

# SCALING-UP RENEWABLE ENERGY PROGRAM IN GHANA (SREP-GHANA)

## TERMS OF REFERENCE FOR THE JOINT MISSION



*Proposed Dates: February 9-18, 2015*



## **EXECUTIVE SUMMARY**

### **Objective and Scope of the Joint Mission:**

The main objective of the Joint Mission (“the Mission”) is to support the Government of Ghana (GoG) in designing the SREP Investment Plan (IP). In consultation with stakeholders, the Mission will: (i) review and validate the suggested investment priorities; (ii) collect all the necessary elements to ensure the finalization of an advanced draft of the Investment Plan; and (iii) develop investment concept briefs of the projects that will enable the implementation of the Investment Plan under Phase 2.

**Dates of the Mission:** The proposed dates for the Joint Mission are February 9-18, 2015.

**The MDB Mission Composition:** The African Development Bank (AfDB) and the International Finance Corporation (IFC). The World Bank will participate in key meetings as well.

### **Government Contacts:**

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### **Activities to be undertaken during the Mission**

The main activities of the Mission will be to: (i) conduct stakeholder consultations through workshops and meetings to discuss the strategic role of the investment priorities proposed by the GoG, and to identify potential co-financiers; (ii) assist the GoG in finalizing and validating the identified investment priorities; (iii) support the design of the various program/projects’ concept notes that will lead to the implementation of the SREP IP under Phase 2; and (v) initiate the work related to the IP environmental and social issues, as well as the development of the Monitoring and Evaluation (M&E) framework for the program.

Activities in the Mission will be conducted in a participatory and consultative manner, so that all stakeholders have an opportunity to indicate how SREP resources can be utilized to assist the GoG in the scaling-up of renewable energy investments in the country.

**Expected Results and Outcomes:**

The main deliverables for the Mission are: (i) the investment priorities discussed and agreed upon with national stakeholders; (ii) based on the discussion with government authorities and stakeholders including NGOs and private sector, investment concept briefs for the implementation of the IP prepared; (iii) the draft IP substantially completed and agreement on how to fill any gaps to finalize the same; and (iv) an Aide Memoire describing key findings and recommendations of the Mission as well as agreed next steps for SREP Ghana



## **CONTEXT OF THE JOINT MISSION**

1. Ghana is one of fourteen new pilot countries selected to benefit from the Scaling-Up Renewable Energy Program (SREP) in Low Income Countries. SREP operates under the Climate Investment Funds (CIF). The objective of the SREP is to pilot and demonstrate the economic, social and environmental viability of low carbon development pathways in the energy sector by creating new economic opportunities and increasing energy access through the use of renewable energy. CIF resources are available through Multilateral Development Banks (MDBs), and in the case of the SREP program for Ghana, the African Development Bank (AfDB) and the World Bank Group (WBG), including the International Finance Corporation (IFC), will jointly support the preparation of the SREP program, with the AfDB acting as the lead institution.
2. The SREP aims to demonstrate the social, economic, and environmental viability of low carbon development pathways in the energy sector. It seeks to create new economic opportunities and increase energy access through the production and use of renewable energy. The SREP program will enable Ghana to initiate the process to achieve a transformational change that will lead the country towards a low GHG emission development. SREP will assist Ghana in achieving its carbon abatement strategy and reduce its reliance on expensive, often imported, fossil fuels.
3. The private sector, as the basis for economic growth, has an important role to play in promoting renewable energy development and increase electricity access. While ensuring greater energy security in Ghana, investments in renewable energy projects are expected to expand opportunities for private sector participation and development, to increase employment opportunities, to contribute to the growth of lower-carbon economies, and, not least, to result in improved livelihoods for women, men, and children. Presently, Ghana is among the lowest emitters of GHG; however, its rapidly growing population and energy demand growth rates require a significant increase in the supply of reliable and affordable renewable energy solutions. By opting for an Investment Plan that combines public sector and private sector interventions, the SREP will work to remove economic barriers (among others) and increase private investments in support of achieving the objectives of the SREP. In general, the program will address a variety of barriers encountered by investors, including, among others: (i) first-mover risk (ii) comparably higher total project costs of renewable energy plants compared to fossil-fuel projects, (iii) the requirement of higher feed-in tariffs, iv) regulatory risk, and v) price/market risk (in cases where adequate PPAs cannot be secured). Improved market and financial conditions, as well as strengthening of investors' confidence, could facilitate to low carbon energy pathway by stimulating public and private investments in renewable energy projects.
4. As per the SREP programming modalities, financing from SREP is guided by a number of principles. The SREP financing should:
  - address the additional costs and risks associated with renewable energy technologies, which adversely affect the viability of investments;
  - meet the specific requirements of removing financial and institutional barriers and to leverage additional public and private financing;
  - “crowd-in” the private sector;
  - finance investments and capacity building for both public and private sector entities;
  - increase the installed renewable energy capacity in a country's energy supply in line with national energy plans;
  - support proven renewable technologies.

5. The SREP program will support several types of activities under a SREP IP prepared for each pilot country, based on the specific requirements of the country. An IP can include capacity building and advisory services to support delivery and results, and investment leading to deployment of different renewable energy technologies. The IP will seek to:
  - demonstrate transformative impact;
  - strengthen enabling environment for scaling-up renewable energy;
  - build implementation capacity;
  - catalyze increased investments in renewable energy;
  - improve the long-term economic viability of the renewable energy sector; and
  - increase energy access.
  
6. One of the Program’s objectives will be to support innovative private sector investments in this area. The private sector will have a decisive role in contributing to the targets of GoG to diversify its energy sector, lower electricity production costs and contribute to the transformation of its market to a low-carbon economy. SREP funds will be catalytic in facilitating investments and the involvement of MDBs will ensure that international best practices are being applied with regards to issues such as environmental, social standards, governance, and bidding processes.

### **PREPARATORY ACTIVITIES**

7. Since Ghana was selected as a new SREP pilot country, the GoG, supported by the MDBs, has undertaken a number of preparatory activities, including the: (i) organization of a Scoping Mission in December 2014 during which the responsible agency for SREP programming was identified, Task Force and Consultative Group for the preparation of SREP were respectively formed, and consultations with national stakeholders were initiated; (ii) participation to the ‘Investment Planning Toward Low Emissions Development’ on line course delivered by the World Bank Institute and the CIF; (iii) organization of working sessions for the SREP National Task Force to develop the IP established. On this basis, the preparation of the Ghana SREP IP has been initiated.
  
8. The Scoping Mission with representatives from the AfDB and observers from the United States Agency for International Development (USAID), the State Secretariat for Economic Affairs (SECO) from Switzerland, the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ), and the Sustainable Energy for All (SE4All) secretariat took place from December 1-4, 2014 in Ghana. The objective of the Scoping Mission was to launch the preparation of the SREP Investment Plan (IP), including discussing the programming and financing modalities, collecting information on ongoing and planned renewable energy initiatives, clarifying the institutional arrangements for the IP preparation, and agreeing on a timeline and resources required for the IP preparation.
  
9. The Scoping Mission had extensive discussions with the Government team led by the SREP National Focal Point, Mr. Seth Mahu, Deputy Director Renewable Energy Directorate, at the Ministry of Energy and Petroleum (MoEP) <sup>1</sup> and including representatives from the Ministry of Finance, the Energy Commission, the Public Utilities Regulatory Commission (PURC), Northern Electricity Distribution Company (NEDCO) and Ghana Grid Company (GRIDCo). The Scoping Mission also benefited from the consultations it had with the Kumasi Institute of Technology and Environment (KITE) and private sector developers and manufacturers. The Scoping Mission also actively engaged

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<sup>1</sup> The Ministry of Energy & Petroleum has now been split into two separate Ministries (Ministry of Power and Ministry of Petroleum) through an Executive Instrument. SREP Activities are now anchored by the Ministry of Power.

energy sector development partners, including the Agence Française de Development (AFD), the European Union (EU), the Spanish Embassy, the Norwegian Embassy, the United Nations Development Programme (UNDP), who provided valuable inputs.

10. The Scoping Mission findings confirmed the GoG commitment to mitigate and adapt to climate change by broadening renewable energy and its capacity to prepare the SREP Investment Plan. The Scoping Mission found that some elements of the strategic and regulatory framework required to scale up renewable energy (RE) are in place; however, some entities such as the Renewable Energy Authority and Renewable Energy Fund still need to be operationalized. The Joint Mission will discuss which activities and investments are best suited to overcome the identified gaps and help scale up RE in Ghana.
11. Following the Scoping Mission, the Government and the MDBs have been working closely, especially to finalize and follow-up on the action items agreed in the Aide Memoire and to prepare the TORs for the Joint Mission.

## ***JOINT MISSION ACTIVITIES***

### **Objective of the Joint Mission**

12. The objective of the Joint Mission (“the Mission”) is to support the Government of Ghana (GoG) in designing the SREP Investment Plan (IP). In consultation with stakeholders, the Mission will: (i) review and validate the suggested investment priorities; (ii) collect all the necessary elements to ensure the finalization of an advanced draft of the of the Investment Plan; (iv) work on M&E, environmental and social safeguards, and knowledge management aspects, and (iv) develop investment concept briefs of the projects that will enable the implementation of the Investment Plan under Phase 2. The focus will be to facilitate the development of renewable energy projects that would not materialize without SREP involvement, thereby promoting investment in innovative renewable energy technologies and the participation of the private sector.

### **Scope of the Joint Mission**

13. **Validation of the Investment Priorities.** The Mission will collectively validate the strategic investment priorities for the scaling-up of renewable energy in Ghana. This work will be done through the following steps:
  - Before the Mission, the GoG will prepare a first draft of the Investment Plan, undertaking the following steps: (i) assess electricity demand and needs; (ii) assess the renewable resource potential; (iii) construct and analyze the supply cost curve; (iv) define the investment objectives; (v) select technologies and business models; (vi) estimate investment and operating costs; (vii) identify the financing instruments; (viii) review the adequacy of policy, regulatory, and legal framework for renewable energy development; (ix) propose institutional/organizational arrangements for implementation; (x) establish capacity-building needs; (xi) assess risks and design mitigation measures; and (xii) develop the financing plan.

- As part of the Mission, and during a technical workshop<sup>2</sup>, the GoG will present the proposed investment priorities and the outcomes of discussion with national stakeholders.
  - During the Mission, a series of meetings will be held to discuss with stakeholders the proposed investment priorities and pre-identify projects to be implemented after the IP has been approved.
14. **Preparation of an Advanced Draft of the Investment Plan.** MDBs will support the GoG in drafting an advanced draft of the IP. For this purpose, a small group composed of MDBs staff and members of the SREP National Task Force in Ghana will work together to draft the document, in parallel with other mission activities. The drafting of the document will be continued during the weeks following the Mission by the same group. In accordance with the “SREP Programming Modalities and Operational Guidelines,” a suggested structure of the Investment Plan is as per *Annex 1*.
15. **Development of Investment Concept Briefs.** The Investment Plan will need to include investment concept briefs on individual projects to be implemented after the IP has been approved. The investment proposals should address the criteria in *Annex 2* as appropriate. A suggested outline for an investment concept brief is attached in *Annex 3*.

### Roles and Responsibilities of the Government and the MDBs

16. The Mission will be led and hosted by the GoG under the leadership of the Ministry of Power (MoP). The Government has decided to share the tasks among the members of the SREP Task Force as in the Table 1 below. In addition, the implementing agencies of Phase 2 projects have been tasked to prepare draft investment concept briefs to facilitate discussions during the joint mission.

**Table 1: Roles of SREP TF**

Task 1: Preparation of the Joint Mission	MDBs
Task 2: First draft of the IP ready at least one week in advance to the Joint Mission	MoP and NTF with support from AfDB
Task.3: Mobilization of the Private Sector	MoP with support from AfDB
Task 4: Reporting for the workshop	MDBs
Task 5: Assessment of social and environmental issues	AfDB
Task 6: Definition of the M&E framework	AfDB
Task 7: Definition of knowledge management and capacity building program	MoP with support from AfDB
Task 8: Produce advance draft of IP, including investment concept briefs	MoP and NTF with support from MDBs
Task 9: Write Up of the Mission Aide Memoire	MDBs with support from MoP/NTF

17. The AfDB will lead the Mission, with support from the IFC, with the WB contributing to few meetings. Following discussions between the three organizations, it was agreed that the responsibilities would be shared as follows:

<sup>2</sup> The Terms of Reference of the workshop will be developed by the SREP Task Force at least 15 days before the beginning of the Joint Mission.

**Table 2: Roles of MDBs**

AfDB	<ul style="list-style-type: none"> <li>(i) Prepare the Mission overall plan/schedule– the workshop + the series of meetings + reporting;</li> <li>(ii) Lead the write up (support) of the Investment Plan;</li> <li>(iii) Lead the work on environmental and social safeguards;</li> <li>(iv) Lead the development of the M&amp;E framework;</li> <li>(v) Lead the write up of the Mission Aide Memoire;</li> <li>(vi) Co-Lead the mobilization of the private sector wit IFC;</li> <li>(vii) Ensure finalization of the Investment Plan and its submission to SREP Sub-Committee following the Mission, as per the timeline agreed during the mission.</li> </ul>
WB	<ul style="list-style-type: none"> <li>(i) Ensure close linkages with the ongoing WB-funded activities on promotion of renewable energy investments in Ghana;</li> <li>(ii) Support the preparation of the Investment Plan.</li> </ul>
IFC	<ul style="list-style-type: none"> <li>(i) Help mobilize the Private Sector before, during the Mission + reporting;</li> <li>(ii) Ensure close linkages with the ongoing IFC-funded activities on promotion of renewable energy investments in Ghana;</li> <li>(iii) Support the finalization of the Aide Memoire and the Investment Plan.</li> </ul>

### Consultations with Stakeholders

18. During the Mission, consultations with key stakeholders in the country will be held, including national institutions/authorities, development partners, civil society organizations, local communities and the private sector. Consultation workshops as well as a series of meetings will be organized as part of the Mission to identify and validate concrete opportunities for investment that could lead to large-scale development of renewables. A field visit will be organized to a solar PV assembly plant under construction in Tema and grid-interacted solar PV plant at the University of Ghana, all in Accra.
19. Consultations with stakeholders, already initiated during the scoping mission, should help strengthen national ownership, mobilize co-financing for SREP investments, harmonize support to public policies and promote complementarity with ongoing or planned activities. Additional financial resources mobilized to complete SREP funding will be included in the Investment Plan.
20. The Mission endeavors to consult, among others, the following actors, either through meetings (group or bilateral), or as part of the planned technical workshop:

#### National Institutions:

- Ministry of Power (MoP), Ministry of Finance, Energy Commission, Public Utilities Regulatory Commission (PURC), Northern Electricity Distribution Company (NEDCO) and Ghana Grid Company (GRIDCo), Electricity Company of Ghana (ECG), Volta River Authority (VRA), Bui Power Authority (BPA), Environmental Protection Agency.

#### Private Sector Organisations:

- NEK
- Tradeworks
- 3SiL
- Wilkins Engineering Limited



**Civil Society Organisations:**

- Kumasi Institute of Technology and Environment (KITE)
- Association of Ghana Solar Industry (AGSI)
- SNV Netherlands Development Organization

**Development Partners:**

- Agence Française de Développement (AFD)
- European Union (EU)
- Spanish Embassy
- Norwegian Embassy
- United Nations Development Programme (UNDP)
- United States Agency for International Development (USAID)
- State Secretariat for Economic Affairs (SECO) from Switzerland
- Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ)
- The UN SE4All Secretariat, Ghana

***COMPOSITION OF THE MISSION***

21. The mission will consist of many experts from the AfDB and the IFC/WB, supported by a few consultants supporting the Phase 1 activities. Some experts will work from their respective headquarters, not all will join the mission in Ghana but are expected to join by video or audio conference as needed. The areas of expertise include:

- Energy / RE Specialist
- Energy Economist
- CIF/SREP Coordinator
- Climate Change Specialist
- Private Sector Specialists
- Country Economist
- Power Engineer
- Social Development / Gender Specialist
- Monitoring and Evaluation Specialist
- Financial Specialist
- Program Assistant

22. The detailed roles of the Mission participants, including the Government, are available in Annex 4.

23. In addition to MDBs experts and GoG staff, the mission will be based on the broad participation of national stakeholders. This broad participation is designed to ensure ownership of the program and support its implementation by the Government, national stakeholders and development partners.

***MISSION SCHEDULE***

24. A preliminary schedule is proposed in Table 3 below for the mission activities. This calendar will be further refined in the coming weeks and specific agendas will be developed for the workshop, working groups, various meetings.

**Table 3: Preliminary Schedule of the Joint Mission**

	Day 1	Day 2	Day 3	Day 4	Day 5	Weekend	Weekend
AM 8:30 to 12:30	<ul style="list-style-type: none"> <li>MDBs Internal meeting</li> <li>Inception meeting with MoP, MoF, NTF</li> </ul>	Meeting with NTF/MoP on draft SREP IP	Consultation with; <ul style="list-style-type: none"> <li>National institutions</li> <li>CSO/NGO</li> </ul>	SREP IP validation work in progress - including key institutional aspects and priority investments suggested	Technical session/workshop for SREP presentation and prioritization with national stakeholders	Field visits	
PM 14:30 to 17:00	<ul style="list-style-type: none"> <li>Finalization of JM schedule and logistics for the mission, including the workshop</li> </ul>	Meeting with private sector	<ul style="list-style-type: none"> <li>Development Partners</li> </ul>	SREP IP validation work in progress – including M&E work, as well as knowledge management and capacity building			
19:00		<i>MDB core team to summarize meetings of the day</i>	<i>MDB core team to summarize meetings of the day</i>	<i>MDB core team to summarize meetings of the day</i>		<i>Task force and MDB core team to prepare workshop report</i>	
	Day 6	Day 7	Day 8				
AM 8:30 to 12:30	<ul style="list-style-type: none"> <li>Discussion of outcome of technical workshop</li> <li>Validate SREP IP priorities</li> </ul>	SREP IP validation work in progress – including investment concepts	Finalization of JM AM				
PM 14:30 to 17:00	<ul style="list-style-type: none"> <li>SREP IP validation work in progress – including environmental and social aspects</li> </ul>	Preparation of JM AM	Wrap of JM				
19:00	<i>MDB core team to summarize meetings of the day</i>						

***MAIN CONTACTS (MDBs and the Government)*****Government of Ghana****Seth Agbeve MAHU**

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## **Annex 1: Suggested Structure for the Investment Plan**

### **I. Proposal Summary (2 pages)**

- Objectives
- Expected outcomes
- Program criteria, priorities and budget

### **II. Country Context (3-4 pages)**

- Energy sector description (market structure, demand supply, and dispatch composition, electricity cost and pricing) incl. renewable energy status
- Gap/barrier analysis; needs assessment

### **III. Renewable Energy Sector Context (3-4 pages)**

- Analysis of RE options (technology, cost, mitigation potential, barriers)
- Government plans or strategy for the sector (willingness to move towards renewable energy investments, existing or envisioned policy, regulation, plans, and resource allocation)
- Institutional structure and capacity (technical, operational, financial, equipment supply, information)
- Role of private sector and leverage of resources
- Ongoing/planned investment by other development partners

### **IV. Contribution to National Energy Roadmap (2 pages)**

- Likely development impacts and co-benefits of SREP investment
- How SREP investment will initiate a process leading towards transformational low carbon growth

### **V. Program Description (6-8 pages)**

- Capacity building and advisory services
- Investment preparation activities
- Technology deployment investments
- Parallel activities to be funded by other development partners
- Environmental, social and gender co-benefits

### **VI. Financing Plan and Instruments (3-4 pages)**

- Budget envelop for investments
- Costs and sources of funding
- SREP assistance (grant, concessional debt, etc.)
- Recipients of funding

### **VI. Additional Development Activities (2-3 pages)**

- Leverage complementary co-financing with other development partners such as bilateral, private sector, and financial institutions

### **VII. Implementation Potential with Risk Assessment (2 pages)**

- Country/regional risks - institutional, technology, environmental, social, financial
- Absorptive capacity for SREP and leveraged resources

#### **VIII. Monitoring and Evaluation (1/2 page)**

- Results framework table

#### **Annexes**

Information should be included in annexes on the following areas:

- assessment of country's absorptive capacity
- stakeholder consultations
- co benefits
- existing activities in the field of renewable energy, particularly activities of other development partners

## Annex 2: Criteria for Investments

As stipulated in the “SREP Programming Modalities and Operational Guidelines,” briefs for investment should address the following criteria, as appropriate. It is recognized that a particular investment may not address all the criteria.

- a) **Increased installed capacity from renewable energy sources:** A high priority for most low income countries is expanding their generation capacity in order to ramp up modern energy use and energy access. Therefore, SREP-funded investments should result in increased MW from renewable energy, as well as increased energy (GWh) per capita in the country.
- b) **Increased access to energy through renewable energy sources:** SREP may support grid extensions and decentralized energy systems with a view to expanding the percentage of the population with access to non-fossil-fueled electricity. Investment proposals should demonstrate how the investments are part of the Government’s long term commitment to increasing energy access.
- c) **Low Emission Development:** SREP may support the use of renewable energy technologies for electricity generation and services to replace fossil fuel technologies that would be deployed in a business-as-usual scenario aimed at substantially increasing commercial energy use in low income countries. In particular, benefits from SREP investments will often arise from “leap-frogging” technologies, in which low income countries will be assisted to mainstream renewable energy technologies into the overall energy system.
- d) **Affordability and competitiveness of renewable sources:** Affordability is essential for increasing access and for ensuring the long term renewable energy market development. SREP funding should address clearly-defined cost barriers to adoption of renewable energy technologies, such as connection costs for rural consumers, higher capital costs of new technologies, transmission costs related to grid-connected renewables, and risk adjusted rates of return sought by investors.
- e) **Productive use of energy:** SREP programs should promote the generation and productive use of energy.
- f) **Economic, social and environmental development impact:** Investment proposals for SREP financing should demonstrate the generation of economic, social and environmental benefits.
- g) **Economic and financial viability:** Investment proposals should demonstrate the economic viability of investments and the financial viability with the inclusion of time bound SREP resources.
- h) **Leveraging of additional resources:** Activities should maximize the leverage of funds from other partners.
- i) **Gender:** SREP investments should seek to strengthen the capacity of women to be active participants in the economic sector and avoid negative impacts on women.
- j) **Co-benefits of renewable energy scale-up:** SREP investments should include decreased air pollutants from energy production and consumption as well as the potential to reduce stress on forest resources. Investments and activities should elaborate on the potential positive effects on air quality and natural resource management through the adoption of renewable energy technologies.

**Annex 3 : Suggested Outline for an Investment Concept Brief**

For each Investment Plan component, an investment concept brief (maximum two pages) should be provided as annex that includes:

- Problem statement (1-2 paragraphs)
- Proposed contribution to initiating transformation (1-2 paragraphs)
- Implementation readiness (1-2 paragraphs)
- Rationale for SREP financing (1-2 paragraphs)
- Results indicators
- Financing plan
- Project preparation timetable
- Requests, if any, for investment preparation funding

#### Annex 4: SREP National Task Force and Joint-Mission MDB Team Composition

Note: Not all MDB experts will attend the mission at the same time; areas of expertise will be used at best to complement each other. It is understood that the Government is leading the mission and that the MDBs and other development partners will provide support.

SREP National Task Force (host)					
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Volta River Authority	Not yet	-	-	-	-
Bui Power Authority	Not yet	-	-	-	-
GRIDCo	Benjamin Ntsin	Transmission System Planning	<a href="mailto:Benjamin.ntim@gridcogh.com">Benjamin.ntim@gridcogh.com</a>	-	Yes
EGC	Not yet	-	-	-	-
NEDCo	Moses Tawiah	Distribution system planning	<a href="mailto:mtawia@yahoo.com">mtawia@yahoo.com</a> <a href="mailto:moses.tawiah@vra.com">moses.tawiah@vra.com</a>	+233244546588	Yes
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	Angelo Bonfiglioli	M&E – Environmental and social aspects (consultant)			N (will work from home)
	Consultant	Renewable Energy Expert (consultant)			Under recruitment
<b>World Bank</b>					
	Carol A. Litwin	Energy specialist	<a href="mailto:clitwin@worldbank.org">clitwin@worldbank.org</a>		Yes
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