

# Frequently asked questions

## Remote Power Systems Strategy (RPSS)

The RPSS is a key initiative within the Territory Government's commitment to deliver a renewable energy target of 50% by 2030. Increasing levels of renewable energy, and system reliability and security, requires careful consideration. National and international experience demonstrates how important careful planning and management is to avoiding electricity system outages and keeping prices down during the energy transition. This is a priority for the Territory Government.

The aim of the Remote Power System Strategy is for an average 70 per cent of the combined electricity consumed in the 72 Indigenous Essential Services (IES) communities to come from renewable energy by 2030. To achieve this, the Territory Government is developing a framework to facilitate the delivery of clean and reliable electricity in these communities.

The delivery framework will be designed to enable the optimal renewables development pathway, considering existing energy assets, community aspirations, electricity demand profiles and forecast growth for each community.

The Territory Government is also keen to support local Aboriginal organisations, the Federal Government, businesses and corporations to become investors/co-investors in the new renewable assets to be established, and will be engaging with relevant stakeholders to understand their aspirations and required support in this regard.

Program delivery will be staged into a planning phase, a procurement phase and a delivery phase.

- The **Planning phase** will involve mapping out and assessing the options for proposed service delivery models for each community. It will include a rolling series of engagement activities with community stakeholders, government stakeholders, and service providers; technical assessments of community power generation and supply systems; and the assessment of various potential business models and investment frameworks. This is expected to be complete by Q3 2024.
- The **Procurement phase** is expected to be dependant on the outcome from the Detailed Business Case and the ultimate design of the project delivery model. Procurement of infrastructure/services is expected to commence in 2025.
- The **Delivery phase** will involve the staged establishment of new and/or upgraded renewable assets in communities.

Land access and tenure negotiations will commence in parallel with the Planning phase.

To find out more about the RPSS visit: <https://territoryrenewableenergy.nt.gov.au/>

## Frequently asked questions

Remote Power Systems Strategy (RPSS).....	1
Frequently asked questions .....	2
RPSS General Program.....	4
1. What is the RPSS?.....	4
2. Who is delivering the RPSS program?.....	4
3. Who are the key stakeholders for the RPSS?.....	4
4. What are the primary intended benefits of the RPSS?.....	5
5. When will the RPSS come into place?.....	5
6. What does the 70% renewable energy target actually mean? .....	5
7. What will change under RPSS?.....	6
8. Will the RPSS program create jobs? .....	6
9. What is the transition plan? .....	6
10. What is the Solar Energy Transformation Program (SETuP)? .....	6
Renewable Energy .....	7
1. What is renewable energy? .....	7
2. How can renewable energy benefit the environment? .....	7
RPSS & Remote Communities .....	7
1. Which are the IES serviced communities? .....	7
2. Will the same process be followed in all 72 communities? .....	8
3. Will residents be impacted? .....	8
4. How will the community know what is happening?.....	9
5. What happens if my community does not want to participate but I am keen to promote renewable energy?.....	9
6. What about communities that are not provided electricity through the IES program?.....	9
7. How is the electricity used in IES serviced communities generated now?.....	9
8. Will our community ESO still be looking after the power system?.....	10
9. Will there be job opportunities in the community?.....	10
RPSS, Power Cost & Power Supply.....	10
1. What is government doing to make sure our community has good power and water? .....	10
2. What will happen to my power bills? Will they go up or down? .....	10
3. Will the reliability of my power supply improve? .....	11
4. Could the community be left with no electricity?.....	11
RPSS Technical Solutions .....	11
1. What will a community's renewable energy system look like?.....	11
2. Will rooftop solar be considered under the RPSS Program? .....	11
3. Where will the power station be?.....	12

4.	Why are lawyers, commercial people as well as technical people involved on the project? Why doesn't Power & Water just install more panels like they have done in other communities? .....	12
5.	Will power card meters still be used? .....	12
6.	Who is going to pay for all this equipment? .....	12
	RPSS & Land Requirements .....	13
1.	Is more land needed for this power system? .....	13
2.	How much land will be needed for new solar PV panels? .....	13
	Homelands & Outstations .....	13
1.	Will the project include my Homeland or Outstation? .....	13
2.	Will you fix the existing renewable power supply on my outstation which is broken? .....	13
	RPSS & Councils .....	14
1.	What is the impact for councils? .....	14
2.	What do councils need to do? .....	14
	More Information .....	14

## RPSS General Program

### 1. What is the RPSS?

The RPSS is the Remote Power System Strategy, a Territory Government strategy to achieve an average of 70 per cent of the combined electricity consumed in the 72 communities serviced by Indigenous Essential Services (IES) to come from renewable energy by 2030.

To achieve this, the Territory Government is examining potential frameworks to facilitate the delivery of clean and reliable electricity in these communities. All potential delivery options will be considered and may include community, public or private investment.

The delivery framework will be designed to enable the optimal renewables development pathway, considering existing energy assets, community aspirations, electricity demand profiles and forecast growth for each community.

### 2. Who is delivering the RPSS program?

The Department of Industry, Tourism and Trade (DITT) is working in close collaboration with the Department of Territory Families, Housing and Communities, and Power and Water Corporation to deliver the project.

DITT has also engaged a team of highly skilled and experienced local experts to support delivery of the project.

### 3. Who are the key stakeholders for the RPSS?

- **Power and Water Corporation** – is a government-owned corporation with responsibilities for a range of utility related services across the Territory.
- **Indigenous Essential Services Pty Ltd (IES PL)** - is a not-for-profit wholly owned subsidiary of the Power and Water Corporation. IES was created to manage the provision of electricity, water and wastewater services to remote communities and outstations included in the IES program at subsidised cost to end users.
- **The Department of Territory Families, Housing and Communities** - is the purchaser of services from IES PL.
- **Northern Territory Aboriginal Corporations** which could have an interest in the project, for example the Northern Territory Aboriginal Investment Corporation.
- **Aboriginal Peak Organisations Northern Territory** – an alliance comprising the Aboriginal Medical Service Alliance Northern Territory (AMSANT), North Australian Aboriginal Justice Agency (NAAJA), Central Land Council (CLC), Northern Land Council (NLC), Tiwi Land Council (TLC), Anindilyakwa Land Council (AL), Aboriginal Housing NT (AHNT) and the Northern Indigenous Business Network (NT IBN).
- **Land Councils** - are a critical partner for discussions regarding delivery model, land access and tenure.
- **Regional Councils** - are an integral partner for the delivery of the program in each region.
- **Community-based Aboriginal organisations, businesses and corporations** - are consumers of power in community, and may be interested in co-investment opportunities.

- **Traditional Owners and community residents** – are consumers of power in community, and counterparts in land access and tenure negotiations.
- **Service Providers** – are businesses who may be contracted around the design, installation, and operation and management of new renewable assets. They may be single entities, joint ventures or consortia.

#### 4. What are the primary intended benefits of the RPSS?

The RPSS aim is for an average of 70 per cent of the combined electricity consumed in the 72 IES serviced communities to come from renewable energy by 2030. The primary intended benefits of this are:

- Reduced emissions from community electricity supply.
- Reduced cost of electricity generation and – depending on the financial model - consumption.
- Improved electricity supply reliability from stronger, more modern power systems.
- Employment, contracting and investment opportunities for community-based Aboriginal organisations, businesses and corporations.

#### 5. When will the RPSS come into place?

- Initial community consultation is expected to commence in Q1/ 2024.
- Completion of the detailed analysis and development of proposed investment framework is anticipated for Q2 2024.
- Site engineering studies and land tenure negotiations are targeted to be finalised 2025 so that renewables roll out can commence.
- Implementation is expected to run from 2025 to 2030.

#### 6. What does an average of 70% renewable energy target actually mean?

The RPSS aims to achieve an average of 70 per cent of the combined electricity consumed in the 72 IES serviced communities, to come from renewable energy by 2030.

It is expected this will involve the integration of various levels of solar PV and batteries into existing diesel power stations. Depending on the technical and commercial assessments conducted, other renewable technologies may also be involved.

Because every power station and community is different, what this means is:

- How much renewable energy generation and/or batteries are installed will depend on a range of factors which need to be assessed including the current generation mix, condition and capacity of the power network, and land availability.
- Some communities may not see any major change in their power station.
- It is expected that some form of diesel/gas generation will be maintained in all power stations.

Around 12% of electricity consumed in IES communities is currently sourced from renewable energy. The Territory Government is currently developing a standardised framework for assessing

renewable energy contribution to load in IES communities which will be used to assess proposals from service providers during the Procurement phase, as well as track overall program targets as new assets get built and start to operate under the Delivery phase.

## 7. What will change under RPSS?

The RPSS program will deliver new renewable energy technologies in identified IES communities that will work in conjunction with the existing power equipment to reduce diesel consumption and improve the reliability of generation.

What type and how much new renewable energy technologies are installed will depend on a range of factors which will be assessed, including the current generation mix, condition and capacity of the power network, and land availability. In some communities there may be no changes made to the power station.

It is expected this new equipment will be installed under long-term service supply contracts with the Territory Government. A key criteria for assessing proposals will be for the use of community resources to undertake local works on this new equipment.

## 8. Will the RPSS program create jobs?

The Territory Government is keen to ensure the Remote Power System Strategy's (RPSS) focuses on maximising opportunities for local industries, creating jobs for Territorians on-country and strengthening local skills and expertise.

Opportunities to achieve this include:

- Establishing a list of prequalified local Aboriginal organisations, businesses and corporations that service providers can contract to provide services for the construction and/operational phases of the project.
- Directly contracting local Aboriginal organisations, businesses and corporations to help deliver the RPSS program.

The Northern Territory Government is also keen to support local Aboriginal organisations, businesses and corporations to become investors/co-investors in the new renewable assets to be established and will be engaging with relevant stakeholders to understand their aspirations and required support in this regard.

## 9. What is the transition plan?

Transition planning will be informed by the final technical solution and therefore, will vary for each community. The Territory Government recognises that it is critical that any system changes are managed in a way that minimises disruption for the community.

## 10. What is the Solar Energy Transformation Program (SETuP)?

SETuP was a \$59 million program co-funded by the Northern Territory Government and the Australian Renewable Energy Agency (ARENA). The program delivered 10 megawatts of solar generation to remote communities in the Territory between 2017-2019.

The RPSS program builds on the success of the SETuP program, which has provided valuable learnings for the integration of renewable energy into remote systems.

## Renewable Energy

### 1. What is renewable energy?

Renewable energy comes from natural sources that are constantly replenished.

The two most commonly used renewable energy resources are solar and wind power. Solar uses photovoltaic (PV) panels to convert sunlight into electricity. Wind uses wind turbines to convert the energy in wind to electricity.

The energy produced can either be used immediately or stored in batteries for use later, depending on the balance of how much is being generated and how much demand there is.

Other renewable energy sources include biogas, green hydrogen, tidal and geothermal, however, given the NT has some of the highest solar irradiance levels in the world, we are ideally placed to exploit solar as a primary source of renewable energy, supported by batteries. This is supported by the fact that the NT has relatively low average wind speeds, along with a range of environmental constraints to the use of other renewable energy sources.

### 2. How can renewable energy benefit the environment?

Unlike diesel, renewable energy generation produces no greenhouse gases and does not produce any toxic substances or pollutants that could harm people or the environment.

Reducing diesel consumption as part of electricity generation will therefore mean less fuel deliveries into communities, less trucks, less noise and less dust and less carbon and other greenhouse gas emissions across the NT.

## RPSS & Remote Communities

### 1. Which are the IES serviced communities?

The following are IES serviced communities:

- Acacia-Larrakia
- Ali Curung
- Alpururulam
- Amanbidji
- Amoonguna
- Ampilatwatja
- Angurugu
- Areyonga
- Atitjere
- Barunga
- Belyuen
- Beswick
- Binjari
- Bulla
- Bulman
- Canteen Creek
- Daguragu
- Engawala
- Finke
- Galiwinku
- Lake Evella
- Gunbalanya
- Gunyangara
- Haasts Bluff
- Hermannsburg
- Imanpara
- Jilkminggan
- Kalkarindji
- Kaltukatjara

- Kintore
- Kybrook Farm
- Lajamanu
- Laramba
- Maningrida
- Manyallaluk
- Milikapiti
- Milingimbi
- Milyakburra
- Minjilang
- Minyerri
- Mount Liebig
- Mungoobada
- Nauiyu
- Nganmarriyanga
- Ngukurr
- Nturiya
- Numbulwar
- Nyirripi
- Papunya
- Peppimenarti
- Pigeon Hole
- Pirlangimpi
- Pmara Jutunta
- Ramingining
- Rittarangu
- Santa Teresa
- Tara
- Titjikala
- Umbakumba
- Wadeye
- Wallace Rockhole
- Warruwi
- Weemol
- Willowra
- Wilora
- Wurrumiyanga
- Wutunugurra
- Yarralin
- Yirrkala
- Yuelamu
- Yuendumu

## 2. Will the same process be followed in all 72 communities?

The proposed planning activities will be completed for all communities; however, it is expected that the technical options and financing arrangements are likely to be different and potentially more involved/complex for communities connected to existing electricity grids. This will likely require more tailored development and negotiations to finalise service contracts.

Of the 72 IES serviced communities:

- 55 are supplied electricity by 50 standalone diesel or hybrid diesel solar power systems, and one gas power system,
- 14 are connected to either the Alice Springs, Darwin-Katherine or Tennant Creek or minor centre electricity grids, and,
- 3 are connected to electricity grids operated by private entities such as mine sites.

Given this, the program will initially focus on 47 standalone diesel power systems during the Planning phase, as 3 of the diesel power stations already have community PV and a BESS installed.

## 3. Will residents be impacted?

Impacts of program works will be determined by the final technical solution and therefore vary by community. Where new renewable energy technologies are installed, this may result in construction works, including land clearing in community, as well as very short periods of power loss during the testing of equipment. Impacts will be communicated early, and plans made to mitigate these as much as possible.



#### **4. How will the community know what is happening?**

The RPSS program's engagement strategy provides a detailed plan for ensuring all stakeholders, including community stakeholders and residents, are engaged and kept informed of key works and decisions, and what these mean over the course of the program.

Ongoing communication will be a key component to the success of this program and we will be working closely with nominated representatives in community to provide regular updates.

There will be periods when it may appear that not all that much is happening, but also periods where there will be lots of activity locally in the community.

At any time, stakeholders can use the provided contact details to ask questions and find out more information about the program generally, what is happening now and what is coming up.

Regular updates will be provided to each community through progress updates, flyers, resources available on the ground plus through a website and a managed email account.

#### **5. What happens if my community does not want to participate but I am keen to promote renewable energy?**

As part of the program, all community stakeholders and residents will be engaged with and consulted through a number of forums to ensure everyone has a clear understanding of the aims and benefits of the project. These engagements will aim to identify, understand and respond to any particular concerns, as well as community aspirations and interest to be involved. The aspirations and desires of each community will be sought through this process..

#### **6. What about population centres that are not provided electricity through the IES program?**

The Territory Government recognises that there are many homelands and townships in the Territory that are not provided electricity through the IES program, and while these population centres account for only a small fraction of electricity used, they may need support to take advantage of available funding sources to transition to high renewables energy systems.

The Government will work with these population centres to identify how best the government can help facilitate renewables in these areas.

#### **7. How is the electricity used in IES serviced communities generated now?**

The majority of IES program electricity is diesel generated. Through IES, the Power and Water Corporation operates and maintains 50 diesel and hybrid diesel-solar power stations. The remainder of supplied power is through regulated networks and third-party grids, and one IES gas generator. There is over 74MW of installed diesel generator capacity ranging from 300kW to 1.6 MW and also 10MW of solar PV generator capacity across all communities.

Diesel is a fossil fuel and so diesel generation is non-renewable generation. Diesel fuel is expensive, and diesel generators are noisy, and emit significant amounts of carbon dioxide and other greenhouse gases, as well as particulates that pollute the air.

The 25 hybrid power stations were established as part of the Solar SETuP program, which delivered ~10MW of solar PV across 25 IES serviced communities. In these systems, power from the solar

panels is fed into the local grid, generally without the use of battery storage. The existing diesel generation at the powerhouse continues to run but allows the solar to take up a large portion of daytime load while the sun is shining. As a result, the diesel generators do less work, resulting in less fuel being used.

Around 12% of electricity consumed in IES communities is currently sourced from renewable energy.

## **8. Will our community Essential Services Officer (ESO) still be looking after the power system?**

The project will focus on maximising opportunities for local industries, creating jobs for Territorians and strengthening local skills and expertise. As part of the community engagement process the Government will be seeking input on what community resources will be available including current ESO's for participation in the project.

## **9. Will there be job opportunities in the community?**

A key objective of the program is to maximise opportunities for local industries to be involved in the new Service Delivery Models; to create jobs for Territorians and to strengthen local skills and experience.

As part of the community engagement process the Government will be seeking input on what community resources will be available including current ESO's for participation in the project.

## **RPSS, Power Cost & Power Supply**

### **1. What is government doing to make sure our community has good power and water?**

Increasing levels of renewable energy, system reliability and security concerns, requires careful consideration. National and international experience demonstrates the importance of careful planning and management of the energy transition is critical to avoid electricity system outages, and keep prices down. This is a priority for the Territory Government

### **2. What will happen to my power bills? Will they go up or down?**

The implications for electricity tariffs in communities will not be able to be determined until the model for RPSS delivery and costs and savings is determined.

Under the Government's uniform tariff pricing policy, residents across the Territory pay the same rate no matter where they are located.

All electricity supplied to households is subsidised by the Government.

As part of the planning process the Territory Government will be looking at ways for communities and residents to participate which could provide economic benefits in other ways including through employment opportunities and the ability for Aboriginal organisations, businesses and corporations to invest.

### 3. Will the reliability of my power supply improve?

Reliability of supply from a power station is a measure of how many hours in a year a power station generates and supplies power to its connected distribution network.

Reliability of supply to a house (or business) is a measure of how many hours in a year that house is supplied electricity. This is dependent on the power station generating and supplying power, and the distribution network being in sufficient condition to conduct electricity to the house.

Where upgrades to a community power station are completed (including renewable energy assets) as planned under the RPSS, the reliability of that community's power supply is generally expected to improve. How noticeable this improvement will be, depends on the reliability of supply prior to the upgrade, as well as the condition of the power network.

Further, the RPSS intends to establish standards of service (including reliability) as part of any contracts/agreements with providers, with penalties for whenever standards are not met.

### 4. Could the community be left with no electricity?

This is highly unlikely. When planning any new renewable energy technologies to be integrated into existing power stations, reliability as well as cost and renewable energy contribution will be key considerations. It is expected that the resulting power stations will have a more diverse generation and power supply mix, making them less susceptible to faults and outages.

## RPSS Technical Solutions

### 1. What will a community's renewable energy system look like?

The Northern Territory Government has purposely not specified what the renewable energy systems will look like.

As part of the planning phase of the program, technical and commercial advisors assessments will identify which renewable energy solution and potential business model and investment framework will best suit each community's requirements. The engagement activities also included in the planning phase will gather important information regarding the optimal renewables development pathway, considering existing energy assets, community aspirations, electricity demand profiles and forecast growth for each community to complement these assessments, which will then inform the technical and commercial requirements for the procurement process.

It is expected that generally, the solution will consist of one or more PV arrays and/or a community battery, however, other options may be offered and considered.

The final solution will be informed by technical and commercial assessments completed by the Territory Government, as well as proposals received by Service Providers.

### 2. Will rooftop solar be considered under the RPSS Program?

The technical and commercial assessments during the planning phase will look at all options to determine the most viable path to achieving the program objectives. Both front of meter and behind the meter rooftop solar are appropriate considerations.

### **3. Where will the power station be?**

What changes if any need to be made to the power station will be determined as part of the technical assessment process. Where additional land or changes to the location of equipment is identified, this will be communicated to stakeholders and negotiated, as required.

### **4. Why are lawyers, commercial people as well as technical people involved on the project? Why doesn't Power and Water just install more panels like they have done in other communities?**

The RPSS will be a very large undertaking with the capital cost of new renewable energy technologies expected to be in excess of \$400 million, with ongoing fees for the supplied energy additional to this. Completing such works in a timely manner using only public funds (either direct through the NTG or via PWC/IES) presents a significant challenge.

The Territory Government is therefore exploring options to attract external investment from a range of public, community and other sources to support this program of works under long-term supply contracts (~15+ years) to design, install and operate the new renewable energy systems. This may be different to current arrangements whereby current services including all generation technologies are funded and operated by Power and Water Corporation.

Finding the right commercial and technical arrangements requires a lot of planning and assessment work to be completed before contracts are signed. This is where legal and technical advisors are being brought in to support the program.

### **5. Will power card meters still be used?**

No changes are planned to how power is sold as part of the RPSS, only to how it is generated.

Household power disconnections due to exhausted credit on a Power Card meter are a separate issue and may not be addressed by this project. As part of engagement activities, however, we will talk to you about the current energy service delivery model in your community and what, if any, changes might be made to these.

The Territory Government is aware of power card metering concerns and is separately investigating strategies to address this. There will be opportunities to discuss any issues or questions community stakeholders have around this during community engagement activities. Feedback will be passed on to relevant parties.

The scope of the RPSS project is to gather important information regarding the optimal renewables development pathway, considering existing energy assets, community aspirations, and electricity demand profiles and forecast growth for each community.

### **6. Who is going to pay for all this equipment?**

This is an extensive program which could cost in excess of \$400 million therefore it is important to ensure that the financial burden does not sit with the Northern Territory Government alone. The Territory Government will identify all available sources of grant funding and support available federally and elsewhere to invest in renewable energy technologies. All options will be examined.

The Territory Government plans to work closely alongside local Aboriginal organisations, businesses and corporations to support their involvement in the investment process and help secure their own energy future.

## RPSS & Land Requirements

### 1. Is more land needed for this power system?

It is expected that most new solutions will require additional land. The Territory Government will work closely with the appropriate Land Council to ensure access is negotiated expeditiously via the proper process.

### 2. How much land will be needed for new solar PV panels?

Land access and tenure negotiations process will follow the established procedure through the Land Councils and Aboriginal Areas Protection Authority.

How much space is needed will depend on how much solar PV is required and will be determined through the technical assessments that will be completed. Should solar PV be identified as a solution, the total amount may be anywhere from a few hundred kilowatt (kW) to one or more megawatts (MW).

This equates to between ½ to 1½ community football ovals in size.

[One MW of solar PV generally requires about 1Ha : 10,000sqm : 100m by 100m : 2.5 acres.]

## Homelands & Outstations

### 1. Will the project include my Homeland or Outstation?

Only if it is already connected to an IES serviced community power system.

The Northern Territory Government recognises that there are many homelands in the Territory that are not provided electricity through the IES program, and while these communities account for only a small fraction of electricity use, they may need support to take advantage of available funding sources to transition to high renewables energy systems.

The Government will work with these communities to identify how best the government can help facilitate renewables for these communities.

### 2. Will you fix the existing renewable power supply on my outstation which is broken?

No. The RPSS is focussed on upgrading and improving energy systems to lower cost, lower emission systems in IES serviced communities and connected outstations/homelands only.

The Northern Territory Government recognises that there are many homelands in the Territory that are not provided electricity through the IES program, and whilst these communities account for only a small fraction of electricity use, they may need support to take advantage of available funding sources to transition to high renewables energy systems.

The Government will work with these communities to identify how best the government can help facilitate renewables for these communities through existing grant programs or funding that may be available.

## RPSS & Councils

### 1. What is the impact for councils?

The RPSS Program team will work closely with both Regional and Land Councils to plan and deliver engagement and consultation activities as per the stakeholder engagement strategy. As part of this, the RPSS Program team will work closely with Councils to ensure communities and their residents are informed of any proposed changes to their existing power system and that these are managed effectively. Where additional land is required, relevant Land Councils will be engaged to negotiate this as early as possible.

Because this will be a major investment in the community, it is hoped the Councils will partner with the Territory Government, to assist their regional communities to understand what is happening.

Where regional councils also contract ESO's to IES, this will also be discussed in order to establish the degree to which this or a similar arrangement should or could be continued or expanded.

Engagement activities with Land Councils will also include consultation and notification regarding land tenure and access.

### 2. What do councils need to do?

Council's will be kept informed with regular updates and it is hoped that they will assist in making this information widely available in their constituent communities.

## More Information

For more information, please contact the Department of Industry, Tourism and Trade, the Office of Sustainable Energy at [RemotePowerSystemStrategy.DITT@nt.gov.au](mailto:RemotePowerSystemStrategy.DITT@nt.gov.au) or visit the Territory Renewable Energy website <https://territoryrenewableenergy.nt.gov.au/>