

C: REVIEW OF SECTOR GOALS, STRATEGIES & MILESTONES
INFRASTRUCTURE SECTORS

	Page no.
ELECTRICITY	113
WATER	117
PUBLIC WORKS	119
TRANSPORT	123
INFORMATION AND COMMUNICATION TECHNOLOGIES	129

ELECTRICITY

Short-term Sector Goals	Short-term Strategy: Ensure power generating infrastructure meets national power demand	
Adequate supply of electricity provided to all households and businesses at a reasonable cost	Milestone: Short term:	Each household and business receiving 24 hours 7 days a week of electricity at an affordable cost The medium to long-term strategy to be developed through ADB technical assistance completed and government policy determined
	Medium term:	50 per cent of energy demand provided by alternative sources of energy, including through renewable sources

Milestone has been achieved

The load shedding which occurred in Nauru over the last 9 years has recently been replaced by 24 hour electricity supply. Dependency on leased generators has ceased and the power station is now running on its own generators. Nauru Utilities Authority purchased 2 Cummins units with 800kw capacity for standby supply.

The electricity tariff has been reviewed as part of the introduction of the new prepaid system. A new cost recovery system has been implemented through a tier system that is structured upon a subsidy block with cheaper rates designed to ensure low income families have access to electricity. Excessive usage of more than 300kWh is charged at higher rate. While there are economic benefits from the introduction of charging for electricity with lower diesel use and environmental emissions, this has come at a cost to individual consumers whose disposable incomes have dropped.

There remain a number of challenges to maintain an adequate supply of electricity to Nauru.

- Infrastructure for power generation is currently undergoing heavy maintenance. Ruston Units 4 and 7 are yet to be put on line. Ruston Units 1, 5 and 6 have been repaired and are now on line full time.
- Part of the infrastructure supporting the distribution and transmission system has been repaired on an ad hoc basis. Repairs have included replacement of transformers, calibration of the control systems etc.

Utilities have discussed with the EU possibility of reviewing the transmission / distribution infrastructure and its performance. The EU has accepted in principle refurbishment of the distribution / transmission system as key priority for the EDF10 cycle. In terms of renewable energy sources, achievements to date include the following:

- A 40kw solar grid connected system has been installed at Nauru College by the EU Rep-5 program. The system generates 4,000kWh monthly producing a saving of about \$2,000.

- About 60 stand-alone solar lighting pv system at 60wp capacity each has been installed throughout the island. These systems were granted by the Government of Taiwan.
- Wind energy sources monitoring equipment has been installed at Anabar to test the potential of wind energy sources for power generation for Nauru.

Short-term Sector Goals	Short-term Strategy: Ensure fuel supply arrangements meet national demand
Adequate supply of electricity provided to all households and businesses at a reasonable cost	Milestone: none in NSDS

This milestone has been partially achieved

The Department of Finance and Utilities have jointly developed streamlined fuel planning and purchasing arrangements. A fuel purchasing manual has been developed to clarify responsibilities, assist in planning and improve tendering arrangements. These new processes have resulted in a more regular fuel supply to Nauru with no rationing and cheaper fuel being delivered on the island.

At the end of 2007 a fuel tank farm and fuel consultant was appointed for a period of 13 months. The consultant completed a set of key deliverables including the following.

- Carried out full compliance audits of industry standards.
- Trained staff in all aspects of petroleum products handling, safety, product quality and accounting of inventory. This has resulted in improved staff performance.
 - Full certification for the inventory accounting supervisor and reduction in stock losses from audited 1.7 million litres in 2006-07 to 120,000 litres loss in 2008-09.
 - Full certification of three fuel tank ship loading and discharge masters to International Marine Organization (IMO) and Australian Institute of Petroleum (AIP) standards.
- Set up a fuel tank farm strategic plan for the next 10 years.
- Instituted changes to fuel quality specifications and adoption of regional base fuel specifications, allowing for clear benchmark on fuel quality and test methods. The result is the abandonment of JetA1 storage on Nauru, and replacing costly premium unleaded petrol with regular unleaded.
- Set up full operational and safety operating procedures.

While these changes illustrate there have been some gains to maintaining a secure supply of fuel to Nauru, poorly maintained infrastructure means that significant risks to Nauru's fuel supply remain.

- The fuel pipeline from the point of loading at the cantilever to the fuel farm is not only in poor condition but constructed to a sub-standard level thus resulting in significant loss of fuel pipeline integrity and fuel losses experienced through leaks.
- The firefighting capability at the fuel farm is not operational, and does not meet any standards. Fire fighting and oil spill capability remain a key constraint to tackling major hazards that may arise without warning.
- Due to wear and tear over prolonged period, the fragile infrastructure has contributed to significant fuel losses (through leakages) that have occurred at the point of loading to storage. This loss is likely to continue if the routine maintenance works are not carried out with a sense of urgency. The storage tanks require maintenance and repair, all are 8 to 12 years overdue for inspections. Allocation has been given in the current year to replace the pipeline but long term sustainability needs to be addressed.
- Aviation fuel supply and infrastructure is not operational and does not meet IATA standards. Therefore, the aviation service was terminated late 2008, however some priorities have been given in the Utilities' current budget to restore the service but implementing this project may experience some delay due to cash flow issue and such a delay impacts on the local airline service. Work will involve bring the storage infrastructure in line with fuel and aviation industry standards.
- The whole fuel tank farm electrical facility and acupunctures has deteriorated badly and is unsafe.
- The fuel dispensing facility and acupunctures has deteriorated badly and is unsafe.
- High level training requirements for staff on oil spill and fire safety emergency prevention and response has not been done.
- Personal safety and insurance cover for staff employed and exposed in fuel tank farm operations is still not resolved. Some effort has been achieved to improve health and safety issues at the workplace through the provision of safety gears. Contributions to workplace security for staff (e.g health insurance and work area) and equipment at the Tank Farm depot is yet to be progressed.
- Work office and amenities blocks are badly deteriorated.
- Major operational and safety standards, policies and procedures are still in draft waiting for legislation to be passed.
- Nauru Utility Authority is in the process of securing a long term fuel supplier and a partner in business with Nauru Government to support with infrastructural remedial work and funding.
- There is no marine oil spill response capability, despite Nauru having to handle more than 10,000 tonnes of fuel annually.
- Fuel tank farm security facility is sub standard, the police security in place are not familiar with a petroleum facility security standards and the perimeter fence are badly deteriorated.
- Fuel tank farm lacks qualified petroleum fitter/mechanic and a qualified petroleum engineer.

Fuel tank farm reforms are ongoing. It began with the employment of a consultant and now with the fuel tank farm manager to oversee implementation of the strategic plan. Inaction on this plan has been due to the lack of funding.

Short-term Sector Goals Adequate supply of electricity provided to all households and businesses at a reasonable cost	Short-term Strategy: Increased use of renewable energy source
	Milestone: none in NSDS

Milestone has been partially achieved

Use of renewable energy for power production is in its development phase until the viability of the technology is proven on technical and commercial levels. Solar application has progressed and wind technology is currently under testing.

Project proposals regarding solar water pumping and solar powered computers for schools have been developed and submitted for consideration by donors.

WATER

Short-term Sector Goals	Short-term Strategy: Better management of water resources including underground water
A reliable supply of water provided to all households and businesses	Milestone: Short term: Regular supply of water available to each household and business Medium term: Quality water available to households and businesses 24 hours a day

Milestone has been partially achieved

Water supply capacity and accessibility to water has been improved following the addition of a third Reverse Osmosis Unit with a daily production capacity of 120kl. Total water production capacity is now 360kl of water daily which is supplemented by rainwater.

Maximum daily water delivery capacity has reached 288kl with the delivery of several new water delivery trucks. As part of the closure of the IOM operations, one 10kl capacity water delivery truck was donated to Nauru. In addition, two additional delivery trucks were donated by Japan with capacities of 10kl and 4kl each. The small tanker is expected to arrive in Nauru in September 2009.

Short-term Sector Goals	Short-term Strategy: Improve collection and storage of water at all levels
A reliable supply of water provided to all households and businesses	Milestone: Short term: Refurbishment of national water storage tanks 100 new household water tanks installed per annum Medium term: Water storage capacity expanded

Short term milestone has partly been achieved

260 new liner water tanks with galvanized frames were installed to households in Nauru. These tanks were provided by donors: 150 units being donated by AusAid in December 2007 and 110 units was donated by the Government of Italy in July 2009.

However, little progress has been achieved regarding refurbishing existing storage tanks. In addition, the storage capacity at Utilities is significantly hampered because the supply capacity is below the average WHO standard. In times of drought, production struggles to meet demand and often 3 days supply is the achievement level.

<p>Short-term Sector Goals</p> <p>A reliable supply of water provided to all households and businesses</p>	<p>Short-term Strategy: Restore capacity for water production</p>
	<p>Milestone: Short term: Desalination plant operational</p>

Milestone has been achieved

A feasibility study was undertaken on the desalination plant which found it not economic to run and that Nauru's water needs would be better served through the deployment of a number of Reverse Osmosis (R/O) plants.

Three R/O units are currently operational producing 360kl of water daily and this is supplemented by rainwater. Proposals have been developed to increase current capacity to 600kl daily to ensure that the World Health Organisation standard is met.

PUBLIC WORKS

Short-term Sector Goals Public buildings repaired and maintained	Short-term Strategy: Introduce institutional and management reforms to provide an efficient and effective service Undertake assessment of the structural integrity of buildings that need repairs Formulate a rehabilitation program together with estimated costs
	Milestone: Short term: Program of public building essential repair and refurbishment commenced with focus on schools and hospitals Medium term: All public buildings that need repairs rehabilitated

Milestone has been largely achieved

A few initiatives have been introduced to improve government buildings.

- Regular maintenance and repair work has been carried out.
- A survey has been conducted for the refurbishment of the central air-conditioning unit and implementation of this will result in considerable energy savings.

With respect of Nauru's schools considerable progress has been made improving buildings and facilities.

- Schools in Yaren, Nibok, Menen, Anetan have been rehabilitated; Aiwo and Boe are currently being refurbished. Nauru Secondary School (NSS) is being rebuilt and this will be completed for the 2010 school term. Able/Disable centre has been provided with new site. Kayser College has been supported. Nauru College is in good condition.
- Schools in Yaren, Aiwo, Boe, Nibok, Anetan, Kayser and Menen have had asbestos roofs replaced, toilets refurbished and running water provided through the WATIES program. All schools need constant maintenance in these areas.

With respect of health buildings appropriate infrastructure cannot be achieved without a major reconstruction or replacement of both the RoN Hospital and NGH. A quotation has been obtained for the preparation of Terms of Reference for a major building project to create a single facility to house RoN Hospital and Public Health services. Australia has been requested to provide funding in 2009-10 for the preparation of these Terms of Reference.

However, until a donor can be identified to assist with this there have been critical repairs and maintenance to essential buildings and equipment. The following refurbishments have been completed:

- Nursing Quarters, Ablution block, Laboratory, Pharmacy, Hospital stores, Medical records, Ante natal, Consultation rooms, Laundry at RoN Hospital.

A new dental clinic with 2 fully equipment dental chairs were commissioned in July 2008.

Demolition and clean up of Nauru General Hospital, construction of perimeter fence for Nauru General Hospital and the renovation of the Director of Public Health office.

Minor infrastructure undertaken to date are:

- Shelter for generator at NGH.
- Renovation of pharmacy secondary storage.
- Installation of ceiling in pharmacy primary storage.
- Installation of boom gate at RON Hospital.
- Installation of backup water supply for Operating Theatre and Dental Clinic.
- Installation of autoclave at RON Hospital

The following scope of works are in the pipeline for RoN Hospital,

- Maternity.
- Isolation ward.
- Admin block.
- Refurbishment of Public Toilets.

A program for the essential repairs of health buildings and/or their refurbishment is in place.

Costings for critical refurbishments have been completed, budgeted and much of the work has been finalized.

Short-term Sector Goals	Short-term Strategy: Improved sewerage removal	
	Milestone:	<p>Short term: Procurement of a new sewerage truck All household and business sewerage removed by an affordable cost effective service</p> <p>Medium term: Affordable treatment plants and grey water recycling systems installed</p>
Raw sewerage and grey water properly managed		

Milestone has been achieved

A new sewage truck (also known as sludge or suction truck) was donated to Nauru by the Australian government in 2007. Maintaining such new equipment needs to be a priority going forward to as to ensure this service is sustainable into the future.

Since then Eigigu Enterprises has serviced all household and business sewage cesspits and septic tanks on Nauru at an affordable price of \$20 per truck load.

Short-term Sector Goals	Short-term Strategy: Establish sewerage treatment plants and grey water recycling systems	
	Milestone:	Short term: Sewerage treatment and grey water recycling options determined
Raw sewerage and grey water properly managed		

Milestone has been partly achieved

Eigigu Enterprises has sought advice for various sewage treatment systems that are appropriate and applicable on Nauru. These include the Aikan system, twin chamber system, and biogas production. Papers on these options should be finalized and presented to Government by October 2009.

A number of brackish water wells have also been dug in Nauru and the Government has a commitment for two of such wells to be dug in each district for community use. A major problem with these wells which has arisen is that many are located close to household sewage cesspits. To deal with this issue brackish water testing needs to be carried out on all wells, and experts engaged to consider solutions including the possibility of replacing any offending cesspits with septic tanks.

Short-term Sector Goals	Short-term Strategy: Blocked drainage cleaned	
	Milestone:	Short term: Drainage cleaned and rehabilitated
Well maintained road network throughout Nauru	Medium term:	Road maintenance carried out regularly

Milestone has been achieved

Maintenance works on the 70 drains on the Nauru main road was carried out by the Eigigu Holding, Rehabilitation Corporation and Central Meridian. However, further evaluation on the existing drainage system will need to be reviewed.

Short-term Sector Goals Well maintained road network throughout Nauru	Short-term Strategy: Road side protection rehabilitated Reseal damaged roads
	Milestone: Short term: Roadside protection repaired Medium term: Roads resealed and rehabilitated

Milestone has been partly achieved

Eigigu Holding Civil Works was engaged to pilot a project on maintenance work towards fabrication and cementing of the footpaths, drain lids, sign posts and extracting rubbish contents from the 70 drains around the island as well as painting all crossing rails & lanes, road lanes, and signposts.

A trial was successfully carried out in Denig district except for re-painting of pedestrian crossings. This is due to the fact that the paint received to undertake this was not suitable for the task. The correct paint has been ordered. Some repair work in the other districts has also been completed.

TRANSPORT

Short-term Sector Goals Reliable and economical passenger and freight services provided	Short-term Strategy: Refurbish and develop port infrastructure for vessel handling Develop regular sea freight service	
	Milestone:	Short term: Long term wharf and port infrastructure plan approved Medium term: Wharf and port infrastructure completed and effective vessel and cargo handling operations established

Milestone has not been achieved

Wharf

In May 2009 the Asian Development Bank completed a scoping study for the Nauru port development. This report presented five scenarios for development ranging in cost from \$12 million (upgrading the existing port) to \$93 million (for a new all weather port).

Based on of the scenarios contained in the ADB report, the Government of Nauru has approached the Government of Japan to assist in constructing a reef-edge quay wall and causeway. One of the significant advantages with the preferred development scenario is that the mooring system will no longer be required (saving around \$2.1 million per annum in maintenance).

Port building

In early 2007, the Department of Transport had been trying to get expressions of interests from various companies to refurbish the ports building. While some were submitted, they were not up to the standard required by donors.

In 2008 AusAid arranged consultants to develop terms of reference for this project and a consultant was engaged who provided recommendations to the Government (including costs). This report is currently being reviewed by the Government.

The consultant also condemned the ports building and the Port Authority are working out ways of operating without using the building or equipment. The Port Authority is currently in the process of moving out of the building and intends to use modified containers as offices. All equipment will be moved out to wharf area to a safe location.

Raft

The raft which is also referred to as a dumb barge is a floating platform for carrying containers and other bulky items pulled by a barge. The raft currently used at the port is very old, arriving in Nauru in the late 1980s. It has sunk twice due to wear and tear and its dilapidated state. It is a very important component of the port equipment for cargo discharging and a replacement is urgently required. With the assistance of AusAid, a new raft is currently being constructed and will commence operations by middle of September 2009

Barges

Similarly, Nauru's three remaining pusher barges are also in very poor condition. The current barges date from the late 1970s to the early 1980s and are in urgent need of replacement. They are continuously breaking down and this has jeopardised cargo shipping operations to Nauru. RONPHOS has had to charter a tugboat (at significant cost) when bringing in bigger vessels because of the lack of barges. For safe and efficient berthing of vessels at Nauru five barges are required.

RONPHOS is in the process of procuring one barge to assist with the berthing operations, but this will depend on their revenues which are uncertain. The Department of Transport is currently in talks with AusAid seeking assistance in procuring readymade barges similar to those operating in Christmas Island.

<p>Short-term Sector Goals</p> <p>Reliable and economical passenger and freight services provided</p>	<p>Short-term Strategy: Refurbish and develop port infrastructure for vessel handling</p> <p>Develop regular sea freight service</p>	
	<p>Milestone: Short term:</p>	<p>Re-lay deep sea mooring system and refurbished port infrastructure</p>
	<p>Medium term:</p>	<p>Wharf and port infrastructure completed and effective vessel and cargo handling operations established</p>

Milestone has been achieved

Nauru's port infrastructure is in a poor state due to lack of regular repairs and maintenance because of a lack of funding. Prior to July 2005 the Ports were under the control of the Nauru Phosphate Corporation (NPC) which had competing priorities in that it was attempting to refurbish their rundown mining equipment so as to increase mining operations.

In July 2005 the Ports were taken over by the government through the creation of the Transport Department which has since been attempting to meet international maritime obligations and conventions. This has been mostly done with the assistance of the SPC-Regional Maritime Programme which has been assisting the Department of Transport through training courses and staff assistance.

The mooring buoy system was at that time in very poor condition. In early 2006, with the assistance from Taiwan, ROC through a \$2.1 million grant, repairs to the mooring relay system were carried out and completed ensuring that the mooring buoys were relayed and certified for safe ship berthing.

The next mooring relay is scheduled for 2010 so this will be a priority for the government to try and find funding for the coming year.

Since the refurbishment of the moorings system in April 2006 there have been a significant number of ships visiting Nauru.

- **2006** – 9 Cargo ships, 10 tankers, 3 phosphate ships and 14 other ships (passenger, fishing, barge and a warship).
- **2007** – 9 cargo ships, 11 tankers, 11 phosphate ships and 4 other ships (tug, passenger).
- **2008** – 8 cargo ships, 10 tankers, 23 phosphate ships and 15 other ships (tug, fishing, yacht and a warship).

<p>Short-term Sector Goals</p> <p>Reliable and economical passenger and freight services provided</p>	<p>Short-term Strategy: Maintain safe, reliable and economically sustainable air service including assessment of joint venture and privatisation options</p>
	<p>Milestone: Short & medium term: Reliable air service available</p>

Milestone has been achieved

Earlier this decade the government owned aircraft which operated as Air Nauru was repossessed by the US Exim Bank for non-payment of a loan which financed the aircraft. In 2006, with the assistance of ROC Taiwan, another aircraft was purchased and relaunched under the new brand of the current Our Airline. The soft loan offered by Taiwan has ensured that Nauru continues to connect to the outside world. This loan has been paid off.

The Nauru Government to ensure that it continues to meet Naurus aviation needs has acquired a second aircraft through a further loan from an external partner. This second aircraft is now utilised by NorfolkAir through a binding contract for the next five years which will ensure that the loan is paid off.

The Nauru Air Corporation (NAC) which is an SOE running Our Airline will be governed and operated on commercial principles. It continues to prove to be resilient in current tough economic times (albeit, margins are currently being squeezed). The NAC understands that only doing the Nauru-Brisbane route will never produce a profitable outcome for the airline due to the low passenger rate, but understands that it provides the only service which links Nauru to the outside world.

The utilisation of the two aircraft is managed carefully to ensure that they generates revenue and profit for the Airline to ensure continuous servicing of the Nauru route and producing dividend to the government. This is achieved through finding flying hours for the aircrafts through charters and leasing during the aircraft's downtime.

Short-term Sector Goals Reliable and economical passenger and freight services provided	Short-term Strategy: Refurbish and develop civil aviation infrastructure
	Milestone: Short term: Airport safety and security standards meet minimum international requirements Medium term: Standards maintained

Milestone has been partially achieved

In a number of respects the state of aviation infrastructure has been improved.

- The two Hino rescue and fire vehicles which are over 18 years old are obsolete have been replaced with the two new Rosenbauer firetrucks. Upon arrival of these vehicles, the Nauru International Airport will meet international ICAO standards which require a minimum of two firefighting vehicles for airport category 6.
- The roof of the FIC tower and the cargo office have been partly repaired as has the roof guttering outside OA main office.
- There have been some repairs to plumbing services where the building now has fresh water running in all public toilets downstairs which have been repaired and refurbished. Freshwater has also been made available to toilet sinks, office sink and the showers.
- Some new air conditioners have been installed in key areas such as the FIC tower which requires air conditioning for the navigational equipment.
- Safety for workers has been improved as has security of the terminal building.
- In the 2009-10 Budget the Government has made provision for the purchase of a Global Positioning System (GPS) chart. Current nav aids have deteriorated and the benefit of this initiative will be ensure GPS equipment are more accurate, more reliable, cheaper to maintain. In addition, with this equipment any aircraft with a GPS will be able to land in Nauru.
- A donor has offered Nauru a reconditioned X-ray baggage machine. Once delivered and installed, this machine will improve security through the modern screening of all baggage.
- Training of some staff of civil aviation in the areas of dangerous goods.

A new Civil Aviation Bill has already been prepared and will be put to Parliament in 2009.

Despite these improvements, there is still a significant amount of work needed to be done at the airport so it operates to international standards.

- Runway – resealing of the runway surface and constructing a secure fence around the runway/aerodrome, purchasing mobile lighting and runway vehicles and installing a new airport weather station.
- Terminal Building (the first major renovation was in 1993) – leaky roofs, repairs to pillars, etc.

- Aviation equipment – replacing T-VASIS system to the PAPI system.
- Fire station – leaky roofs and other building maintenance.

There are two major constraints which have prevented this milestone being further achieved. The first is funding. Airport equipment and renovations typically are very expensive. The second is capacity constraints, particularly of local tradesmen to undertake renovation works.

<p>Short-term Sector Goals</p> <p>The budgetary cost of local transport reduced for all Nauruans. Reliable and affordable public transport service</p>	<p>Short-term Strategy: Establish private sector mechanism to provide regular, reliable, low cost public road transport</p>	
	<p>Milestone: Short term:</p>	<p>Private sector provides public transport</p>
	<p>Medium term:</p>	<p>Private sector provides regular, reliable, low cost public service road transport service</p>

Milestone has not been achieved

In Nauru public transport is still provided by the Government sector. To use the Government service a fee of \$0.60 is charged for a trip around the Island. Currently revenues of around \$30-\$40 per day are collected from ticket sales. As this service is still in its infancy, scoping a possible private sector provider for public transport has not been scoped at this time

<p>Short-term Sector Goals</p> <p>The budgetary cost of local transport reduced for all Nauruans. Reliable and affordable public transport service</p>	<p>Short-term Strategy: Establish private sector mechanism to provide regular, reliable, low cost public road transport</p>	
	<p>Milestone: Short term:</p>	<p>Government provides minimum transport needs for schools and public service</p>
	<p>Medium term:</p>	<p>Private sector provides regular, reliable, low cost public service road transport service</p>

Milestone has been achieved

Since 2005 there has been a substantial increase in the capacity of the Government to provide public transport services for school children, office workers and the general public. Currently, there are nine buses in service around Nauru:

- 2 Daewoo buses 50 seater
- 5 Toyota Coaster buses 20 seater

- 2 Nissan Civilian 20 seater

There is also one bus servicing the community on a daily basis (except Sunday). The most significant ongoing challenge in maintaining this service is the regular maintenance required to keep this fleet operational and the availability of qualified mechanics.

The Government also provides some motor vehicles (cars and motor vehicles) to a number of Government employees and the Government has recently announced a program to replace unserviceable vehicles.

INFORMATION AND COMMUNICATION TECHNOLOGIES

Short-term Sector Goals Profitable and reliable telecommunications services (phone, internet etc) provided to public, business and government at reasonable cost	Short-term Strategy: Install GSM technology and strengthen capacity	
	Milestone: Short term:	Every household / business has access to prepaid telephone system based on wireless technology
	Medium term:	See PITA targets

Milestone has been achieved

Nauru has entered a new era of telecommunications with the launching of a joint venture with Digicel Pacific that will provide GSM mobile phone services. This new service was launched in the first week of September 2009, and it is anticipated that the majority of the country will have coverage; it is a license requirement that 97 per cent of the population have coverage within two years of the start date.

This joint venture follows a previous attempt to provide a telephony system based on wireless technology. With funding assistance from the Australian Government, a project utilizing Wi-Fi and WiMAX technologies was implemented. The intended outcome of this was that subscribers would have access to a telephony system using the VoIP protocol, as well as Internet connectivity. However, this project was not successful for a number of reasons:

- Funding limitations, which led to problems with providing the appropriate equipment necessary to give adequate, full-island coverage;
- An apparent underestimation of the capabilities of Wi-Fi to provide the coverage required; anecdotal evidence suggests that the amount of vegetation present and the topography of the country severely impacts on the range of the Wi-Fi frequency
- A lack of regular maintenance of the equipment; this was in part due to difficulties in accessing the Wi-Fi access points located on electricity poles
- Equipment failures, particularly within the backhaul segment of the network; many of these failures have been attributed to problems with the grid power supply

The Wi-Fi / WiMAX project was abandoned mid-2009. The assets from this project were given to Digicel as part of the joint venture agreement.

Short-term Sector Goals Profitable and reliable telecommunications services (phone, internet etc) provided to public, business and government at reasonable cost	Short-term Strategy: Install GSM technology and strengthen capacity
	Milestone: Short term: Broadband infrastructure

Milestone has been partially achieved

As part of an Australian Government funded project, infrastructure was installed that utilizes Wi-Fi and WiMAX technologies. While the original intention of the project was to make Internet access available to at least 75 per cent of the country, the project initially provided Internet access only to a limited proportion of the general population. A number of factors led to the decommissioning of the system:

- Funding limitations, which led to problems with providing the appropriate equipment necessary to give adequate , full-island coverage;
- An apparent underestimation of the capabilities of Wi-Fi to provide the coverage required; anecdotal evidence suggests that the amount of vegetation present and the topography of the country severely impacts on the range of the Wi-Fi frequency
- A lack of regular maintenance of the equipment; this was in part due to difficulties in accessing the Wi-Fi access points located on electricity poles
- Equipment failures, particularly within the backhaul segment of the network; many of these failures have been attributed to problems with the grid power supply

Parts of the infrastructure remain, and a key component of this is the WiMAX backbone. This is currently used by the Government for the operation of a Wide Area Network (WAN). The potential exists for further use of this system by the general public, but would require additional investment in equipment.

The joint venture between the Government of Nauru and Digicel Pacific has seen the introduction of GPRS/EDGE data connectivity. This provides users with data connectivity via the GSM network at speeds of up to 256kpbs; it needs to be noted, however, that according to some criteria regarding broadband connectivity this speed is no longer considered “broadband”. At present, this service provides connectivity to a negligible proportion of the community, however Digicel Nauru have indicated that they will expand the availability of Internet services.

A key element in being able to provide access to broadband Internet services in Nauru at present is satellite connectivity. Until recently, both Internet gateways into Nauru were managed by RONTel; both have been taken over by Digicel Nauru. The satellite service located at Command Ridge is the international gateway for the GSM telephone system, and currently provides Internet services via the GPRS/EDGE network. The service located at Yaren recently had an increase in satellite bandwidth capacity; it is anticipated that this site will be phased out, with all gateway services being re-located to the Command Ridge facility.

The recent decision by the Government to phase out the existing PSTN / copper telephone network means that the delivery of broadband Internet services will be reliant on wireless technologies.

Short-term Sector Goals Profitable and reliable telecommunications services (phone, internet etc) provided to public, business and government at reasonable cost	Short-term Strategy: Install GSM technology and strengthen capacity
	Milestone: Short term: District / household level internet connectivity

Milestone has been partially achieved

As part of an Australian Government funded project, infrastructure was installed that utilizes Wi-Fi and WiMAX technologies. While the original intention of the project was to make Internet access available to at least 75 per cent of the country, the project initially provided Internet access to only a limited proportion of the general population. Many technical difficulties made the system difficult to manage, and as a result quickly fell into disuse.

The joint venture with Digicel Pacific intends to provide access to Internet connectivity for subscribers via a GPRS/EDGE network. It appears unlikely that Digicel Nauru will utilise the now defunct Wi-Fi infrastructure to provide an alternative to the GPRS/EDGE network; the use of the WiMAX infrastructure is a possibility.

For households that currently have access to a PSTN connection, it is possible to connect to the Internet via dial-up modems. However, recent technical problems have meant that only a maximum of eight concurrent connections is possible. It is unknown what the current ISP (Cenpac Inc.) intend to offer once the PSTN network has been phased out.

Short-term Sector Goals Profitable and reliable telecommunications services (phone, internet etc) provided to public, business and government at reasonable cost	Short-term Strategy: Install GSM technology and strengthen capacity
	Milestone: Short term: Fixed line system properly maintained for the public service

Milestone has not been achieved

In recent years, the fixed line telephone system has been plagued with problems. A recent review of the Telecommunications sector conducted by Challenge Networks highlighted the precarious state of the existing system due to age and an apparent lack of on-going maintenance.

Based on the recommendations of the review, Government has made the decision to phase out the fixed line service and replace it with wireless technologies.

<p>Short-term Sector Goals</p> <p>Public and government confidence in the provision of a reliable, independent and commercially viable media service</p>	<p>Short-term Strategy: Developing the human and technical capacities to professionally operate radio, television and print media, both public and private</p>
	<p>Milestone: Short & medium term: Recognised as meeting regional standards for media organisations</p>

Milestone has been partially achieved

There have been a number of achievements in the area of media (radio, TV and print)

- Local production in both TV and radio has increased including a weekly TV news review (which commenced in 2008) as well as a number of presentations for special events including Independence Day, Angam Day and the Taiwan State visit.
- Radio service has been enhanced to include more informative programming to reflect lifestyle and community issues of importance to Nauruans.
- Training has been provided to enable radio staff to do live and recorded interviews in their programs.
- In September 2009 radio and TV commercials have been introduced on a limited basis.
- Structural reforms to the Media Bureau to enhance and clarify capabilities and responsibilities and build capacity.

There are, however, a number of further reforms which would further improve the effectiveness of the media in Nauru

- Currently news reports on TV are only provided on a weekly basis. Information to the community would be improved by introducing consistent nightly headline reports.
- While the variety of music programming has improved on the radio, the Media Bureau are still implementing proper radio format to better reflect the local audiences.
- Due to the focus on reforming radio and TV, there has been little progress in developing the print media in Nauru. However, in the 2009-10 Budget the Government has made a provision for the establishment of a newspaper in Nauru.

<p>Short-term Sector Goals</p> <p>Public and government confidence in the provision of a reliable, independent and commercially viable media service</p>	<p>Short-term Strategy: Developing the human and technical capacities to professionally operate radio, television and print media, both public and private</p>
	<p>Milestone: Short term: Island-wide technical coverage by radio and TV</p>

Milestone has been achieved

With the technical upgrade of the transmitters and associated technical equipment in December 2008, there is now Island-wide radio and TV coverage in Nauru.

<p>Short-term Sector Goals</p> <p>Public and government confidence in the provision of a reliable, independent and commercially viable media service</p>	<p>Short-term Strategy: Developing the human and technical capacities to professionally operate radio, television and print media, both public and private</p>
	<p>Milestone: Short term: Private media sector developed Medium term: Private media sector established</p>

Milestone has not been achieved

There is very limited scope for a private sector operator in Nauru due to the small size of the market and limited revenue raising opportunities.