directly to deforestation."	#27 #29	0 1 3 4 6 7 \$
Arab States	Bahrain 2003	1	MDG7: energy sector highest producer of CO ₂ .	#28	2

Region	Country	Rating	Chapter: <i>Mention of Energy, Electricity, Fuel, etc.</i>	Indicators used	Subject Code
Arab States	Egypt 2005 (A)	3	MDG7: Reports extensively on energy efficiency (indicator 27) and climate change: "In 2000/2001 CO ₂ emissions per capita reached 1.7 tons compared to 2 tons in 1999 and 1.1 tons in 1980. Egypt is 92 percent dependent on fossil fuels. GDP per unit of energy is currently at 6.33 Kgoe compared to 4.8 Kgoe in 2000... The main source of GHG emissions is fuel combustion in the energy sector (22 percent)... The government puts efforts into promoting energy efficiency policies, the use of natural gas, hydropower electricity, and other renewable sources of energy."	#27 #28	1 2
Arab States	Kuwait 2003 (A)	2	MDG7: Indicator 27 provided, shows a downward trend. "Given reliance on the oil industry it is a real challenge whether (Kuwait) will be able to influence the currently high levels of both the energy use indicator and the carbon dioxide emissions."	#27 #28	1 2
Arab States	Lebanon 2003 (A)	2	MDG7: Transport and energy sector are main sources of pollution. Power production, mostly from fuel and coal derivatives, and power distribution are main source of pressure on the environment. Renewables are a very small share of energy mix. [Indicators: 27 and 28 + "energy generated from renewable sources (percent)"]	#27 #28 New	2
Arab States	Morocco 2003	2	MDG7: Use of wood fuel in rural areas causing deforestation (contributing, among other things, to rural poverty). Development of renewables, already underway, holds promise for rural development. Mentions air pollution from motor vehicles.	#27 #28	2 4 6 9
Arab States	Occupied Palestinian Territories 2003	2	Intro: Discusses Palestinians dependence on non-renewable, imported sources of energy in both the introductory chapter and in the chapter on MDG 7. Under key development indicators, 'Population relying on traditional fuels for energy use' is reported as 30.3 percent. Under MDG 7, the report states that energy consumption has increased since 1996 and little biomass or solar energy is produced. Also breaks down electrical energy used by sector (i.e. 45 percent is household, 20 percent goes to industrial uses, etc.)	⊗	0 3
Arab States	Saudi Arabia 2002 (A)	1	MDG7: Only states that energy consumption and intensity are rising.	#28	1 2
Arab States	Sudan 2005	2	MDG 7: "A large part of these forests have been depleted to meet the growing demands for fuel wood, and timber." Under challenges: "Many other activities have not been carried out. These include policies related to technological innovation, the use of alternative sources of energy... The entire population of South Sudan use solid fuels."	⊗	0 4
Arab States	Syria 2003	1	No Mention. But MDG 7 Challenges: "One of the most important challenges is integrating the principles of sustainable development in government policies and programmes. There is also a need to develop human resources in the field of the environment and rare specializations in these areas, and the necessity of strengthening the capacities of local administrations."	⊗	

Region	Country	Rating	Chapter: <i>Mention of Energy, Electricity, Fuel, etc.</i>	Indicators used	Subject Code
Arab States	Tunisia 2004 (F)	3	MDG7: "Sources of Energy: Consumption of primary energy increased in the last ten years at an annual rate of 4.1 percent and reached 6.5 million TEP in 2000, with 58.5 percent of petroleum products and 40 percent of natural gas. Tunisia produces approx 78 thousand barrels of oil per day and became a net importer in 2000. Natural gas production, estimated at 1.8 billion m ³ per annum, is considered too low to satisfy the needs in energy. The Tunisian Electricity and Gas Company (STEG), the main consumer of primary energy, introduced a strategy based on the use of effective technologies and on the encouragement of renewable sources of energy instead." Conclusion/Other chapter: discusses percent of rural population without electricity.	⊗	1 3 7
Arab States	United Arab Emirates 2004	1	No Mention. (Not including discussion of oil sector revenues for GDP, etc).	⊗	
Arab States	Yemen 2003	2	MDG1: Under challenges: "...and improve other services such as water, electricity, access roads and education." MDG7: "Statistics indicate that 60 percent of the population is still using wood as fuel," and "Technical assistance in the field of energy substitutes for impoverished rural concentrations" identified as a priority."	#27 #28	0 8
Asia	Afghanistan 2005	3	MDG 7: The Afghani report provides several pages of analysis on the energy access situation in the country. The report stresses the threat of wood fuel use on the forests, discusses air pollution from low-quality fuel use, and touches on the energy-poverty, energy-gender and energy-health nexuses. The report states, "There is currently no data available on energy use in Afghanistan," but estimates "The proportion of the population using solid fuels is as high as 100 percent in rural areas and should be brought down to 90 percent in rural areas and 80 percent in urban areas by 2015. Achieving this objective depends on the availability of alternative energy sources as well as the level of awareness of communities." [Indicators 27,28, and 29 identified but not reported due to lack of data]	#27 #28 #29	0 1 2 4 6 7 8 \$ ♀
Asia	Bangladesh 2005	3	Infrastructure development and reform (including power and energy) identified as issue cross-cutting all MDGs. MDG3: "a social perception persists that women should remain in the household looking after children, cooking food, cleaning and fetching water and fuel." MDG 7: "Consumption of wood for fuel has contributed to deforestation and other environmental problems in Bangladesh." Gives annual data for indicator 27. Energy efficiency discussed as indicator 27. Use of solid fuels reported, notes that alternative energy is necessary to reverse physiochemical characteristics of solid fuel use. The report offers two paragraphs on energy efficiency issues (including consumption levels by fuel type) and half a page on solid fuel use, noting that "Although not a global indicator, it was considered important for Bangladesh to track the proportion of population using solid fuel." Regarding urban slums: "on average 22 percent has access to electricity."	#27 #28 #29	♀ 0 1 2 3 4 7 8

Region	Country	Rating	Chapter: <i>Mention of Energy, Electricity, Fuel, etc.</i>	Indicators used	Subject Code
Asia	Bhutan 2002	2	Intro: "Development of hydropower and energy-intensive industries are viewed as strategic key elements in unlocking the economic potential of the country and serve as engine of growth." MDG7: "Fuel wood consumption per capita is high."	⊗	4 8
Asia	Cambodia 2003	3	Cambodia has created many tailored targets, including, for MDG 7, Target 7.9: "Reducing the fuel wood dependency from 92 percent of households in 1993 to 52 percent in 2015... The Royal Government of Cambodia (RGC) energy policy aims at: (i) providing an adequate supply of energy throughout Cambodia, (ii) ensuring a reliable supply of electricity, (iii) encouraging the exploration, and environmentally and socially acceptable development of energy resources, and (iv) promoting an efficient use of energy and minimizing environmental effects resulting from energy supply and use." "Addressing the issue of energy substitution toward greater use of environment-friendly sources. The lack of investment in renewable energy has led the rural population to rely almost exclusively on wood to satisfy their energy requirements. The challenge is to create an environment conducive to investment in the production and distribution in rural areas of alternative and affordable sources of energy. By addressing these issues, the government will also reduce dependency on imported fuels." [Does not use indicators 27, 28 and 29, but creates its own energy-specific indicator]	New	* 1 6
Asia	China 2004	3	MDG7: Provides one paragraph on energy efficiency in China, and its emissions of GHG: "China's energy consumption ranks second in the world, and China has become the second largest emitter of greenhouse gases after the United States. Admittedly, China has had some remarkable success in promoting energy efficiency...The use of enhanced technologies may therefore lead to a further rapid increase in energy efficiency."	⊗	1 2
Asia	Fiji 2005	3	MDG 7: "This ratio of GDP (in 1995 USdollar PPP) to commercial energy use (measured in kg of oil equivalent) gives a measurement of energy efficiency. A value could only be calculated for 2000 as there are no GDP PPP calculations for other years.... In line with its commitments to the Climate Change Convention, Fiji has conducted an emissions inventory and compiled a country report on national progress towards meeting the goals of the Convention.... There was a considerable reduction in the percentage of households using wood for cooking fuel, from 63 per cent in 1986 to 48 per cent in 1996. The main switch was to using LPG which more than doubled, from 13 per cent of households in 1986 to 28 per cent in 1996." [Graph on household use of cooking fuel]. Everything reported as part of Goal 7 reporting process. Offers info on fuels used for household cooking, broken down by type.	#27 #28 #29	0 1

Region	Country	Rating	Chapter: <i>Mention of Energy, Electricity, Fuel, etc.</i>	Indicators used	Subject Code
Asia	Indonesia 2004	3	MDG 7: [Reports indicators 27, 28 and two modified indicators for solid fuel use (29); portion of population by type of cooking fuel and portion using biomass]. Table on percent of population by different types of cooking fuel. Gives one paragraph on the decrease in energy efficiency (commercial energy use increased, and energy per GDP per cap increased; total energy use (including biomass) also increased); one paragraph on GHG emissions, describing energy demand sector is biggest contributor to GHGs; and another paragraph on the use of biomass as cooking fuel. Biomass identified as an indicator of indoor air pollution.	#27 #28 New	0 1 2
Asia	Iran, Islamic Rep. 2005	3	Intro, re MDG 7: The major priorities for development assistance here include...energy consumption projects as well as setting energy consumption standards.” MDG 7: Reports on indicator 27 (devotes one paragraph on energy efficiency) and states that no data is available for indicator 29. A list of MDG 7 enabling policies includes, “Setting realistic energy carrier prices. (o) Continuing to substitute oil products with natural gas, especially in the industry and transportation sectors. (p) Putting into action optimized energy consumption plans and promoting technologies related to factory equipment and energy consumption systems in order to reduce air pollution and energy consumption.” Reports CO ₂ emissions (but does not specify energy’s role).	#27 #28	1 2 3 10
Asia	Lao PDR 2004	2	MDG 7: reports on indicator 29 (proportion of population using solid fuels) and on another indicator, “emissions from fossil fuel combustion.” Also adds, “CO ₂ emissions are mainly from the energy and forestry sectors, including the burning of firewood.”	#28 #29 New	0 2
Asia	Malaysia 2005	3	Introduction: Challenging areas for sustainable development include, “implementation of...environmentally acceptable and efficient expansion of energy generation capacity to meet expanding demand.” MDG 7: Graph on how much electricity is generated and from what fuel source. “Adequate energy services are essential for economic development, to raise productivity and support modern lifestyles. But the provision of energy services, especially those furnished through the combustion of fossil fuels can have adverse environmental effects. Malaysia’s largest energy resources are oil and natural gas.” [lists indicators 27, 28 and 29, but does not give values for them]	#27 #28 #29	1 2 3 7 8

Region	Country	Rating	Chapter: <i>Mention of Energy, Electricity, Fuel, etc.</i>	Indicators used	Subject Code
Asia	Mongolia 2004	3	MDG 2: under improving conditions of classrooms, "Problems of inadequate supply of electricity and heating...undermine the learning environment." MDG 4: "Poor living conditions, including a lack of access to electricity..." serve as contributing factors towards infant and child mortality. MDG7: One paragraph on energy inefficiency and air pollution. Inefficient stoves, power plants and motor vehicles contributing to air pollution. No central heating system, so burning of wood, coal and waste is prevalent and consumes natural resources. High CO ₂ rates due to inefficient energy production and heating, low-grade coal, and lack of incentives to conserve energy. Also under MDG 7 challenges, a paragraph on "converting to fuel-efficient heating systems and insulated building materials."	#28	1 2
Asia	Myanmar 2005	3	Intro: Main objectives of the "Third Short-Term Five-Year Plan" include, "To develop the electric power and energy sectors to be in line with the expansion of industry." MDG 7: Excessive utilization of fuel wood a challenge for forest management. Under Indicator 27: Gives statistics on energy consumption, broken down by type of fuel source, with biomass (wood) as the primary consumption type. Offers a few paragraphs on both energy efficiency and CO ₂ emissions in the country.	#27 #28	0 1 3 4 8
Asia	Nepal 2002	3	MDG 7: The Nepal 2005 report provides over three pages on the energy situation in Nepal. The report discusses status and trends of energy consumption, including use of traditional fuels (87 percent of consumption), the gap between urban and rural access, wood fuel for cooking, deforestation and use of LPG. The report underscores the need and steadily growing trend for alternative and renewable sources of energy. Discusses energy policies, including the renewable energy subsidy policy and the new rural energy policy under preparation. Discusses energy-poverty nexus and the challenge of productive end use or renewable energy in rural areas. Improving the affordability of renewable energy technologies and grid electrification is addressed as a challenge. [Indicators used are #27 and portion of people using wood as their main fuel (i.e. #29) and commercial energy/GDP]	#27 #29 New	0 3 4 6 7 8 9 10 \$
Asia	Pakistan 2005	3	MDG 7: Uses indicator 27 but also two other energy-related indicators: "No. of vehicles using CNG fuel," and "Sulphur content in high speed diesel (as a proxy for ambient air quality)." "Energy transmission losses are extremely high, energy use continues to be very inefficient and commercial fuels are not accessible to rural households and the poor... Energy efficiency will be significantly improved by implementing an efficiency plan. Conventional sources of energy will be conserved. The proportion of renewable sources will be increased incrementally in the coming decades." Also describes plans for "Fuel switching and clean fuels: Emissions of air pollutants will be gradually brought within the safe limits, through promoting unleaded gasoline, low sulphur fuel oil/diesel, and gradual switching to natural gas/CNG. Consequently, health hazards and cost of air pollution will be gradually reduced."	#27 New	1 2 6 9

Region	Country	Rating	Chapter: <i>Mention of Energy, Electricity, Fuel, etc.</i>	Indicators used	Subject Code
Asia	Papua New Guinea 2005	2	MDG 7: "Until 2003, annual increase in power generation was about 2.5 percent. In other words, more or less equal to the population growth rate.... Very little is known about energy use in the rural area. However, survey results indicate that rural households use firewood, kerosene, batteries and fuel for transportation. Other energy sources are close to irrelevant for rural households. The majority of rural households use firewood as the primary energy source." Estimates that over 80 percent of population uses wood as primary source of energy.	⊗	0 6
Asia	Philippines 2005	1	MDG 7: Increase in CO ₂ levels due to fossil fuel burning, and motor vehicles. Also states WHO estimates that "increasing air pollution is contributing to the high incidence of upper-respiratory disease in major urban centres like Metro Manila."	⊗	2
Asia	Sri Lanka 2005	3	Under MDG 1 Challenges: "Providing a wide range of infrastructure services to consumers such as electricity, road, transport, communication and water supply, at competitive prices." Under MDG 7: section on energy use offers a lot of statistics on energy supply and energy demand; describes energy supply mix; energy demand growth patterns; and stats on use of hydro and thermal power. "Use of wood fuel is decreasing while gas consumption is increasing." Offers data on fuel consumption, by type and by district. Notes health consequences: "the high use of biomass as cooking fuel poses a serious health problem in poor households which are badly ventilated....with disproportionate incidence among women and children. What matters in energy for the poor is not the supply as much as the actual end services that are available." Recommendations in this section include "education and training to encourage the adoption of more efficient and environment-friendly energy practices," and "government support for the introduction of energy-efficient technology."	#28 #29	♀ 1 3 5 8
Asia	Thailand 2004	3	Intro: Thailand setting aggressive targets as "MDG+" goals, including making renewables a larger share (8 percent) of their commercial energy supply. Energy indicators used include the three traditional ones (27,28,29) and "Share of renewable energy in commercial primary energy." MDG 2: regarding computers in classroom, "One of the issues in improving this ratio is that basic infrastructure is required, for example 1,119 schools did not have fixed electricity..." MDG7: A paragraph on energy efficiency (where national energy consumption figures are given); a paragraph on policy plans to increase renewable energy and biomass; a few paragraphs on CO ₂ emissions; a table on the use of wood and charcoal for fuel (disaggregated by regions); and a paragraph on the declining use of wood fuel.	#27 #28 #28 New	0 1 4 2 7 9

Region	Country	Rating	Chapter: <i>Mention of Energy, Electricity, Fuel, etc.</i>	Indicators used	Subject Code
Asia	Timor-Leste 2004	2	In intro/development context: Articulated vision for the country includes, "People will no longer be isolated because there will be good roads, transport, electricity, and communications" MDG7: "The problem of growing fuel wood demand for household and small industries use is to be addressed through substitution of fossil fuels especially in urban areas... Government is receiving assistance from UNDP for rural energy development and efficient use of household fuel...A study on energy sector covering various alternative energy sources is underway." Growing wood fuel demand poses a challenge towards combating deforestation. [Indicators 27 and 28 listed, but not reported]	#27 [†] #28 [†]	4 8
Asia	Viet Nam 2003	3	MDG 7: regarding measures needed to achieve MDG 7, the Viet Nam report includes one paragraph on energy efficiency and one on reducing greenhouse gases: "Energy production and energy using equipment should be selected based on cost effectiveness and energy efficiency. Solutions for energy system management should be...combining 'hard policies' (legal controls, etc.) and 'soft policies' (tax, price, energy subsidy, training, education, economic and effective methods of energy consumption)." Reduction of green house gas emissions: "In the energy sector, the focus will be on four approaches: economize and improve energy productivity; transform fuel types/sources; use recyclable energy; and reduce gas leakage from waste." VDG on Pro-Poor Infrastructure Development: includes "Improve, upgrade, expand and build essential infrastructure constructions (e.g. small irrigation works, schools, health clinics, rural roads, lighting power, clean water, market places, post offices, and community meeting houses... ensure that 100 percent of poor communes have access to essential infrastructures." Includes a paragraph on energy access: "By the end of 2004, the national power grid reached 900 poor communes. All districts and 90 percent of communes throughout the country have electricity." [No energy indicators used, but establishes original goals, including target for power provision]	⊗	1 2 7
Europe & CIS	Albania 2004	1	MDG 1: This report has created a new energy-related target for poverty reduction. Target 6: "Increase availability of electricity for all." Report also notes, "The lack of a reliable supply of electricity hinders the profitability (or outright feasibility) of productive investments thus lowering economic growth, again with long lasting effects." [use of two new energy indicators: "increase power generation" and "reduction of transmission losses"]	New	*\$
Europe & CIS	Armenia 2001	1	Current status and tendencies of MDG7: "deep economic and energy crisis...resulted in intensive and continuous deforestation for energy purposes." Reports on air pollution values, but does not mention energy in that respect.	⊗	4

Region	Country	Rating	Chapter: <i>Mention of Energy, Electricity, Fuel, etc.</i>	Indicators used	Subject Code
Europe & CIS	Azerbaijan 2003	3	2003 report, Chapter on Economic Development (not MDG specific): Deforestation has accelerated due to lack of reliable energy supply (electricity and gas) pgs 35, 38-39. Lack of reliable gas supply to 92 percent of rural population and to 46 percent of the country's population. Report identifies policy reforms needed to ensure energy supply, develop capacity and improve pricing/tariff structure. Pages 58-60 on improving energy policy. See Box on Institutional Reforms in the Energy Sector, page 58.	⊗	4 8 6 10
Europe & CIS	Bosnia & Herzegovina 2004	1	MDG 7: Some new energy indicators are identified, along with indicator 27 and 28. Bosnia Herzegovina uses "Electricity Consumption" as an indicator and "Taxes on non-renewable energy sources as a percent of total taxes" (yet to be derived). Other than that, no other discussion on energy was found.	#27 #28 New	1
Europe & CIS	Bulgaria 2003	1	No Mention. (Although the report mentions a reduction in CO ₂ emissions and has created new indicators regarding emissions, no discussion on energy or energy efficiency was found.)	⊗	
Europe & CIS	Czech Republic 2004	1	MDG7: "Energy use...carbon dioxide emissions and material intensity are to decline." MDG8: development assistance received for infrastructure development (including energy).	#27 #28	1 2 8
Europe & CIS	Georgia 2004	3	Intro/ overview of country development: "The government's Reform and Development Programme for 2004-2009 declares the priority sectors of the economy as energy, transportation and communications, tourism, agriculture, banking and light industry." Goal 7: indicator 27 reported but no trend data available. CO ₂ emissions from energy sector reported. "The country possesses significant potential both in terms of increasing energy efficiency, and of using renewable energy resources, which would reduce greenhouse gas emissions. Georgia has an intention to put this potential into use through participating in the Clean Development Mechanism defined by the Kyoto Protocol to the UN Framework Convention on Climate Change. Increased reliance on renewable energy resources represents one of the key priorities of the government's energy policy." Overall, energy is discussed as part of MDG 7 reporting. Focus on increasing energy efficiency.	#27 [†] #28	1 2 8
Europe & CIS	Hungary 2004	1	MDG 7: energy use in the economy has decreased and so there are fewer emissions/pollution	⊗	1 2
Europe & CIS	Kosovo 2004	1	No Mention. (But does state that data is not available for indicators 27, 28 and 29)	⊗	
Europe & CIS	Kyrgyzstan 2003	2	MDG 7: fuel and energy industries causing air pollution in major cities. Indicator 27 is down, but perhaps not because of more energy efficiency per se, but because of a decline in energy-intensive industries and rise in agriculture production in the economy. MDG8: assistance would be valuable to develop infrastructure (and energy).	#27	1 2 8

Region	Country	Rating	Chapter: <i>Mention of Energy, Electricity, Fuel, etc.</i>	Indicators used	Subject Code
Europe & CIS	Latvia 2005	3	MDG 7: "The level of dematerialization is measured by eco-efficiency indicators. These show the rate of economic growth, the consumption of resources and the amount of pollution caused during this period (for an example, see Box 7.2.). The main sectors of the economy: energy, industry, transportation, construction, fisheries, agriculture, etc. should be constantly monitored to ensure environmental sustainability.... The energy sector shows a decrease in consumption of fossil fuels (oil, natural gas, coal). Since 1995, the consumption of renewable energy resources, mainly fuel wood, has increased by 43 percent. The use of renewable energy resources is particularly important as a way of reducing impact on climate and environment." Overall: Energy supply and consumption data thoroughly reported, including sources of energy and CO ₂ emissions. For forward-looking statements, emphasis is on energy efficiency, environmental management.	#28	1 2 3
Europe & CIS	Lithuania 2004	3	MDG 7: Under section on Air Pollution, the report identifies that industry and energy sector, along with transportation, cause air pollution. SO ₂ , CO and CO ₂ levels are falling. Building renovations have introduced more energy efficient central heating systems, and in many cases, bio-fuel is substituted for fossil fuel. Energy per unit of GDP has decreased, but keeping this trend in the future will remain a challenge.	#27	1 2 3
Europe & CIS	Macedonia 2005	3	MDG 7: Energy efficiency is improving but still low. Electricity consumption by households is rising. Report offers detailed information on energy supply (by source of fuel) and overall current and projected sources of electricity production. Use of natural gas expected to rise. Cites "Percentage of population using solid fuels" as declining but high due to "no central heating system in place." Makes distinction between urban and rural methods to heat homes: "in rural environments, they use mainly wood and electricity."	#27 #28 #29	0 1 3 6
Europe & CIS	Moldova 2005	1	MDG 7: motor vehicles a major source of air pollution.	#27 [†] #28	2
Europe & CIS	Montenegro 2005	3	MDG 7: Reports indicators 27 and 28. Three paragraph on energy efficiency and national energy consumption rates (electricity, coal and oil products). Notes that consumption is high compared to other developing economies. Household energy consumption doubled in last decade. Electricity is a source of heating by half of population.	#27 #28	1 2 3
Europe & CIS	Poland 2002	1	MDG 7: "Except isolated cases, such as carbon dioxide (CO ₂) emissions and primary energy consumption in 1996, the intensity of pressure exerted on the environment also diminished." Reports figures for energy consumption (Gj), but does not include this in its list of indicators for monitoring targets.	⊗	1 2
Europe & CIS	Romania 2004	1	No Mention.	⊗	

Region	Country	Rating	Chapter: <i>Mention of Energy, Electricity, Fuel, etc.</i>	Indicators used	Subject Code
Europe & CIS	Serbia 2005	3	MDG 7: "Increased poverty accounted for more use of firewood." Indicator 27 reported as high and worsening in past years, unlikely to decline soon. Under indicator 28: burning of fossil fuels for power/heating a cause of CO ₂ emissions. Reports that more than 40 per cent of households use solid fuels. The Serbia Energy Development Strategy until 2015: foresees a "marked increase in the proportion of the population using natural gas and central heating...The Strategy forecasts a fall in the use of solid fuels, while the proportion of the use of electric power and renewable sources of energy tends to rise."	#27 #28 #29	\$ 0 1 2 9
Europe & CIS	Slovak Republic 2004	1	Slovakia has had a drop in air pollutants, due to decrease in industrialization, but also due to the switch cleaner fuels (natural gas) and more advanced technologies. Basic infrastructure in Roma settlements: Most of these settlements struggle with problems of insufficient utility services and social infrastructure – low quality of drinking water, insufficient sewerage, non-existent electricity and gas supplies, unsuitable housing conditions, poor quality of roads, and lack of public lighting."	⊗	2 8
Europe & CIS	Slovenia 2004	2	MDG7: "To reduce CO ₂ emissions, the country must stimulate and increase use of renewable sources of energy.... Air quality has improved due to higher use of environmentally friendly sources of energy and heating." New Target under MDG7: "Increase the Use of Renewable Sources of Energy: To reduce carbon dioxide emissions, the country must establish policy plans to stimulate and increase the use of renewable sources of energy." Indicator: Proportion of renewable sources of energy in gross production of electricity.** "The country will work to reduce greenhouse gases through measures to be taken at all levels, including energy production, transport, industry, agriculture and waste management, as well as at the household level. The National Energy Program emphasizes the use of renewable sources of energy, co-generation, biomass, biogas and promotion of efficient use of energy."	#28 New	2 9
Europe & CIS	Turkey 2005	3	MDG 7: Discusses Indicator 27 extensively, focusing on the fact that energy production is the major source of air pollution. Also adds, "Over the past decade, the expanding use of natural gas for residential heating, particularly in large cities, and the efforts of local administrations to promote the use of natural gas have contributed to improving the quality of air. Natural gas constitutes 20.6 percent (in 2002) of the total primary energy consumption in Turkey." Demand of electrical energy is on the rise due to population growth, and met from thermal and hydraulic sources. Fluctuations of indicator 27 due to changing energy prices and GDP level due to currency depreciation against the US dollar. The report also offers several paragraphs on indicator 28, but no energy mention therein. No data or analysis is available and/or offered for target 29.	#27 #28 #29	1 2 3
Europe & CIS	Ukraine 2003	1	MDG7: The emission of GHGs has increased. "This dynamic arises due to the gradual increase in industrial production and fuel and energy complex"	⊗	2

Region	Country	Rating	Chapter: <i>Mention of Energy, Electricity, Fuel, etc.</i>	Indicators used	Subject Code
Latin America	Argentina 2003	1	No mention.	#27 [†] #28 [†]	
Latin America	Bolivia 2003	2	Intro: regarding new policies for economic development: "The Works with Employment Plan is presented as immediate action in areas which generate employment: road infrastructure, irrigation, electrification ...and domestic gas connections." Infrastructure/public investment in electrification. MDG 7: 10 percent of CO ₂ emissions are from energy sector. [Also, Concluding chapter on "Financing MDGs" describes the "Works with Employment Plan," with two paragraphs on employment relating to electrification and natural gas installation projects.]	⊗	2 8
Latin America	Brazil 2004	3	Chapter on MDG 7: Two pages on issues relating to indicators 27, 28 and 29. Charts energy supply and consumption, and energy fuel mix for the country. Regarding energy efficiency, reports an increase in energy intensity, "Brazil is still experiencing moderate growth of its energy intensity, but has sought to develop and import technologies that are more efficient in energy conversion." Mentions clean energy mix with 41 percent coming from renewables. Describes energy as a key sector in CO ₂ emission and potential for renewable energy projects via CDM (1-2 paragraphs). Three paragraphs on solid fuel use. Thirty-three percent solid fuel use, of which 27 percent is biomass (wood and charcoal). "In the residential sector, the traditional use of firewood takes place in regions where it is difficult to introduce Liquefied Petroleum Gas (LPG)." Describes legislation and programmes passed to promote clean fuel use and save energy (2 paragraphs).	#27 #28 #29	0 1 2 3 9
Latin America	Chile 2005**	3	MDG 7: Reports both indicator 27 (one paragraph) and 29. For indicator 29, it disaggregates the data for households of different income levels (high, middle, and low income), and also offers data on the wood fuel use in the city of Temuco (again disaggregating by income). A page of discussion on the use of wood for cooking, including the conclusion that wood is main source of particulate matter in some areas and the need for better stoves.	#27 #29	0 1 2 4 5
Latin America	Colombia 2005 **	1	No mention.	⊗	
Latin America	Costa Rica 2005**	3	MDG 7: Energy intensity is decreasing. Wood fuel has been replaced by electricity and LPG, thus increasing energy efficiency. National policy is to decrease dependence on hydrocarbons and augment sources of renewable energy sources, but currently the trend is that renewables are decreasing as a source of energy and electricity. A lot of information on national energy policy and GHG emissions (about three to four pages).	#27 #28	0 1 2 3 9
Latin America	Cuba 2005**	2	MDG 7: Reports indicators 27 and 28. Two paragraphs on energy use (in relation to CO ₂ emissions) and energy intensity. Energy efficiency is improving. Using natural gas for generation of electricity listed as a key action point for achieving sustainable development. Briefly describes national energy programmes to expand electrification and residential gasification.	#27 #28	0 1 2 8

Region	Country	Rating	Chapter: <i>Mention of Energy, Electricity, Fuel, etc.</i>	Indicators used	Subject Code
Latin America	Dominican Republic 2004**	3	MDG 7: Three paragraphs on energy efficiency and energy use. Disaggregates rural versus urban use. Estimates that 2 million do not have access to electricity. Use of gas (propane) for cooking has increased, and use of bio-fuel for this purpose has decreased. (table on household cooking fuels by type and urban versus rural). CO ₂ levels, however, are on the rise in the Dominican Republic.	#27 #28	0 1 2 3 6 7
Latin America	El Salvador 2004**	2	MDG7: Indicator 27 is down, indicating better energy efficiency. Indicator 29: Fewer households (28 percent less) are using solid fuels and biomass for cooking (one to two paragraphs).	#27 #29	0 1
Latin America	Guatemala 2002	2	MDG 7: One paragraph on energy efficiency (indicator 27), and notes that CO ₂ emissions are the result, in part, of energy use.	#27	1 2
Latin America	Guyana 2003	1	Intro: "The advice to privatise relatively small utilities (water, electricity, and communications) results in escalating costs of services, not only in Guyana but in a number of other countries. High energy costs usually correlate with low wages. Given the unique nature of the electricity sector in SIDS countries, there is need to consider whether a model developed for the UK is the most appropriate for a small country."	⊗	10
Latin America	Haiti 2004**	1	Intro: 30 percent of households have electricity. MDG 7: Under priority areas, a shift to cleaner sources of energy for certain enterprises is considered to mitigate pollution.	⊗	2 7
Latin America	Honduras 2003**	2	MDG 7: one paragraph and graph on indicator 27. Under target 11, graph on "access to basic services and infrastructure" includes portion of households with public or private access to electricity.	#27	1 7
Latin America	Jamaica 2005	1	MDG 1: Mentions the success of some elements of the National Poverty Eradication Programme (NPEP) including rural electrification. MDG 7: indicator 27 is rising, "indicating that more of the population is gaining access to electricity [and] motor vehicle ownership."	#27	1 7
Latin America	Mexico 2005**	2	MDG 7: Reports on both indicator 27 and 29 (both decreasing). Gives one paragraph on energy consumption. Another paragraph on the use of wood for fuel, which is decreasing and mostly used in rural and indigenous areas with a low HDI; adds that there are no quantifiable figures on how much wood has been used nor on the social impact of depleting supplies of this fuel. Fossil fuel combustion a source of CO ₂ emissions. MDG 8: discusses the "Program for Cooperation on Energy for Central American and Caribbean States," and energy infrastructure development.	#27 #28 #29	0 1 2 8 \$
Latin America	Nicaragua 2003**	2	MDG 7: energy sector as a contributor to CO ₂ emissions. Under MDG7 priorities for development assistance: "The strategies and plans for the country's development rest in part on the utilization of a variety of sources and forms of energy like hydroelectricity, thermal energy, etc...and also the promotion of renewable energy, particularly in areas that are poor and not connected to the national 'interconnection system' (grid)."	⊗	2
Latin America	Panama 2003**	1	MDG 7: Gives a basic statistic of energy intensity (indicator 27) and refers to energy in relation to CO ₂ emissions.	#27	1 2

Region	Country	Rating	Chapter: <i>Mention of Energy, Electricity, Fuel, etc.</i>	Indicators used	Subject Code
Latin America	Paraguay 2003**	1	No mention.	⊗	
Latin America	Peru 2004**	3	MDG 7: two paragraphs on indicator 27, offers national statistics on energy intensity and suggests that further investigation is needed to determine what the primary drivers of increased energy consumption. Half a page on indicator 29, use of solid fuels (although 29 is not listed in table of indicators). Links the use of solid fuels also as an indicator of “quality of life and incidence of poverty” since solid fuels are used mostly by poor populations. Gives some statistics on household use for different types of solid fuels.	#27	0 1 \$
Latin America	Uruguay 2003**	1	MDG 7: reports on indicator 27 and mentions energy use as a cause of CO ₂ emissions.	#27 #28	1 2
Latin America	Venezuela 2005 **	3	Intro (page 27), under economic characteristics, “abundant sources of energy.” MDG 7: Three paragraphs on the intensity and consumption of energy, stating that “the exploitation of these energy resources is extremely important for the country as fuels the economy,” and the low price of fuel is one factor favouring an irrational use of energy. Hydroelectric system distributes electricity to over 70 percent of the population. Gives statistics on national energy intensity (indicator 27) and on the national fuel mix. Discusses CO ₂ emissions as a result of energy use. MDG 8: Plans/programmes for national telecommunications: <i>Conocimiento para el desarrollo local endógeno</i> : involving the development of the infrastructure of IT, electricity and access to internet. Annex on Methodology: to observe extreme poverty and “unsatisfied basic needs,” one of the basic indicators is “absence of basic services (electricity, water, etc).”	#27 #28	1 2 3 7 8

* Report available only in French, and all comments herein translated from French into English.

** Report available only in Spanish, and all comments herein translated from Spanish into English.

† Indicator acknowledged or identified, but not used in the reporting process.

ANNEX C
The MDG Framework
Millennium Development Goals, Targets and Indicators

Effective 8 September 2003

Millennium Development Goals (MDGs)	
Goals and Targets (from the Millennium Declaration)	<i>Indicators for monitoring progress</i>
Goal 1: Eradicate extreme poverty and hunger	
Target 1: Halve, between 1990 and 2015, the proportion of people whose income is less than one dollar a day	1. Proportion of population below \$1 (PPP) per day ¹⁴ 2. Poverty gap ratio [incidence x depth of poverty] 3. Share of poorest quintile in national consumption
Target 2: Halve, between 1990 and 2015, the proportion of people who suffer from hunger	4. Prevalence of underweight children under-five years of age 5. Proportion of population below minimum level of dietary energy consumption
Goal 2: Achieve universal primary education	
Target 3: Ensure that, by 2015, children everywhere, boys and girls alike, will be able to complete a full course of primary schooling	6. Net enrolment ratio in primary education 7. Proportion of pupils starting grade 1 who reach grade 5 ¹⁵ 8. Literacy rate of 15-24 year-olds
Goal 3: Promote gender equality and empower women	
Target 4: Eliminate gender disparity in primary and secondary education, preferably by 2005, and in all levels of education no later than 2015	9. Ratios of girls to boys in primary, secondary and tertiary education 10. Ratio of literate women to men, 15-24 years old 11. Share of women in wage employment in the non-agricultural sector 12. Proportion of seats held by women in national parliament
Goal 4: Reduce child mortality	
Target 5: Reduce by two-thirds, between 1990 and 2015, the under-five mortality rate	13. Under-five mortality rate 14. Infant mortality rate 15. Proportion of 1 year-old children immunised against measles
Goal 5: Improve maternal health	
Target 6: Reduce by three-quarters, between 1990 and 2015, the maternal mortality ratio	16. Maternal mortality ratio 17. Proportion of births attended by skilled health personnel
Goal 6: Combat HIV/AIDS, malaria and other diseases	
Target 7: Have halted by 2015 and begun to reverse the spread of HIV/AIDS	18. HIV prevalence among pregnant women aged 15-24 years 19. Condom use rate of the contraceptive prevalence rate ¹⁶ 19a. Condom use at last high-risk sex 19b. Percentage of population aged 15-24 years with comprehensive correct knowledge of HIV/AIDS ¹⁷ 19c. Contraceptive prevalence rate 20. Ratio of school attendance of orphans to school attendance of non-orphans aged 10-14 years
Target 8: Have halted by 2015 and begun to reverse the incidence of malaria and other major diseases	21. Prevalence and death rates associated with malaria 22. Proportion of population in malaria-risk areas using effective malaria prevention and treatment measures ¹⁸ 23. Prevalence and death rates associated with tuberculosis 24. Proportion of tuberculosis cases detected and cured under directly observed treatment short course DOTS (Internationally recommended TB control strategy)

¹⁴ For monitoring country poverty trends, indicators based on national poverty lines should be used, where available.

¹⁵ An alternative indicator under development is "primary completion rate".

¹⁶ Amongst contraceptive methods, only condoms are effective in preventing HIV transmission. Since the condom use rate is only measured among women in union, it is supplemented by an indicator on condom use in high-risk situations (indicator 19a) and an indicator on HIV/AIDS knowledge (indicator 19b). Indicator 19c (contraceptive prevalence rate) is also useful in tracking progress in other health, gender and poverty goals.

¹⁷ This indicator is defined as the percentage of population aged 15-24 who correctly identify the two major ways of preventing the sexual transmission of HIV (using condoms and limiting sex to one faithful, uninfected partner), who reject the two most common local misconceptions about HIV transmission, and who know that a healthy-looking person can transmit HIV. However, since there are currently not a sufficient number of surveys to be able to calculate the indicator as defined above, UNICEF, in collaboration with UNAIDS and WHO, produced two proxy indicators that represent two components of the actual indicator. They are the following: a) percentage of women and men 15-24 who know that a person can protect herself/himself from HIV infection by "consistent use of condom"; b) percentage of women and men 15-24 who know a healthy-looking person can transmit HIV.

¹⁸ Prevention to be measured by the percentage of children under 5 sleeping under insecticide-treated bednets; treatment to be measured by percentage of children under 5 who are appropriately treated.

Goal 7: Ensure environmental sustainability	
Target 9: Integrate the principles of sustainable development into country policies and programmes and reverse the loss of environmental resources	25. Proportion of land area covered by forest 26. Ratio of area protected to maintain biological diversity to surface area 27. Energy use (kg oil equivalent) per \$1 GDP (PPP) 28. Carbon dioxide emissions per capita and consumption of ozone-depleting CFCs (ODP tons) 29. Proportion of population using solid fuels
Target 10: Halve, by 2015, the proportion of people without sustainable access to safe drinking water and basic sanitation	30. Proportion of population with sustainable access to an improved water source, urban and rural 31. Proportion of population with access to improved sanitation, urban and rural
Target 11: By 2020, to have achieved a significant improvement in the lives of at least 100 million slum dwellers	32. Proportion of households with access to secure tenure
Goal 8: Develop a global partnership for development	
Target 12: Develop further an open, rule-based, predictable, non-discriminatory trading and financial system	<i>Some of the indicators listed below are monitored separately for the least developed countries (LDCs), Africa, landlocked developing countries and small island developing States.</i>
Includes a commitment to good governance, development and poverty reduction – both nationally and internationally	<u>Official development assistance (ODA)</u>
Target 13: Address the special needs of the least developed countries	33. Net ODA, total and to the least developed countries, as percentage of OECD/DAC donors' gross national income 34. Proportion of total bilateral, sector-allocable ODA of OECD/DAC donors to basic social services (basic education, primary health care, nutrition, safe water and sanitation) 35. Proportion of bilateral official development assistance of OECD/DAC donors that is untied 36. ODA received in landlocked developing countries as a proportion of their gross national incomes 37. ODA received in small island developing States as a proportion of their gross national incomes
Includes: tariff and quota free access for the least developed countries' exports; enhanced programme of debt relief for heavily indebted poor countries (HIPC) and cancellation of official bilateral debt; and more generous ODA for countries committed to poverty reduction	<u>Market access</u>
Target 14: Address the special needs of landlocked developing countries and small island developing States (through the Programme of Action for the Sustainable Development of Small Island Developing States and the outcome of the twenty-second special session of the General Assembly)	38. Proportion of total developed country imports (by value and excluding arms) from developing countries and least developed countries, admitted free of duty 39. Average tariffs imposed by developed countries on agricultural products and textiles and clothing from developing countries 40. Agricultural support estimate for OECD countries as a percentage of their gross domestic product 41. Proportion of ODA provided to help build trade capacity
Target 15: Deal comprehensively with the debt problems of developing countries through national and international measures in order to make debt sustainable in the long term	<u>Debt sustainability</u> 42. Total number of countries that have reached their HIPC decision points and number that have reached their HIPC completion points (cumulative) 43. Debt relief committed under HIPC Initiative 44. Debt service as a percentage of exports of goods and services
Target 16: In cooperation with developing countries, develop and implement strategies for decent and productive work for youth	45. Unemployment rate of young people aged 15-24 years, each sex and total ¹⁹
Target 17: In cooperation with pharmaceutical companies, provide access to affordable essential drugs in developing countries	46. Proportion of population with access to affordable essential drugs on a sustainable basis
Target 18: In cooperation with the private sector, make available the benefits of new technologies, especially information and communications	47. Telephone lines and cellular subscribers per 100 population 48. Personal computers in use per 100 population Internet users per 100 population

Source: <http://mdgs.un.org/unsd/mdg/Default.aspx>

¹⁹ An improved measure of the target for future years is under development by the International Labour Organization.



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