

COUNTRY CHAPTER: NIGER

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ACRONYMS AND ABBREVIATIONS

NIGER

AIPO	African Intellectual Property Organization
ALG	Autorité du Liptako Gourma (Authority for Integrated Development of the Liptako Gourma Region)
ANDP	Alliance Nationale pour la Démocratie et Le Progrès (National Alliance for Democracy and Progress)
ARM	Autorité de Régulation Multisectorielle (Authority of Multisector-based Regulation)
BIRD	Banque Internationale pour la Reconstruction et le Développement (International Bank for Development and Reconstruction)
CDM	Clean Development Mechanism
CDS	Convention Démocratique et Sociale (Social and Democratic Convention)
CFC	Companies Formalities Center
CILSS	Comité Permanent Inter-Etats de Lutte contre la Sécheresse dans le Sahel (Interstate Committee for Fight Against the Drought in the Sahel)
CNPG	Centre National de Perfectionnement et de Gestion (National Center for Perfection in Management)
CNEDD	Conseil National de l'Environnement pour un Développement Durable (National Environmental Council for a Sustainable Development)
CNIP	Conseil National des Investissements Privés (Private Investors National Council)
CNL	Conseil National de Liaison (National Connection Council)
ECOWAS	Economic Community of Western Africa States
GDP	Gross Domestic Product
GEF	Global Environmental Facility
LPG	Liquefied Petroleum Gas
MDG	Millennium Development Goals
MFP	Multifunctional Platforms Project
MNSD	Mouvement National pour la Société de Développement (National Movement for a Development Society)
NDA	National Designated Authority
NIGELEC	Société Nigérienne d'Électricité (Nigerian Electricity Society)
PAC	Programme d'Actions Communautaires (Community Actions Program)
PEC	Politique Énergétique Commune (Common Energy Policy)
PRASE	Programme de Référence d'Accès aux Services Énergétiques (Reference Program of Access to Energies Services)
PRBE	Programme Régional Biomasse Énergie (Regional Biomass Energy Programm)
PREDAS	Programme Régional de Promotion des Énergies Domestiques et Alternatives au Sahel (Regional Programm for Promotion of Domestic and Alternative Energies in the Sahel)
PV	Photovoltaic
RAF	Resource Allocation Framework
RE	Renewable Energy
RSD	Rassemblement Social et Démocrate (Social Democratic Assembly)
RDP	Rassemblement pour la Démocratie et le Progrès (Assembly for Democracy and Progress)
SDR	Stratégie du Développement Rural (Strategy of Rural Development)
SDRP	Stratégie du Développement Accéléré et de la Réduction de la Pauvreté (Strategy for Accelerated Development and Poverty Alleviation)
SNASEM	Stratégie Nationale d'Accès aux Services Énergétiques Modernes (National Strategy Access to Modern Energy)
SNCC	Société Nationale de Carbonisation du Charbon Minéral (National Company of Carbonization of Mineral Coal)
SONICHAR	Société Nigérienne de Charbon (National Coal Company of Anou Araren)
SONIDEP	Société Nigérienne des Produits Pétroliers (Nigerien Society of Petrol Products)
SONIHY	Société Nigérienne des Hydrocarbures (Gas Company Niger)
SNER	Stratégie Nationale sur les Énergies Renouvelables (National Renewable Energies Strategy)
SNED	Stratégie Nationale des Énergies Domestiques (National Strategy for Domestic Energies)
UNDP	United Nations Development Program
VAT	Value Added Tax
WIPO	World Intellectual Property Organization
UEMOA	Union Économique et Monétaire Ouest Africaine (West African Economic and Monetary Union)



MEASUREMENTS

km	kilometer
mm	millimeter
kg	kilogram
t	tons
m ³	cubic meter
m ²	square meter
kWh	kilowatt hours
kWp	kilowatt peak
m/s	meter per second
MW	megawatt (1 MW = 1,000 kW)



SUMMARY

The Country Study of Niger is to provide an overview of the country's energy market and to support decision-making for private investments for the renewable energy sector in Niger. The study is structured as follows:

Chapter one provides Background Information on Niger. This includes an overview of geographical and climatic conditions, as well as the most important facts in view of political, economic and socio-economic conditions of Niger.

Chapter two summarizes facts and figures of Niger's Energy Market including stakeholders and market actors involved as well as sector related regulations.

Chapter three presents the currently existing Political Framework for Renewable Energies in Niger. This includes an overview of support mechanisms for PV as well as already existing regulations, incentives and legislative framework conditions.

Chapter four provides a brief overview of the Status Quo and Potential for Renewable Energies in Niger.

Chapter five summarizes the existing and potential Market Risks and Barriers in general with focus on Renewable Energies.

Chapter six presents a compilation of the most relevant Renewable Energy Business Information and Contacts of Niger.



1 COUNTRY INTRODUCTION

1.1 GEOGRAPHY AND CLIMATIC CONDITIONS

The Republic of Niger is an enclosed West African country, the nearest coast is about 600 km away. It is situated between longitudes 0° 16' East and 16° East and latitudes 11° 1' North and 23° 17' North. The country is limited by Algeria and Libya in the North, by Nigeria and Benin in the South, by Chad in the East and by Mali and Burkina Faso in the West.

FIGURE 1

Map of the Republic of Niger



The territory is divided into 8 areas, 36 provinces and 265 districts. The country is crossed by the Niger River, the country's only permanent river, covering a length of 550 km. Niger covers a surface area of 1,267,000 km² two-thirds of which are desert. According to the last population census of 2001, Niger's population is estimated at 11,060,291 inhabitants with an annual average population growth of 3.1%. In 2006, the population was estimated at approximately 13 million inhabitants equaling 4.7% of the Economic Community of Western Africa States (ECOWAS) population estimated at over 270 million people. About 47.6% of Niger's population is under 15 years, and 83% are living in rural areas.

Three quarters of the population live in the southern part of the country, representing 25% of the total surface area of the country. The environmental constraints (decrease and bad repartition of rainfalls) were followed by a progressive decrease of the agricultural areas representing only 12% of the national territory today. The climate is of Sahelian type characterized by two main seasons: a long dry season lasting up to nine months and a rainy season covering three to four months. The country has four agro climatic zones:

- The Sahelo-Sudanese zone representing approximately 1% of the total surface area of the country with up to 600 to 800 mm of rain during a normal year
- The Sahelian zone covering 10% of the country with 350 to 600 mm of rain
- The Sahelo-Saharan zone representing 12% of the total surface area of the country with 150 to 350 mm of rain per year

- The Saharan zone covering 77% of the country with less than 150 mm of rain

1.2 POLITICAL, ECONOMIC AND SOCIO-ECONOMIC CONDITIONS

The Republic of Niger was a former French colony that gained its independence in August 1960. Since 1993, the country has been a multiparty democratic sovereign state with a semi-presidential government system where the deputies are elected democratically. The current President is Mr. Tandja Mamadou from the MNSD (Mouvement National pour la Société de Développement – National Movement for a Development Society), the dominant political party of the country. The parliament counts 113 deputies from seven political parties. The Government includes ministers from the CDS (Convention Démocratique et Sociale – Social and Democratic Convention), RSD (Rassemblement Social et Démocrate – Social Democratic Assembly), RDP (Rassemblement pour la Démocratie et le Progrès – Assembly for Democracy and Progress) and ANDP (Alliance Nationale pour la Démocratie et le Progrès – National Alliance for Democracy and Progress) which were in coalition with the MNSD during the run-off election in 2004.

Classified as one of the poorest countries in the world, Niger's Republic Gross Domestic Product (GDP) per capita was 216 Euro in 2006, representing 1.83% of the GDP in the ECOWAS zone. All parameters related to the poverty level evaluation show that poverty still exerts high impact on the country. Poverty lines corresponding to a minimal annual spending of 220 Euro in urban areas and 161 Euro in rural areas indicate that 62.1% of Nigerians are poor (as of 2005 and without significant improvement up to now). In the household sector, the impact of poverty is estimated at 53%, about 66% of the households consider themselves as relatively poor, while 20% of them perceive themselves as being extremely poor. The relation is similar in both, rural and urban areas. Today, the struggle against poverty and the research for sustainable and steady economic growth are the most important issues for Niger.

Against this background, the SDRP (Stratégie du Développement accéléré et de la Réduction de la Pauvreté – Strategy for Accelerated Development and Poverty Alleviation) was adopted by the Government and approved of by the development partners for financial issues in 2007. The SDRP has seriously taken into account the fact that the reduction of poverty goes along with a strong and sustained growth of resources and creation of employment, notably in the sphere of people considered as poor and in rural areas, by guaranteeing an overall cross-linking of the existing sector-based programs and strategies.

The economy of Niger is dominated by the agro-pastoral sector representing 36% of the GDP (with 42% of the earnings resulting from exportations) and employing 85% of the population. In 2006, Niger's exports within the ECOWAS came to about 147,765 tons (consisting mainly of agro-pastoral and forest-related products) with earnings of 58 million Euros. Niger's major export customers are Nigeria (50.7%), Ghana (29.3%) and Côte d'Ivoire (11%). The imports come



to about 454,366 tons with spendings of 150 million Euros. 33.5% of the exports come from Benin, 16% from Nigeria, 14.7% from Togo and 13.34% from Côte d'Ivoire. The volume of exports and imports of the country (2.58% of the whole ECOWAS) is much smaller than in the other countries in the region.

The mining sector constitutes an important pillar of the country's economy. Uranium still represents one of the main resources of the country (55% of GDP in 2004) with Niger being the No. 1 producer of uranium in the third world. With the renewed international demand for uranium, the national economy experienced a considerable increase in the years 2006 to 2008.

With the current rate of economic and social development of the country, it will be very difficult to achieve the Millennium Development Goals (MDGs) until 2015. The improved access to energy services appears as an option to achieve the MDG for the social basic sectors (health, education, water supply). The Government of Niger adopted an energy policy statement in 2004 with focus on:

- The increase of accessibility for households to energy source, particularly in rural areas
- The promotion of energies substituting wood energy
- The securing of energy supplies
- The evaluation of the national energy resources
- The promotion of environmental protection
- The control of the energy-related statistical data
- The intensification and development of cooperation within the energy sector

This statement corresponds to the ECOWAS regional energy policy, namely the White Paper¹ adopted in January 2006 in Niger by the 29th Summit of the Authority of Heads States and Government. The White Paper aims at engaging ECOWAS member states and the region in an ambitious regional policy towards the increment of access to modern energy services. Its objective is to establish electrification for at least half of the population in rural and peri-urban areas by the year 2015, i.e. enabling 36 million more households and 49,000 extra localities to access modern energy services.

On the basis of the white paper directives a Multisectoral Energy Committee was created in Niger. It aims at developing synergies between the energy sector and other strategic sectors, to support cooperations in order to integrate energy objectives in their projects and programs and to increase access to energy within the social infrastructures. In order to achieve the regional policy global objective, the committee has prepared the SNASEM (Stratégie Nationale d'Accès aux Services Energétiques Modernes – National Strategy Access to Modern Energy). The PRASE (Programme de Référence d'Accès aux Services Energétiques – Reference Program of Access to Energies Services) was set up to implement the White Paper objectives in the National Policy framework. The program is meant to bridge the existing gap between the current effective access rate to energy services and the necessary access to energy rates in order to achieve the MDG. The program focuses on the access to energy facilities for social and productive sectors (health, education, agriculture and water) through:

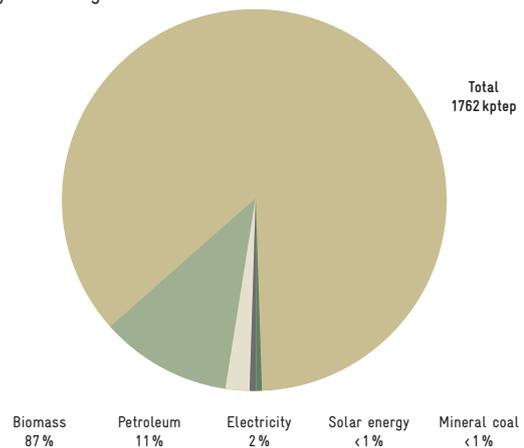
- Access to modern fuels for cooking (mineral coal, butane gas, biogas)
- Access to motive power (solar multi-functional platforms, wind energy)
- Access to electricity

2 ENERGY MARKET IN NIGER

2.1 OVERVIEW OF THE ENERGY SITUATION

The overall energy situation of Niger can be divided into two aspects. The first aspect deals with the modern energies inter alia conventional electricity, oil products and renewable energies (RE). In Niger, 87% of the electricity is imported from Nigeria through an interconnecting network. The local thermal coal and diesel production represents 13%. Oil products, essentially gasoline, diesel oil, kerosene and LPG, are imported from Persian Gulf Countries and Nigeria. Figure 2 visualizes the energy mix of Niger.

FIGURE 2
Energy Mix of Nigeria



Source: SIE, as of 2006

2.2 ENERGY CAPACITIES, PRODUCTION, CONSUMPTION AND PRICES

Electricity Sector

As already stated, about 87% of the electricity are imported from Nigeria. The local production (thermal power from coal and diesel) contributes but 13%. Table 1 presents an overview of the electricity sector key facts. The current price of electrical power is indicated in table 2.

Petroleum Sector

The petroleum sector mainly depends on imports. Gasoline, diesel oil, kerosene and LPG are almost exclusively imported from Persian Gulf Countries and Nigeria. Table 3 indicates the imports and investments in the petroleum sector of Niger. Current prices are presented in table 4.

1 ECOWAS/UEMOA, 2005



TABLE 1
Consumption and Investment in the Electricity Sector

	2000	2001	2002	2003	2004	2005	2006
Production Sonichar (GWh)	134.870	134.400	143.670	148.830	154.750	158.470	167.500
Production Nigelec (GWh)	64.280	39.723	40.666	42.642	45.856	43.166	26.300
Total Production (GWh)	199.150	174.123	184.336	191.472	200.606	201.636	193.800
Imports (GWh)	203.826	219.882	210.995	234.766	295.340	339.002	356.590
Consumption	402.976	394.005	395.331	426.238	495.946	540.638	550.390
Investments (Euro)	3,810,996	7,454,159	10,113,288	7,650,690	13,156,298	18,420,650	13,595,391

Source: Ministry of Mines and Energy and Ministry of Trade, Industry and Normalization, as of 2008

TABLE 2
Electricity Prices

DOMESTIC USE	INDUSTRIAL USE
0.122 Euro/kWh	0.084 Euro/kWh

Source: Ministry of Mines and Energy and Ministry of Trade, Industry and Normalization, as of 2008

TABLE 3
Imports and Investments in the Petroleum Sector of Niger

TYPE OF FUEL	2000	2001	2002	2003	2004	2005
Kerosene (m³)	11,892	8,912	11,009	13,589	13,995	8,802
Gasoline (m³)	66,000	97,934	96,387	105,365	98,385	96,148
Jet (m³)	17,755	9,256	12,057	12,566	14,430	15,665
Diesel (m³)	72,466	70,061	85,210	90,500	96,616	105,818
Heavy fuel (m³)	10,832	8,288	5,511	9,974	11,544	3,658
Jet (t)	350	141	197	96	75	45
Lubricant (t)	2,829	3,853	3,496	2,966	391	3,123
Bitumen (t)	137	829	7,232	11,004	15,159	4,373
Investments (Million Euro)	78	69	74	84	98	115

Source: SONIDEP, as of 2007

TABLE 4
Price of Petroleum Products

DIESEL	GASOLINE	KEROSENE	LPG
1.021 Euro/liter	0.983 Euro/liter	0.633 Euro/liter	0.671 Euro/kg

Source: Ministry of Mines and Energy and Ministry of Trade, Industry and Normalization, as of 2008



2.3 MARKET ACTORS AND REGULATION STRUCTURES

The import, transport, distribution and production of electricity and oil products are controlled by the Ministry of Mining and Energy (MME), the Ministry of Trade, Industry and Normalization through numerous laws and their decree of implementation in collaboration with the ARM (Autorité de Régulation Multisectorielle – Authority of Multisector-Based Regulation). The Ministry of Environment and the MME are responsible for the management of traditional energies, respectively the matching of demand and supply. The legislation is governed by an order that regulates the organization of the marketing and the transport of firewood in big cities, the applied tax system and the detailed guidelines.

Like other UEMOA/ECOWAS countries, Niger is subject to the Common Legislative System stipulating the free movement of people and materials and the application of the Common External Tariff for importation within the Community.

The Ministry of Mining and Energy (MME) is in charge of sector-based policy and defines the legislative and statutory frame of the activities for production, transport, import, export and distribution of energy in Niger.

The Ministry of Environment and Struggle Against the Desertification is in charge of the management of the supply of the wood energy.

The Ministry of Trade, Industry and Normalization is in charge of the regulation of trade issues.

The CNEDD (Conseil National de l'Environnement pour un Développement Durable – National Environmental Council for a Sustainable Development) created by the Government in January 1996 defines the orientation and coordination of environmental policies related to sustainable development.

The ARM (Autorité de Régulation Multisectorielle – Authority of Multisector-Based Regulation) was created in 1999 and regulates the sectors of energy, telecommunication, transport and water.

The CNES (Centre National de l'Énergie Solaire – National Center of Solar Energy) is a public administrative structure created in 1998. It conducts research work and is in charge of the realization of prospective and diagnostic studies as well as of the involvement of the training and promotion of the distribution of equipments in the field of RE.

NIGELEC, a national electrical company created in 1968, has the monopoly of the transport and distribution of the electricity power supply nationwide.

SONICHAR, the national coal company of Anou Araren created in 1975, produces electricity from coal and provides it to mining companies and the neighboring towns.

SONIDEP was created in 1977 in order to assure the continuity and safety of hydrocarbons and sub-products supply in the country, notably in terms of the constitution and the inventory control of safety in association with the other existing companies.

SNCC (Société Nationale de Carbonisation du Charbon Minéral – National Company of Carbonization of Mineral Coal) was created in 2004 and aims at the promotion of mineral coal as energy for cooking in households.

Activities related to the import and distribution of LGP are carried out by the three local companies of SONIHY, Niger Gas and Total Gas.

3 POLICY FRAMEWORK FOR RENEWABLE ENERGIES

3.1 POLICIES, STRATEGIES AND PROGRAMS FOR RENEWABLE ENERGY PROMOTION

The statement for energy policy adopted by the Government in 2004 has been followed by many strategies and action plans for the promotion of RE. In the following, a brief overview of this policy is presented.

SNER (Stratégie Nationale sur les Énergies Renouvelables – National Renewable Energies Strategy) aims at the increased contribution of RE to the national energy balance from less than 0.1 % in 2003 to 10% by 2020 by:

- Facilitating the promotion of supply systems based on RE
- Alleviating women's domestic tasks
- Reducing the impact on forest resources and reforestation of natural resources
- Promoting rural electrification on the basis of RE resources
- Promoting education, training, research and the development related to RE technologies

SNASEM aims to improve the supply of a higher percentage of the population with modern energies by 2015 through granting:

- Access to modern fuels for cooking
- Access to motive power for villages with 1,000–2,000 inhabitants
- Access to electricity for rural and peri-urban populations to reach a cover rate of 66%

SNED (Stratégie Nationale des Énergies Domestiques – National Strategy for Domestic Energies) aims at the creation of a global and coherent frame for intervention in the sub-sector of domestic energies by:

- Assuring a sustainable use of forest resources and better reforestation
- Promoting alternative sources of energy (other than wood) and improving the efficiency of the appliances
- Strengthening the capacity of the main actors for a better management of the sector and setting up an adequate frame of operation
- Setting up an adequate frame of communication to inform and educate the actors on issues related to the production and use of domestic energies

RE programs have been described in the major reference documents for the development of the country. The SDRP, as stated above, plans to endow the country with economic infrastructures through its "Development of Infrastructures". It



is intended to stimulate the growth and to facilitate the access to social facilities by promoting RE. SDR (Stratégie du Développement Rural – Strategy of Rural Development) with its sub-program “4–4 – Renewable Energy and Rural Electrification” considers the access to electricity to help rural communities in developing their local economy and the improvement of their living conditions. The same strategy plans in its program „10 – Environmental Protection“ the use of alternative sources of energy for the substitution of wood.

3.2 REGULATIONS, INCENTIVES AND LEGISLATIVE FRAMEWORK CONDITIONS

Up to now, RE is not subject to any legislative text of Niger. A law on renewable energy, however, is currently being formulated. Through this law, the Government can provide support in the form of loans, subsidies, fiscal advantages etc. in order to promote the increased utilization of RE. This is very important because PRASE grants (see page 9) a privilege for RE projects.

Companies importing RE equipment can benefit from incentive measures facilitating the acquisition. At present, imported RE equipment is rated and taxed as electronic material. The new law intends to exonerate all imported equipment used in the field of rural electrification and rural water pumping from taxes. It also aims to create a national rural electrification fund.

Quite a number of sub-sectors are in charge of the implementation of projects regarding the CDM (Clean Development Mechanism). As the national focal point of three “Post-Rio” Conventions, CNEDD was appointed as National Designated Authority (NDA) of the CDM in Niger on 5 June 2006. As such, the CNEDD registered and approved the first MDP project of the Niger “Initiative Bio-Carbon of the PAC” (Programme d’Actions Communautaires – Community Actions Program). This project is financed by the World Bank² One of its objectives is the restoration of land through the plantation of 23,000 trees (acacia senegal) throughout the whole territory.

RE attract increasing interest due to their advantages as compared to fossil fuel. Therefore, many financing mechanisms for promoting RE are being started on regional and international level. In Niger, the following actions have so far been taken:

- Technical and Financial Partners’ Round Table for PRASE Financing in 2009
- Resource Allocation Framework (RAF 4) of the Global Environmental Facility (GEF) Program
- European Union Energy Facility
- Clean Development Mechanism (CDM)
- Small Grant Program of GEF for the RE Promotion
- The Regional Program for the Promotion of Household and Alternative Energies in the Sahel of the Permanent Inter States Committee for Drought Control in the Sahel
- Regional Biomass Energy Program of UEMOA/ECOWAS
- Regional Program Energy Against Poverty of UNDP

Locally, the UNDP representation grants institutional support and finances pilot projects in order to promote the use of the RE within the framework of its annual Country Program Support.

Governmental Projects and Programs

The Special Energy Program, which ended in 2001, is the last German RE program conducted in Niger. In 2004, during the Bonn International Conference for Renewable Energies (renewables 2004), Germany has emphasized its interest to support the implementation of an RE strategy for Niger adopted by the Government in January. Just after this meeting, the RE sector was integrated into the Niger/Germany bilateral cooperation.

The Programme Régional de Promotion des Énergies Domestiques et Alternatives au Sahel (PREDAS) is implemented by the CILSS and the state members with financial support of the EU and the German Development Cooperation. It aims at helping the country members to organize sustainable supply and rational use of domestic energies by the inhabitants of Sahelian zone avoiding harmful impact on the environment.

The Programme Régional Biomasse Énergie (PRBE) is implemented by the ECOWAS/UEMOA with the financial support of the Netherlands. This program joins the framework of the implemented PEC (Politique Énergétique Commune – Common Energy Policy) of the UEMOA and contributes to the long-term management of biomass energy in a policy to fight poverty and promote environmental protection.

ALG (Autorité du Liptako Gourma – Authority for Integrated Development of Liptako Gourma Region) has elaborated a plan for developing the energy sector in this region (located between Burkina Faso, Mali and Niger) from 2007 to 2025. This plan aims to fight poverty and contribute to a harmonious and integrated development of the region through the introduction of modern forms of energy (electricity, mobility) and the reduction of harmful environmental influences.

PRASE is part of the program to reduce poverty in Niger. The program focuses on the access to energy facilities for social and productive activities (cooking, motive power and electricity) for the entire population of Niger in order to achieve the MDG.

The GEF has accorded 1,525,000 Euro for the development of RE projects through its Resource Allocation Framework (RAF). Also GEF is financing some demonstrative projects for the promotion of RE through its Small Grant Program.

The Multi-Functional Platforms Project (MFP) aims at bringing motive power to rural areas. The project was initiated in Mali in 1996 with the backing of UNDP and UNIDO and has since then been extended to Senegal, Burkina Faso, Ghana, Nigeria and Guinea. Its goal is poverty reduction in general, but specifically poverty of rural women, by enabling them to create income generating opportunities through the supply of energy services.



4 STATUS AND POTENTIAL FOR RENEWABLE ENERGIES

4.1 BIOMASS/BIOGAS

The potential for energy from biomass is substantial in Niger. Table 5 presents the technical potential for energy from biomass. Biogas is only used at experimental scale. Currently, about 10 small-scale biodigesters (dome type) are in operation.

TABLE 5

Technical Potential for Energy from Biomass

TYPE	POTENTIAL	EXPLOITED	LOCALIZATION	DETAILS
Forest	9.9 million ha	3.52 million ha	all over Niger	Used for cooking purposes
Animal waste	55,018,000 tons	50,180 tons		
Agricultural waste	4,084,200 tons	40,842 tons		
Biofuels	999,451 ha	100 ha	South of Niger	Jatropha

Source: Inventory 2006 CNES, as of 2006

4.2 SOLAR ENERGY

The average solar energy potential ranges between 5–7 kW/m² per day, while the average period of sunshine varies between 7 and 10 hours per day. In 2006, the power installed in the sector of solar photovoltaic (PV) was estimated at 1,170 kWp. The current use of solar thermal energy (hot water) accounts for about 2,000 m² of absorbers. The use of solar cooking and drying is very low. Table 6 presents an overview of solar energy technologies already implemented in Niger.

TABLE 6

Solar Energy Technologies in Niger

TECHNOLOGY	INSTALLATIONS	UTILIZATION PURPOSE
Solar drying	31	Industrial drying of meat, cereals, fruit etc.
Solar water heating	600	Household use, industrial water heating
PV Systems	no data available	Lighting, ventilation, water pumping, refrigeration etc.

Source: CNES Inventory, as of 2006

4.3 WIND POWER

The average wind speed is 5 m/s in the northern part of the country and about 2.5 m/s in the South. Currently, about 30 small-scale installations are used for water pumping purposes.

4.4 HYDRO POWER

Niger has more than 270 MW of economic Hydro Power potential that is only partially developed up to now. Potential and already exploited Hydro Power capacities are summarized in Table 7.

TABLE 7

Hydro Power Potential of Niger

POTENTIAL	EXPLOITED	LOCALIZATION	DETAILS
125.0 MW	125.0 MW	Kandadji Niger River	since 2008
122.5 MW	–	Gambou Niger River	not exploited yet
26.0 MW	–	Dyoundounga Affluent Niger River	not exploited yet

Source: CNES Inventory, as of 2006



5 MARKET RISKS AND BARRIERS

In view of administrative, economic and political issues, there are almost no risks for investments in Niger. In the promotion of the private sector, the legal security of business is a major objective aiming at the implementation of business jurisdiction. The Chamber of Trade, Agriculture, Industry and Crafts is establishing a Center of Promotion and Reference as a specialized institution for the promotion of business in Niger consisting of:

- The CNPG (Centre National de Perfectionnement et de Gestion – National Center for Perfection in Management) for the intensification of the managing capacities of the human resources
- The CFC (Companies Formalities Center) assisting companies and individuals in dealing with formalities and official statements of all relevant regulations in the legal, administrative, social, fiscal and statistical sector
- The Center for Investments Promotion supporting potential investors and providing orientation, advice and assistance as stated by the private investment promotion policy of Niger

As to scientific work, Niger applies the WIPO (World Intellectual Property Organization) and AIPO (African Intellectual Property Organization) legislation in a systematic way. The national office related to the Federal Ministry of Commerce represents the African Intellectual Property Organization of CNL (Conseil National de Liaison – National Connection Council). This office is in charge of the application of the administrative procedures and the recordings at national level. In general, the rights of property are granted and guaranteed. Professional activity is based on the principle of free enterprise complying with the liberalization of the economy. Only some activities related to the sectors of bars, cattle and meat, leather and skins as well as mining and oil exploitation are governed by legislative and statutory documents or a specific organization. Investments are encouraged and put down by the implementation of the CNIP (Conseil National des Investissements Privés – Private Investors National Council) proposing measures for the elimination of problems inhibiting the creation and exploitation of companies. In order to fulfill the requirements for efficient commercial activities, the investment code defines the conditions for the implementation of the investments and specifies guarantees and favors as well as the obligations involved.

In article 2, the code stipulates that the Republic of Niger guarantees a constant legal and judicial protection to all private investments in the realization of economic and social development programs. Article 7 states that the Republic of Niger Republic guarantees to existing or future enterprises not to undertake any act of expropriation or nationalization, except such cases that are of public use and at the same time covered by the law. If – in the latter case - measures of expropriation or nationalization are carried out compensation for the private actors concerned is also covered by the law. Article 6 of the same code states: “The settlement of problems

related to the validity, interpretation or implementation of the agreement act and the eventual determination of the allowance due to the ignorance or no respect to the commitment will be solved through a legal procedure established within the agreement act”, i. e.:

- The implementation of collegial referees
- The possibility for citizens to appeal to the International Center of Jurisdictional Court related to the investments created by the International Bank for Development and Reconstruction (BIRD, Banque Internationale pour la Reconstruction et le Développement)

According to article 9, the present code applies to both, physical persons and companies of all nationalities operating or intending to operate on the following sectors:

- a. Agricultural activities
 - Industrial agriculture
 - Activities related to vegetal or animal products
 - Animal breeding, fishing etc. for exportation
- b. Manufacturing/production activities
- c. Energy production
- d. Exploitation of mineral products and substances as well as the transformation, except those that are already governed by the mineral law and petroleum cod
- e. Social habitation implementation program in the propose of selling or inheriting
- f. Industrial equipment maintenance activities
- g. Air transportation
- h. Hotel construction and equipment
- i. Telecommunication (telephone and internet)

Finally, the code allows three privileged regimes:

1. Regime A, related to promotional objectives, for investments of less than 76,220 Euro during a period of 5 years; according to this regime, the enterprise in step of investment has a total exoneration on:
 - Duty and tax excluding VAT on the statistics royalties
 - Duty and tax with VAT of the services offering, services related to the investment program
2. Regime B, related to priority objectives, for investments ranging from about 76,220 to 152,440 Euro; in this regime, the enterprises have the followings advantages (tax exemptions):
 - Duty and tax with VAT of the services offering, services related to the investment program
 - Duty and tax excluding VAT on the statistics royalties

But, in case of availability of an equivalent product, the importation of materials and equipments is not entitled to exoneration. In the course of the implementation, a total exoneration is given to:



- License
- Tax on real estate
- Landowner tax
- Tax on industrial and commercial benefit
- The minimum basic allocation tax

3. Regime C, relating to conventional objectives, obtained after a convention signed between the Government of Niger and the company concerned. In this regime, other advantages in addition to that of regime A and B are considered, as the reduction of 50% of the tax (tax exemption) on fuel and energies used in the related process.

6 RENEWABLE ENERGY BUSINESS INFORMATION AND CONTACTS

TABLE 8
List of Local Business Partners

NAME	ADDRESS	FIELD of Activity
BETP	P.O. Box: 2272 Niamey/Niger Phone: +227 20 73 54 15 Fax: +227 20 73 80 48 betp@intnet.ne	Telecommunication, electricity, electronics
Sahel Energy	P.O. Box: 45 Filingué/Niger Phone: +227 96 96 26 10 seolien@yahoo.fr	Wind energy installations
Solaris	P.O. Box: 12 040 Niamey/Niger Phone: +227 20 72 21 90 ernstzippel@hippos.de	Renewable energy
SIC Solar COM	P.O. Box: 13 643 Niamey/Niger Phone: +227 20 35 04 18 sic-int@intnet.ne	Renewable energy, Hydraulics and Telecommunication
TOUTHYDRO-Niger	P.O. Box: 13 613 Niamey/Niger Phone: +227 20 74 01 73 Fax: +227 20 74 02 91 thn@intnet.ne	Water, electricity, solar energy
Entreprise Electro-mécanique (ENTRELEC)	P.O. Box: 10 830 Niamey/Niger Phone: +227 20 73 45 03 Fax: +227 20 73 32 83 entrelec@intnet.ne	Mechanical and electrical industries
Société Nigérienne d'Énergie Solaire (SONIES)	P.O. Box: 631 Niamey/Niger sonies@intnet.ne	Import of solar energy equipment
Manutention Africaine-SA	P.O. Box: 10387 Niamey/Niger Phone: +227 20 73 36 10 Fax: +227 20 73 33 48 maniger@intnet.ne	Solar energy equipment and training
Total Fina Elf Niger	P.O. Box: 10349 Niamey/Niger Phone: +227 20 74 27 67 Fax: +227 20 74 26 92 totelfdg@intnet.ne	Distribution of petroleum products
Nigerian Enterprise of Electricity (ENGE)	P.O. Box: 12517 Niamey/Niger Phone: +227 20 74 30 86 Fax: +227 20 74 34 23 enge@intnet.ne	Electricity, electrical equipment, solar energy
Toutelec Niger-SA	P.O. Box: 12755 Niamey/Niger Phone: +227 20 74 01 15 Fax: +227 20 74 07 84 toutelec@intnet.ne	Supply and maintenance of telecommunication equipment
AMI Services Plus	P.O. Box: 12602 Niamey/Niger Phone: +227 20 73 35 32 Fax: +227 20 73 20 17	Electricity supply and solar energy equipment
BATIMAT	P.O. Box: 2968 Niamey/Niger Phone: +227 20 73 42 12 Fax: +227 20 73 41 99 batimat@intnet.ne	Electrical and PV equipment
Nigerian Group of Electricity	P.O. Box: Niamey/Niger Phone: +227 20 73 49 44	Electrical and PV equipment



Technical Enterprise of Electromechanical Equipment	P.O. Box: 12096 Niamey/Niger Phone: +227 20 74 17 71 atembym@intnet.ne	Installation, maintenance and repair of electrical equipment
KBC	P.O. Box: 10541 Niamey/Niger Phone: +227 20 74 12 25 Fax: +227 74 11 09	Electrical and PV equipment
CFAO Niger	P.O. Box: 204 Niamey/Niger Phone: +227 20 74 01 58 Fax: +227 20 74 28 87 cfaongr@intnet.ne	Air Conditioning and refrigeration
SNS	P.O. Box: 11512 Niamey/Niger Phone: +227 20 310123	Hydraulics and solar equipment

TABLE 9
List of Local Experts

NAME	ADDRESS	Field of Activity
DOGARI Ingenierie	P.O. Box: 10470 Niamey/Niger Phone: +227 20 74 07 98 dogari@intnet.ne	Engineering of solar energy and hydraulics
SCP Agence ARCHI Plus	P.O. Box: 638 Niamey/Niger Phone: +227 20 73 41 25 Fax: +227 20 73 65 19 archi-pl@intnet.ne	Engineering of solar energy, hydraulics and civil building
Techni-Consult	P.O. Box: 11732 Niamey/Niger Phone: +227 20 73 80 04 Fax: +227 20 73 81 23 tconsult@intnet.ne	Engineering of hydraulics and civil building
NAMOSOLAR sarl	P.O. Box: 11489 Niamey/Niger Phone: +227 96 99 70 88 namosolar@yahoo.fr	Hydraulics engineering, civil engineering
KRB	P.O. Box: 10265 Niamey/Niger Phone: +227 20 73 47 53 Fax: +227 20 73 53 83 krb@intnet.ne	Hydraulics engineering, civil engineering, engineering in solar energy
BS RA	P.O. Box 13646 Niamey/Niger Phone: +227 20 73 99 15 bsira_niger@yahoo.fr	Hydraulics engineering, civil engineering, engineering in solar energy, biofuels
I3EA	P.O. Box: 10209 Niamey/Niger Phone: +227 20 34 02 97 ibrah04@yahoo.fr	Engineering, water, energy and environment

Source: UNESCO, Étude sur l'Identification des Centres d'Excellence en Énergies Renouvelables au Niger; as of 2007



TABLE 10
List of Public Institutions

NAME	ADDRESS	FIELD OF ACTIVITY
Ministry of the Mines and Energy–MME	P.O. Box: 11 700, Niamey/Niger Phone: +227 20 73 45 82 Fax: +227 20 73 27 59 mme@intnet.ne	Mining, geology, energy
Direction of Renewable Energies and Domestic Energies–DERED/ mME	P.O. Box: 11 700 Niamey/Niger Phone: +227 20 73 65 30 Fax: +227 20 73 27 59 mme@intnet.ne	Renewable energies and domestic energies
Energy Information System SIE–Niger	P.O. Box: 11 700 Niamey/Niger Phone: +227 20 73 97 87 zmouhou@yahoo.fr	Management of energy information
MME Rural Electrification Cellule	P.O. Box 11 700 Niamey/Niger Phone: +227 96 53 48 37 mme@intnet.ne	Strategy of rural electrification
Ministry of Hydraulics and Environment	P.O. Box: 257 Niamey/Niger Phone: +227 20 72 38 89 dregef@intnet.ne	Environment and struggle against the desertification
Ministry of the Trade, Industry and Promotion of the Private Sector	Phone: +227 20 73 69 46 Fax: +227 20 73 21 50	Trade, industry and promotion of the private sector
Ministry of Local Communities Development	Phone: +227 20 72 53 22	Communities development
Ministry of the Population and Social Action	Phone: +227 20 72 23 30 Fax: +227 20 73 61 65	Population and social aspects
Ministry of Economy&Finance	Phone: +227 20 72 23 74	Economy and finance
Ministry of Transport	Phone: +227 20 73 47 82 Fax:+227 20 73 54 89	Transport
National Council of Environment and Sustainable Development–CNEDD	P.O. Box: 10193 Niamey/Niger Phone: +227 20 72 25 59 Fax: +227 20 72 29 81 biocnedd@intnet.ne	Environment, renewable energy, domestic energy

Source: UNESCO, Étude sur l'Identification des Centres d'Excellence en Énergies Renouvelables au Niger, as of 2007

TABLE 11
List of Research Institutes

NAME	ADDRESS	FIELD OF ACTIVITY
Abdou Moumouni University of Niamey–UAM	P.O. Box: 237/10896 Niamey/Niger Phone: +227 20 73 25 31 Fax : +227 20 73 38 62 ilimi@uam.ne	Research on energy, environment, hydraulics, health, education, agronomy, social science etc.
National Center of Solar Energy–CNES	P.O. Box: 621 Niamey/Niger Phone: +227 20 72 39 23 Fax: +227 20 72 55 60 cnes@intnet.ne	Renewable energies, energy efficiency research of solar energies
National Institute of Agronomic Research–INRAN Niger	P.O. Box: 429 Niamey/Niger Phone: +227 20 72 27 14 Fax: +227 20 72 34 34 inran@intnet.ne	Research on solar energy, food conservation, agronomy and environmental aspects
School of Mining and Geology–EMIG	P.O. Box: 732 Niamey/Niger Phone: +227 20 31 51 00 Fax: +227 20 73 37 97 emig@intnet.ne	School of engineering, training, research on solar energy, education, engineering, environment etc.
Regional Center of AGRHYMET–CRA	P.O. Box: 11 011 Niamey/Niger Phone: +227 20 73 31 16 Fax: +227 20 73 24 35 admin@sahel.agrhymet.ne	School of engineering, training, research on solar energy, food security, climatology, energies



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