

The background of the entire page is a photograph of several high-voltage electrical transmission towers and power lines stretching across a landscape. In the lower right foreground, the silhouette of a person wearing a cap and walking is visible against the sky. The overall tone is somewhat somber and industrial.

**Energy Justice:**

“Respecting universal human rights and ensuring that every person has a right to the level of energy required to attain a minimum of wellbeing”

(Islar, et al., 2017)

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*Policy Alternatives for Electrical Supply in the Darfur Region*

**By: Ahmed Yousif Mohamed**  
**Public Policy**

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## Executive Summary:

Since the Darfur region suffers from a shortage of electricity, which hinders development and production. The current economic deficit and fuel shortage in the last two years limit the current energy production and delay the expansion of electricity production from renewable resources. This paper responds to this situation and aims to contribute to energy justice in Darfur.

The Feed in Tariffs (FIT) is the most common instrument that succeeded in renewable energy expansion in more than 70 countries. REIPP procurement programs achieved significant impact in energy production expansion in addition to tariff reduction in South Africa and other countries. Local cooperatives played an effective role in renewable energy adoption in Tigray area, Ethiopia. Therefore, this paper discusses Feed-in Tariffs (FIT), REIPP procurement programs, Solar Home Systems (SHSs) awareness programs for local cooperatives (co-ops) as policy alternatives to supply Darfur region with electricity.

As REIPP procurement programs policy scores the highest score in the selection criteria, has a potential to provide Darfur with sufficient and stable energy and it could reduce the tariffs significantly. This paper recommends REIPP procurement programs policy as a policy to provide Darfur with energy. Also, this paper recommends SHSs awareness program for co-ops as policy for villages that REIPP procurement programs policy could not provide them with energy. Because REIPP procurement programs could not be applied in villages that have low consumption.



## Darfur Region:

Darfur region is the western Sudanese region. It suffers from civil war, which is resolved partially through Doha Document for Peace in Darfur (DDPD) in 2011. Darfur consists of five states: Northern Darfur, Southern Darfur, Western Darfur, Eastern Darfur and Middle Darfur. Most of Darfur citizens work in livestock raising and crop farming. 59 percent of them are rural, 19 are urban and 22 percent are nomads (African Development Bank Group, 2016). As result of the economic situation of Sudan, civil conflicts and geographical isolation of the Darfur region development, infrastructure and services are affected negatively, which creates a development gap in this region (African Development Bank Group, 2016).

## Electrical Shortage Hinders Development in Darfur:

Darfur is not linked with the national electricity grid because of the security issues and the long distance between Darfur and the national electricity grid. Alternatively, the government established five isolated diesel supplied generation stations which are located in the capitals of Darfur's states, one for each of them. These stations supply five capitals with unstable electricity. They supply Darfur region with less than 20 percent of its demand, in addition, these stations perform with less than 60 percent of their real capacity due to fuel shortage, technical failure and overheating issues (African Development Bank Group, 2016). The foundation cost of this kind of station is cheaper, but the operational cost is high, and it faces operational issues, such as overheating, fuel shortage and spare parts unavailability (African Development Bank Group, 2016). In the last years, the government started working in the establishment of two solar energy stations (Alnour, personal interview, 2018), but the foundation of these stations faces financial issues, which suspends the installation of these stations.

This situation contributes to maintaining poverty and affects the local environment negatively because it makes most of the citizens in this region depend on private diesel generators or the wood, which increases the living expenses and destroys the forests in Darfur. In addition, the shortage of electricity supply hinders the operation of schools, clinics and banks. Also, it limits the commercial and industrial activities, because these facilities require a high and stable supply of electricity, which is not available in Darfur (African Development Bank Group, 2016).

While the shortage of electricity contributes to maintaining poverty and hindering development, it also an obstacle to the peace process in Darfur. Because, one of the main reasons for the civil war is the lack of the development, and the electricity shortage is an effective factor in maintaining the lack of development (African Development Bank Group, 2016).

In brief, the shortage of electrical supply in Darfur is a developmental obstacle, and it could affect the peace progress and humanitarian condition in this region.

Therefore, this paper assesses the policy alternatives to supply Darfur region with electrical supply, and it provides the Sudanese Ministry of Electricity with recommendations to provide Darfur region with electricity.

## Reasons for Electrical Shortage:

In addition to civil conflicts and the longest distance to the national electricity grid the shortage in power supply is caused by factors related to national energy policy; firstly, since the government adopts diesel electricity generation through isolated stations in Darfur region, the oil products shortage in Sudan limits the electricity production. Secondly, since the government is the exclusive electricity producer, the economic deficit hinders the governmental capacity of establishing new generation projects. These causes are discussed in this paper.

### The lack of fuel products as a challenge for electricity generation:

While the cost of connecting Darfur to National Electricity Grid is high and faces security risks, the government has established five local thermal stations in Darfur. These stations provide the region with only 60 percent of stations capacities. This underperformance is a result of different factors; some of them are the unavailability of the spare parts for stations and other technical issues (African Development Bank Group, 2016). To overcome these issues, the government contracted with independent power providers to operate these stations, and the government provides them with the diesel and buys the electricity from them per KWs. This alternative has failed, because of the shortage in the diesel supply, which stopped the energy generation in some station for days or weeks in some cases (United Nations Environment Program, 2018) (Alnour, personal interview, 2018).

### The negative effect of the economic deficit:

In the last few years, the Sudanese government adopt some policies to encourage the renewable energy generation in Darfur; it applies custom exemption for all equipment and material that uses in renewable energy generation. Also, it started in the establishment of two renewable energy generation stations in the Darfur region. Each of these stations cost around 6.7 billion USD, and each one expected to supply Darfur region with 5.7 MW. These stations could increase the generated energy in Darfur with almost 25% of the current generation, with stability and sustainability advantages. But, the establishment of these stations is facing a funding challenge, because of the deficit (Central Bank of Sudan, 2018) (Alnour, personal interview, 2018).

Therefore, in addition to security issues and geographical factors, the lack of supply of the fuel products and the economic deficit are factors that hinder the electrical supply expansion in Darfur.

## Policy Options:

Since the energy justice is defined as availability of level and quality of energy that enable every person to attain a minimum of well-being (Islar, Brogaard, & Lemberg-Pedersen, 2017), this paper aims to contribute in energy justice in Darfur through discussing three policy options; firstly: Fid in Tariff policy, secondly: Renewable Energy Independent Power Producers (REIPP) procurement programs, thirdly: Solar Home Systems (SHSs) Awareness programs for local cooperatives, and recommends a policy of them according to decision criteria.

Sudan has lost most of its oil production since Southern Sudan secession in 2011 and if suffers from a severe shortage of oil products, especially in the last two years (United Nations Environment Program, 2018), which reduce electricity generation in Darfur significantly. Therefore the conventional electricity generation is not a viable option in the Sudanese context. As result, all the discussed options are focuses on the renewable energy.

### Alternative 1: Feed-in Tariff:

Feed in Tariffs (FITs) is the most common instrument that is used for renewable energy adoption. FITs means increasing electricity tariff for the electricity that is generated using renewable energy resources (i.e. solar, wind, hydropower) in a way that encourages producers to invest in renewable energy (Carley, Baldwin, MacLean, & Brass, 2017).

In 2011 there 70 countries adopt FITs instrument to provide incentives for power producer to invest in renewable energy (Eberhard & Naude, 2018). One of the considerable successes of the FITs is the Germany experience, when the FITs contributed in increasing the electrical energy that produced using renewable resource from 20 MW to 490MW, within six years (Jacobsson & Lauber, 2006). In Africa and among developing countries, Egypt, Tunisia, Ghana and Nigeria are some developing counties that adopt FIT to increase their production of renewable energy (Ackah, Alabi, & Lartey, 2016).

#### **Feed in Tariff in Darfur:**

In Darfur, the adoption of this policy could contribute to increasing the production of renewable energy by private sector significantly. While Feed in Tariffs depends on increasing the incentives for investors, some countries - such as Germany- face conflicts between national utility interests and the objective of FITs, because FITs increase the incentives of the private sector and affects the free market competition (Jacobsson & Lauber, 2006). But, in Sudan, the situation is different, because the production of the national utility is less than the market demands significantly, and the price of the electricity is fixed.

The application of FITs in Sudan could face some obstacles that could decrease the effectiveness of the FITs policy. The obstacles could be:

- 1- **Electricity prices in Sudan:** while the electricity prices in Sudan is lower than the international average because of the governmental subsidization of electricity prices (Alnour, personal interview, 2018), this price would discourage the investors.
- 2- **Economic barrier:** Since the inflation rate in Sudan is high and not stable, and FITs investment achieve its profits through long-term electricity sells, this could discourage international investors (Alnour, personal interview, 2018).

To facilitate FITs, the Sudanese government should increase the electricity tariff for the investors and calculate the tariff in USD updated rate and charge the investor in Sudanese Pound (SDG). Also, the government should subsidies a quota for Darfur citizens to make the electricity affordable for them, since the government subsidies the electricity for all Sudanese citizens.

#### **Advantages and Disadvantages of FIT in Darfur:**

FIT could increase the energy production significantly in Darfur, in a way that could cover the citizen's needs and the industrial and commercial needs, which would contribute to energy justice and production expansion. But, FIT would fail in encourage the investor to establish generation in small villages that have a small population and low energy consumption (Alnour, personal interview, 2018).

## Alternative 2: Renewable Energy Independent Power Producers (REIPP) procurement programs:

REIPP procurement programs mean that private producers participate in competitive public tenders. Then, the participants who provide the best offers in term of technical specification and electricity prices, contracts with the government to establish renewable energy generation stations and operate them (Eberhard & Naude, 2018).

The REIPP procurement programs have achieved significant success in term of producing renewable energy and reducing electricity tariff in different countries such as UEA, USA, Mexico, Zambia and South Africa (Eberhard & Naude, 2018). In the period between 2011 and 2015, the REIPP procurement programs in South Africa have achieved electrical tariff cheaper than the national utility prices. Also, it increased the energy generation by 6.328 MW, with a total investment amount of USD 20.5 billion in the same period. In addition, REIPP procurement programs expected to provide South Africa with more than 100,000 job opportunities (Eberhard & Naude, 2018).

Description	Achievements
Produced Power	6,328 MW
Tariff Reduction for Solar Power	71%
Amount of Investment	20.5 Billion USD
Jobs will be created	109444

Table 1: Achievements of REIPP procurement programs in South Africa. (Eberhard & Naude, 2018)

### REIPP procurement programs in Darfur:

Since the REIPP has significant achievements in some African countries and sub-Saharan countries, which have geographic, demographic, and environmental properties that close to Sudanese context. Even there are some similarities in energy consumption characteristics. The REIPP could be applicable in Sudan - Darfur specifically-, but it could face some challenges that could include:

- 1- **Investment Issues:** while the inflation rate in Sudan is high and not stable, this could discourage international investors. The success of REIPP depends on the competitive process and the discouragement of the international investor will affect the competition negatively (Alnour, personal interview, 2018).
- 2- **The affordability of electricity:** The electricity tariff is subject to the competition in REIPP, which means the prices could be high in the first tender process, then the prices would be reduced through the other tenders gradually, as what happened in South Africa. Therefore, in the first REIPP project, the tariff could be high, which could be unaffordable for some citizen in the Darfur region (Alnour, personal interview, 2018).

As a response for this challenges, the Sudanese government should contract with private producers of REIPP procurement programs in USD and charge them in SDG using the updated exchange rate, which will encourage the international investors and increase the competition. Also, the government should subsidies specific quota of electricity for Darfur's citizens to make the electricity affordable for them, as it subsidies a specific quota (200 KW) of the electrical energy for the all Sudanese citizens.

### **Advantages and Disadvantages of REIPP in Darfur:**

REIPP procurement programs could increase the electrical generation significantly, which could support the productive sectors in Darfur, in addition, to provide the citizens with sufficient and high-quality electrical energy. Also, it could reduce the electricity tariff in a high rate in short time. On the other hand, REIPP could fail in providing small villages that located away from other villages and have a small population. The electrical consumption in these villages could be low, which reduces the revenue and the feasibility of investments in these villages.

#### **Alternative 3: Solar Home Systems (SHSs) awareness programs for local cooperatives:**

Local cooperatives (co-ops) are independent associations that initiate voluntary and are managed democratically by locals and relatives to meet their cultural, economic and social needs through shared enterprises (ICA, 1995). These co-ops are active around Sudan. They have achievements in establishing schools, health centres, poor families funding and other activity. Also, these local co-ops are active in Darfur.

There are Solar Home Systems (SHSs) in Darfur that are sold by different companies with reasonable prices (less than 100 USD). SHSs could provide the house with a limited supply of electricity, which enough to operate two lamps and a fan. Also, there are some SHSs with different capacity that could operate more devices (Alkhateeb, personal interview, 2018). Despite the availability of affordable SHSs, only a portion of the electricity demand of Darfur is covered. Since some of the Darfur's residents have bought and installed different types of SHSs, the causes that constraint the adoption of SHSs as electricity source could include: (1) lack of awareness of the technology, and its ability to provide their homes with electrical energy. (2) Poverty and the inability to access enough credit. (3) Worries of the risks of the technology. These constraints are decreased through co-ops initiatives in some countries according to (Viardot, 2013).

In the Tigray region – Ethiopian Region- the citizens who have membership in the co-ops invest in solar energy significantly more than the citizens who are non- member in co-ops, this could be explained by the positive effect of the co-ops on eliminating the barriers that constrain solar energy adoption (Gezahegn, Gebregiorgis,, Gebrehiwet,, & Tesfamariam, 2018). While the Tigray region has demographic characteristics similar to Darfur characteristics. Also, the Tigray region is not connected to the Ethiopian national electrical grid due to geographical barriers, which is similar to Darfur Case (Gezahegn, Gebregiorgis,, Gebrehiwet,, & Tesfamariam, 2018), (Alkhateeb, personal interview, 2018).

Therefore, increasing the awareness of the SHSs among the Darfur local co-ops could increase the investment of the citizens in SHSs and accelerate the SHS adoption in Darfur. This policy option aimed to increase awareness through awareness sessions and focus groups about renewable energy and SHSs. As the co-ops could spread the information and create a social influence that accelerate the SHSs adoption. Also, these co-ops could support the citizens financially or buy large quantities of SHSs with discounted prices, which will reduce the financial barriers for co-op citizens.

## **Advantages and Disadvantages of SHS in Darfur:**

The adoption of SHSs as renewable energy resource and buying them by the citizens would provide Darfur's citizens with electrical supply for their basic needs. This would reduce energy injustice in the region. But, SHSs would provide the citizens with limited electrical supply, these means: firstly, the usage of electricity would be constrained, secondly, the electrical supply of SHS would not be enough to supply the economic and industrial activities. Therefore, this instrument would solve the problem of electrical accessibility, but the issues of the sufficiency and energy quality will not be solved.

## **Decision Criteria:**

In order to select the recommended alternative five concepts have been set to assess the three alternatives, these concepts are set based on the energy justice and its principles (Islar, Brogaard, & Lemberg-Pedersen, 2017). The selection criteria include sufficiency, cost efficiency, accessibility, contribution to productive sectors and sustainability. All these concepts are defined and discussed in the **Appendix A**. All these measures have the same weight and all of them scored out of 3, except the cost efficiency scored out of 4, because of the high differences in the cost between the three alternatives. The three alternatives are assessed according to the criteria and **alternative 2: REIPP procurement programs policy** has scored the highest score. The assessment is discussed in details in **Appendix A**.

## **Recommendation:**

REIPP procurement programs policy has scored the highest score according to the selection criteria. REIPP procurement program policy has scored the highest score in the sufficiency, contribution to productive sectors and sustainability. This mainly because this alternative has the ability to supply Darfur with sufficient and high-quality energy, in addition to its ability to reduce the tariffs significantly. On the other hand, REIPP procurement programs have a failure in providing electricity to the villages that located away from other cities and villages and have low electricity consumption. Because the investment return of these villages would be very low. This failure reduces the accessibility score of this alternative. While REIPP procurement program has scored the highest score, this paper recommends REIPP procurement program as policy to provide Darfur with electricity and reduce energy injustice in Darfur. To overcome the failure of REIPP procurement program, this paper recommends SHSs awareness programs for co-ops as policy for the villages that have low consumption and located away from other villages and cities, because this alternative has a low cost and it able to provide any home at Darfur with limited electricity supply. Therefore, to increase energy justice and provide all Darfur citizens with electrical supply this paper recommends:

- 1- Alternative 2: REIPP procurement programs.
- 2- Alternative 3: SHSs awareness programs for co-ops to provide citizens, who live in villages that isolated from other villages and cities and have low energy consumption.

## Implementation:

Firstly, to implement the recommendations the government should classify Darfur to two categories; first one, cities and villages that have high consumption, second, villages that located away from the other villages and cities and have low power consumption. The electricity supply for the first category would be through REIPP procurement programs, and for the second category would be through private SHSs.

As the Sudanese government exempts equipment that is used in renewable energy generation from customs and subsidies the electricity, the implementation of REIPP procurement programs and installation of SHSs would be reasonable. In addition, the government should:

- 1- Design the procurement process and contracts of REIPP procurement programs in a way that ensures accountability and answerability.
- 2- Contract with the REIPP in USD and the payment should be in SDG using the updated rate (explanation is mentioned in the alternative 2 discussions).
- 3- Design and conduct the SHSs awareness programs for local co-ops in a way that ensures the accountability and effectiveness of these programs.

While the capacity of the national utilities is not capable to provide the citizens with more than 20 percent of their electrical supply needs, there would not be any conflict of interest between the REIPP procurement programs and the national utilities. Detailed stakeholder analysis is attached in **Appendix B**.

## Conclusion:

In conclusion, this paper discusses the issue of shortage of electricity in Darfur, which contribute to maintaining poverty. This shortage of electricity is caused by (1) Geographic characteristics that make connecting Darfur with national electricity grid very expensive. (2) Lack of fuel that limits the production of energy using the diesel. (3) The economic deficit that hinders the establishment of local renewable energy station by the government.

This paper recommends REIPP procurement programs policy to provide Darfur's city and villages with energy because REIPP procurement programs could provide Darfur with stable and sufficient energy. In addition to its ability to reduce the tariffs significantly. While REIPP procurement programs policy has a failure in providing villages that have low consumption of energy, this paper recommends SHSs awareness programs for cooperatives as policy for these villages to encourage their citizens to invest in private SHSs.

These two policies could increase electricity supply in Darfur in a way that could contribute to energy justice, poverty reduction and development.

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## Appendix A: Decision Criteria:

### **1- Sufficiency**

This indicator concerns about the capacity of energy production, the alternative that will be able to provide Darfur's citizens with maximum energy capacity for home usage would score the highest score in this criteria. Both REIPP procurement programs and FITs would supply Darfur homes with high capacity of energy. On the other hand, SHSs could provide Darfur with low energy capacity, which is not sufficient for all home uses.

### **2- Cost efficiency:**

This indicator concerns about the energy cost for citizen and government, the alternative that has the lowest cost would score the highest score. REIPP procurement programs and FITs in addition to their administrative cost they would cost the government and the citizens a running cost, which is related to buying energy in KW by citizens and subsidies quota of the energy by the government, because the Sudanese government subsidies a quota of energy for each citizen monthly. But the tariff of REIPP procurement programs policy would reduce significantly in a short time. On the other hand, SHSs would cost the government an administrative cost for conducting the awareness sessions and cost the citizens initial and maintenance costs, all these costs would be less than the running cost of buying energy monthly in the long term.

### **3- Accessibility**

This indicator concerns about providing energy for all Darfur's citizens regardless of the capacity of energy, location of citizen and the cost. Then, the alternative that could provide accessible energy for the maximum number of citizens would score the highest score. Both REIPP procurement program and FITs faces a challenge in providing accessible energy for villages that scattered far away from other cities and villages and have low energy consumption. Because such villages would not attract investors to establish generation station due to the low investment return. On the other hand, SHSs could be bought by all citizens, which means SHSs could provide accessible energy for the largest number of citizens.

### **4- Contribution for productive sectors:**

This indicator measures the ability of alternatives to supply the productive sectors with sufficient, stable and high-quality energy. Then the alternative that could provide the productive sectors with sufficient and stable energy would score the highest. Since REIPP procurement programs and FIT would contribute in the establishment of generation station with large capacity or capacity based on the estimated required power, both of them could provide the production sectors with sufficient and stable energy. Moreover, the stations that could initiate through REIPP procurement programs and FIT have high interest to provide productive sectors with enough energy, because these sectors would increase the profit of the investors due to its high consumption. On the other hand, SHSs haven't enough capacity to supply productive sectors with energy.

## 5- Sustainability:

This indicator concerns about the ability of the systems established by the alternatives to be part of the national electricity grid in the future. While the generation stations and distribution networks of the systems that established through REIPP procurement programs and FIT are connectable to the national grid, in the long term these stations and networks could be part of the national grid, which will reduce the cost of national grid extension. On the other hand, SHSs are standalone systems, therefore in the long term, they couldn't be connected to the national grids. So, they would be replaced with other components and would cost the citizens (or the government) additional costs.

<b>Criteria (Maximum Score)</b>	<b>FITs policy</b>	<b>REIPP procurement programs policy</b>	<b>SHSs awareness programs for co-ops policy</b>
<b>Sufficiency (3)</b>	3 Provides citizens with sufficient energy for home uses	3 Provides citizens with sufficient energy for home uses	2 Provides citizens with limited energy for home uses
<b>Cost efficiency (4)</b>	1 In addition to administration cost it has running cost for buying energy (tariffs).	2 In addition to administration cost it has running cost for buying energy (tariffs).But, the tariffs would be reduced because of the competitive process.	4 In addition to awareness session cost, it have the initial cost to install SHSs and maintenance cost. These costs are less than the running cost in the long term.
<b>Accessibility (3)</b>	1 It couldn't provide energy for the villages that have low consumption.	1 It couldn't provide energy for the villages that have low consumption.	3 It code provide accessible energy for all Darfur's citizens.
<b>Contribution to the productive sector (3)</b>	3 It could supply the productive sectors with energy.	3 It could supply the productive sectors with energy.	1 It couldn't provide energy for the productive sectors.
<b>Sustainability (3)</b>	3 In long term, it could be connected to the national grids.	3 In long term, it could be connected to the national grids.	1 In long term, it should be replaced with another components to connect homes to the national grids.
<b>Total Score (16)</b>	11	12	11

## Appendix B: Stakeholder analysis:

Stakeholders	Impact	Analysis	Recommendations
<b>Citizens who are targeted by REIPP procurement programs.</b>	Medium	<ul style="list-style-type: none"> <li>- They are the main beneficiaries, they would support the programs.</li> </ul>	
<b>Citizens and co-ops who are targeted by SHSs awareness programs.</b>	High	<ul style="list-style-type: none"> <li>- They are the main beneficiaries, and if they have any negative image about the SHS they could not install the system.</li> <li>- Also, if they couldn't finance the SHSs the SHS awareness program would be failed.</li> </ul>	<ul style="list-style-type: none"> <li>- Increase their awareness through awareness sessions and practical sessions with SHS to increase their knowledge and trust in SHSs systems. Also, the sessions must focus on the co-ops because of their role in creating social support for SHSs.</li> <li>- The government should keep the customs exemption for SHSs, to keep SHS's prices low. Also, the co-ops could play a major role in (1) Reducing SHSs prices by purchasing a large quantity of SHSs, contracting with suppliers at reasonable prices. (2) Financing and support SHSs purchasing. So, the awareness program should convince co-ops to invest in SHSs.</li> </ul>
<b>Investors</b>	High	<ul style="list-style-type: none"> <li>- While the inflation rate in Sudan is high and unstable and the revenue of REIPP programs would be earned on the long-term, the investors in the REIPP procurement program could be discouraged.</li> </ul>	<ul style="list-style-type: none"> <li>- The government should contract with investors in REIPP programs in USD. As result, the revenue of investors would not be affected by the inflation.</li> </ul>
<b>National utilities</b>	High	<ul style="list-style-type: none"> <li>- Since the production of national utilities is failed in cover the need of the market and the gap between the supply and demand is large, there would not be any conflict between utility's interest and recommended policies.</li> </ul>	<ul style="list-style-type: none"> <li>- REIPP procurement programs and SHSs awareness programs should be implemented to bridge the gap between the demand and supply only. So, these programs would be a supporter of utilities instead of being a competitor.</li> </ul>

<b>Sudanese Ministry of Finance and Economic Planning</b>	High	<ul style="list-style-type: none"> <li>- Due to the long-term cost of subsidising electricity of REIPP programs, it should be an opposed to the REIPP procurement programs policy.</li> </ul>	<ul style="list-style-type: none"> <li>- In the current policy the ministry pay the cost of the establishment of renewable energy stations in the initiation of the project, through REIPP procurement programs it would pay the cost of the establishment of the stations in a long period, which is better for the ministry, because it unable to pay the cost within the establishment period.</li> <li>- The ministry already subsidies quota of electricity for all citizens, so REIPP programs policy is consistent with the subsidization policy and deal with the problem of the current deficit.</li> </ul>
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