

SENEGAL



Economic Indicators

Population 1999 (million)	10,051,930 ¹
Population Growth (1999)	3.3% ²
GDP 1998 (US\$ million)	\$15.6 billion ³
GDP Growth 1997-99 (%)	5% - 6% ⁴
Inflation Rate (1999)	1.9% ⁵
GNP/capita 1995 (US\$)	552 ⁶
GDP/capita 1998 PPP (US\$)	1600 ⁷
Foreign direct Investment (US\$ million)	
African Competitiveness ranking	
Human Development Index 1995 (%)	
Local Currency and Exchange Rate	560 CFAF = 1 US (Dec.98) ⁸
Stock Exchange	No
Number of Households rural/urban	1,116,881, 45% in urban centres ⁹
People per Household rural/urban	9
Access to electricity (% of population)	25%



Source: CIA, World Factbook 1999

Overview

Senegal today has a healthy economy, including low inflation and, for the region, relatively high per capita GDP. This combined with the low overall rate of electrification and new government policies of privatisation, decentralisation and reform of the energy sector, creates some sound opportunities for new forms of rural energy service provision. The threat to successful deployment is a still insufficient financial framework for the private sector.

¹ Areed Senegal Report, Youba Sokona, ENDA

² CIA – The World Factbook 1999, Senegal

³ Areed Senegal Report

⁴ ibid

⁵ ibid

⁶ ibid

⁷ CIA-The World Factbook 1999, Senegal

⁸ CIA Factbook

⁹ Areed Senegal Report

Predominant environmental issues linked to energy resources are deforestation, soil erosion, and desertification - across all sectors, 60% of the energy consumed comes from the unsustainable use of wood or charcoal. Energy for transport, electricity and lighting is derived from petroleum-based fuels, which make up 31% of Senegal's imports.

One quarter of the population in Senegal has access to electricity. In urban areas, the percentage rises to 50% but drops as low as 5% among the rural population. Only 250 of the 13,000 villages in Senegal are electrified. In those areas, only 25% of households are actually connected to the grid, as financial or infrastructural constraints prohibit access by the greater population.

A number of RET programmes, mostly photovoltaic (PV), have been deployed in the country to date. Mostly local enterprises are responsible for the distribution of the technology. Next to its ongoing efforts to incorporate solar energy into national electricity production, the government is also now looking to develop and promote the use of wind technology.

Institutional Profile

Under the supervision of the Ministry of Energy, Mines and Industry (MEMI), the Direction of Energy determines general policy for the electricity sector. In April 1998, a new law was passed which included several new reform initiatives in the energy sector, including liberalisation related to the production, distribution and sale of electricity, and the privatisation and restructuring of SENELEC (see privatisation/regulation).

Also included in this law was the creation of an autonomous regulatory commission to manage a system of electricity sector licenses and concessions, and a Senegalese Agency for Rural Electrification (ASER), to guarantee cooperation between electric companies and private interests, particularly in the provision of technical and financial assistance related to rural electrification projects. ASER also develops electrification programs as defined under the Ministry of Energy's overall strategy.

Along with these structural changes, the Ministry of Energy aims to achieve levels of electrification of 60% in 2000 and 70% in 2005 in urban areas; and of 15% in 2000 and 40% in 2005 in rural areas. In this context Senegal has placed some emphasis on the incorporation of renewable energy in its national electricity production, especially solar energy. The implementation of 5 solar energy projects is envisaged.¹⁰

Government Energy Organisations

Organisation	Activity
Ministry of Energy, Mines, and Industry (MEMI), Direction of Energy	Policy making in the electricity sector
Regulatory Commission	Control of production, transport, distribution and sale of electricity
Senegalese Agency for Rural Electrification (ASER)	Cooperation between electric companies and private interests, development of electrification programmes
Center for Renewable Energy Research and Study (CERER); National College of Polytechnics, Solar Energy Research Department	R&D of RE technologies

Decentralisation:

¹⁰ Areed Senegal Report, p.7

Decentralisation efforts by the Government have positioned the rural communities as the driving forces in the implementation of rural development projects and in finding partners for their financing. In each of the regional, urban, and rural communities the Government has given local bureaus and their elected council members more financial autonomy, allowing communities to plan and implement economic and social development schemes. In this context, NGO's also play an important role in national and local policy-making. In order to capitalise on these new opportunities, a number of legally-recognised collectives were formed, of which the largest are ONG-FONG, a federation of NGO's, and the Council of NGO's for Development (CONGAD), with over 100 members. The most effective institutions involved in the promotion of photovoltaics are often rural associations which, beyond their participation in rural solar energy projects, also play a central role in the activities of their community.

Investment Climate

Macroeconomic Situation:

After seeing its economy contract by 2.1% in 1993, Senegal began an economic reform program in 1994, which was driven in part by the 50% devaluation of the CFA franc, the regional currency linked to the French franc, and by the dismantling of government price controls and subsidies. Thanks to these reforms, Senegal has made an important turnaround, with real GDP growth averaging 5% annually in 1995-98. Annual inflation has been pushed below 2%, and the fiscal deficit has been cut to less than 1.5% of GDP. Investment rose steadily from 13.8% of GDP in 1993 to 16.5% in 1997. Senegal's trade balance has improved since 1996, however, 80% of exports consist of only a few products: phosphate, groundnuts, fish, and textiles. 56% of Senegal's total import expenditures are for food products and petrochemicals.

As a member of the West African Economic and Monetary Union (UEMOA), Senegal is working toward greater regional integration with unified external tariffs. Senegal also realized full Internet connectivity in 1996, creating a miniboom in information technology-based services. Private activity now accounts for 82% of GDP. On the negative side, Senegal faces deep-seated urban problems of chronic unemployment..¹¹

Business Environment:

To attract capital for investment in development programs, the Government has established an Investor's Code, which guarantees automatic approval of a project meeting the proper criteria, availability of the code's benefits to any enterprise, regardless of size, and any investor, regardless of nationality, origin or beliefs.

Power Sector Privatisation:

The energy sector as a whole has been undergoing profound changes.¹² Until recently the government-run **Société Nationale d'Electricité (SENELEC)** was the sole distributor of electricity. SENELEC has a generating capacity of 280 MW and produces annually 1000GWh out of a potential of 1100GWh. Today, some consumers can purchase electricity from independent producers such as ICS, CSS and SONACOS, which have a total capacity of about 90MW. In the framework of structural adjustment during the 1998/2000 period, the government has been pursuing a policy of privatisation, including in the energy sector, in order to increase competition and to stimulate exports. In the context of the 1998 law (see institutional profile), the privatisation and restructuring of SENELEC is being planned.

Finance Availability:

Community banks also play a fundamental role in rural areas by providing basic banking services such as savings and loans.¹³

¹¹ CIA country listing Senegal

¹² Areed Senegal Report, p.4

¹³ *ibid*, p.

Price Index (1998 estimates)

Taxes and Tariffs

Corporate tax	
Tax holidays	Promotion of RE Law, May 1993, exempts all solar powered lighting, water pump, and water heating kits from customs and fiscal taxes and VAT .
Locational incentives	
Capital expenditure	
Accelerated depreciation allowance	
Loss/carry-over	
Reduced import duties	
Exchange controls	

Country-specific Barriers:

Despite Senegal's economic renewal, there are still large gaps in its ability to mobilise savings for private investment. For example, existing institutions (mostly rural associations), which can meet the needs of potential consumers, still need more support in form of appropriate mechanisms for payment and credit or leasing systems.

MARKET AND APPLICATIONS FOR RENEWABLE TECHNOLOGIES

Solar Water Heating

- Resource
- Applications
- Existing Market Opportunities
- Origin of Hardware

Photovoltaic systems

- Resource
- Applications

There is a viable decentralised network of private rural enterprises for the distribution and maintenance of photovoltaic equipment, and its satellite workshops in the rural milieu, which has in turn triggered increased local capacity, village associations or other local networks.

So far rural enterprises have been created in 5 of the 10 administrative regions. Over 20 private enterprises or NGO's are already working on disseminating solar energy technologies to rural Senegal. In 1999, an estimated aggregate of 1000kW had been installed across the country

- Existing Market Opportunities

After the initial success of a 70KW unit for electricity generation and pumping water, a factory was built (SINAES), producing over 1000 units of solar water heaters before its closure in the late 1980's.

- Origin of Hardware

Wind

- Resource

Prevailing winds on Senegal's Grande Côte

- Existing Market Opportunities

The Senegalese government is working to promote wind energy, e.g. it is co-operating with private and non-governmental institutions on the Alizé Senegal project

Programmes and Organisations

<i>Organisation</i>	<i>Project</i>	<i>Contact</i>
Enda-TM, ?	Senegalese-German Solar Energy Project (PSAES) Creation of viable decentralised network of private rural enterprises for photovoltaics	
	Senegalese-Japanese Solar Energy Project (PSNES)	

Contacts

1. Private enterprises involved in the commercialisation of solar systems

BUHAN et TEISSEIRE

Tel: (221) 823 39 41

Fax: (221) 823 71 18

Office address: 1, rue Ramez Bourgui

Dakar, Senegal

Solar energy activities: import, delivery, installation, maintenance, design, research and training.

Equip Plus

Tel: (221) 832 32 32

Fax: (221) 832 03 87

Postal Address: B.P. 314 Dakar

Dakar, Senegal

Office address: Km 3,5, Boulevard du centenaire de la commune de Dakar

Dakar, Senegal

Solar energy activities: import, sales and installation of agricultural, solar and hydrological materials, installation, maintenance, research, training and support for solar programs.

MATFORCE DAKAR : Mechanical application company

Tel: (221) 823 30 40

Fax: (221) 823 30 76

Postal address: B.P. 397 Dakar

Dakar, Senegal

Office address: 10, avenue Faidherbe

Dakar, Senegal

Solar energy activities: import, sales, installation, and maintenance.

SECOM AFRIQUE : Société d'Equipement et de Commerce en Afrique

Tel: (221) 8 22 19 49

Fax: (221) 822 94 80

Postal address: B.P. 3333 Dakar

Dakar, Senegal

Office address: 27, rue Jules Ferry

Dakar, Senegal

Solar energy activities: import, delivery, installation, and maintenance.

SYNERGIES

Tel: (221) 821 70 96

Fax: (221) 8 21 70 96

Postal address: BP :5320 Dakar

Dakar, Senegal

Office address: 77, Bd du général de Gaule B13

Dakar, Senegal

S.3.A

Tel : (221) 825 52 38

Fax : (221) 825 60 63

Postal address: B.P. 2483 Dakar

Dakar, Senegal

Office address: Domaine industriel de dakar

Dakar, Senegal

Solar energy activities: assembly and commercialization of solar collectors.

TOTAL ENERGIE

Solar energy activities: import, manufacture, sales, installation, maintenance, and research.

2. NGOs and Research Institutions Active in Solar Energy

Enda-tm : Environnement-Developpement du tiers monde

Tel: (221) 822 24 96, 822 24 96

Fax : (221) 821 75 95

Email : energy2@enda.sn

Postal address: B.P. 3370 Dakar

Dakar, Senegal

Office address: 54, rue Carnot

Dakar, Senegal

FOPEN: Fédération des Organisations pour la Promotion des Energies Nouvelles et Renouvelables

Fax: (221) 821 71 20

Activities: FOPEN is a network created for the distribution of photovoltaics. It is made up of 10 organizations and village associations in 5 different regions of Senegal. FOPEN's work specifically involves installation and maintenance of solar systems. For the purpose of rural electrification projects, FOPEN provides an established link to operators in rural Senegal.

Outside of FOPEN, each organization operates in its respective region on socio-economic development issues. Activities may include providing a savings and loans apparatus, promoting farming, livestock, reforestation and literacy programs.

SEMIS: Service de l'Energie en Milieu Sahélien

Tel: (221) 822 73 97

Fax: (221) 822 61 895

Postal address: B.P. 652 Dakar
Dakar, Senegal

Activities: office engineering consulting research on solar energy for electrification and water pumps, and wind power (Alizé Sénégal).

ASES: Association Sénégalaise d'Energie Solaire

Fax: (221) 822 97 64 / 822 45 63

Office address: B.P. 2027 Dakar
Dakar, Senegal

Activities: Energy policy analysis, organization of solar energy information exchange sessions and seminars.

CONGAD : Collectif des ONG d'Appui au Développement (a coalition of over 100 NGOs in Senegal).

Tel: (221) 24 41 16

Fax : (221) 24 44 13

Email : congad@sonatel.senet.net

Postal address: B.P. 4109 Dakar

Dakar, Senegal

URAPD : Union Régionale des Associations Paysannes de Diourbel

Fax : (221) 973 70 25

Postal address: B.P. 31 Bambey

Bambey, Senegal

Activities: Farming, savings and loans, rural motorization, natural resource management, training and educational activities. URAPD is a member of FOPEN.

WAAME : West African Association for Marine Environment

Fax: (221) 832 51 23

Email: waame@telecomplus.sn

Postal address: B.P. 26352, Dakar

Dakar, Senegal

Activities: environmental education, credit, and renewable energy.

3. Savings and loans organizations in the rural zones

Crédit Mutuel Sénégal

Fax: 221 951 32 17

Postal address: B.P. 225 Thies

Thies, Senegal

ACEP: Alliance du Crédit et de l'Épargne pour la Production

Dakar, Senegal

Other loan institutions are managed by some NGOs. They often constitute a part of a local development project. Beside these formal structures, informal savings and loan mechanisms called *tontines* serve a similar purpose, but they are often based on a system of mutual respect and trust. These systems are often found in neighbourhoods in cities and in marketplaces.

These informal financial structures serve the function of 15 Senegalese banking institutions.