

# CLAUSE INSIGHTS



## The Pitfalls of Take-or-Pay Clauses: Challenges for Renewable Energy Projects

Many governments are looking increasingly to renewable energy as key to ending energy poverty and meeting their emissions targets. In view of this, energy contracts involving renewable energy independent power producers and governments, have been signed at several levels. Certain clauses included in such contracts, however, have continuously had problematic results in several cases. One such clause is the take-or-pay (TOP) clause.

TOP clauses, while commonly recognized in gas contracts, are also very relevant to renewable energies and present significant challenges in renewables contracts around the world. TOP clauses require the buyer (usually the government or a state-owned utility) to either take the agreed quantity of goods or services or pay a penalty for failing to do so.

## UNDERSTANDING TAKE-OR-PAY CLAUSES

TOP clauses ensure a guaranteed revenue stream for energy producers by obligating buyers to either purchase a minimum amount of energy or pay a penalty equivalent to the shortfall. This mechanism is intended to mitigate financial risks associated with demand fluctuations and provide stability for long-term investments. A sample example TOP clause may be found in a [PPA template developed by the World Bank](#), which states that:

*Subject to, and in accordance with, the terms of this Agreement, the Developer shall make available and sell to Utility, and Utility shall purchase from Developer (on a “take-or-pay” basis), the Net Energy Output of the Project, up to a maximum of [maximum output capacity or lesser contracted amount] plus or minus [variance allowance, based on manufacturer specifications] percent, beginning on the Commercial Operations Date.*

In the strictest cases, the maximum capacity is specified as the maximum output capacity of the renewable energy IPP.

## TAKE-OR-PAY'S FINANCIAL CONSEQUENCES

While designed to provide revenue certainty for energy producers (investor), this clause has introduced a range of challenges and inefficiencies in the context of Africa's dynamic and developing energy markets.

In Nigeria, the Nigerian Bulk Electricity Trading (NBET) company entered into multiple TOP agreements with gas suppliers to ensure a steady supply of gas to power plants. However, due to issues such as inefficiencies in the power transmission infrastructure, low electricity demand, and inability to pay for the gas, NBET has struggled to meet its TOP obligations. This has resulted in significant financial penalties, exacerbating the financial strain on the already struggling power sector. It is estimated that NBET had paid a total of \$105 million US and \$32 million US in 2018 and 2019 for unused electricity and gas respectively. In addition, the penalties incurred due to unmet TOP obligations have diverted funds from other critical areas, such as infrastructure development and maintenance, resulting in power outages and a failure to improve the power grid's reliability.

In South Africa, agreements under the Renewable Energy Independent Power Producer Procurement Programme (REIPPPP) include TOP clauses. Such (TOP) clauses mean that even in instances where demand is low or more cost-effective energy sources are available, the power system operator, Eskom, has to take the power produced by such facilities or pay deemed energy payments should it choose to curtail the output from such facilities. This has occasionally led to oversupply situations where excess energy cannot be efficiently utilized.

These problems increase debt risk for African countries that are already financially stretched. For instance, Ghana, which signed at least 46 PPAs between 2011 and 2016 period, pays an estimated \$450 million annually for power and gas that it does not need or use under these contracts. For Ghana, where special terms within contracts are sometimes publicized, out of 32 current PPAs, only 11 have their payment obligations made public, and all 9 of those have TOP obligations, while 2 others have Take and Pay (TAP) obligations. While the solar projects among these have TAP obligations, there are 11 solar, one biomass and one sea wave power renewable energy PPAs which have been signed but are not yet under construction.

The over indebtedness of the Electricity Company of Ghana (ECG) and the overcapacity to the tune of 2,000 megawatts contributed to the ECG's decision in 2018 to suspend the issuance of licenses for utility-scale solar PV and wind power plants – a moratorium which was not lifted until 2023.

Nigeria has the largest population of energy poor in the world and developed Africa's first comprehensive energy transition plans in 2022. The country's government signed, in 2016, PPAs with 14 IPPs worth \$2.5 billion for the construction of 1,120 megawatts of grid-connected solar and seeks to scale its renewable energy capacity through such projects. It is therefore important to address the pitfalls of TOP clauses if the energy transition is to avoid unjust outcomes. This is especially so as there is a global tendency for project developers, financiers, utilities, or the host governments to not disclose contractual details of PPAs. More adaptable and context-sensitive contracts are needed to support sustainable and reliable energy systems in Africa.

## IMPROVING TAKE-OR-PAY CLAUSES

Through thoughtful and proactive policy interventions, governments worldwide can overcome the challenges associated with take-or-pay clauses, ensuring that renewable energy projects thrive and contribute to the continent's economic and environmental goals. The following steps can be taken to cushion the take-or-pay clauses in renewable energy contracts:

### 1. Flexible Contract Structures

- » To mitigate the inflexibility of traditional take-or-pay clauses, contracts should incorporate more flexible terms. This can include mechanisms that allow adjustments based on actual demand patterns or seasonal variations (especially for industrial clients).
- » Aligning supply commitments more closely with **realistic** demand projections (neutral third party or examining the demands of countries in similar circumstances to assist in forecasting) enables utilities to manage financial obligations better and reduce wasteful expenditures on unused energy.
- » Another way of embedding some flexibility is to require payment for a certain percentage of the produced energy. For instance, instead of specifying a 100% TOP provision in the PPA, a lower percentage, such as 80% or 70% may be stated. This means that, if less than the full output of the Project is contracted, the PPA should specify a minimum take amount (e.g. 70%), as well as the maximum, in the capacity or energy units on which payments will be based.
- » More so, it is necessary for African governments to fully consider the difference between “need” and “demand” and those that will actually buy the energy.

### 2. Introducing Take-and-Pay Provisions

- » An alternative to the take-or-pay clause is the take-and-pay provision, where buyers pay only for the energy they consume. This shifts more risk to producers but aligns energy production more closely with actual market demand. To balance this risk, contracts could include incentives for grid reliability and penalties for non-delivery. Investors would likely demand higher tariffs or rates to compensate for the increased risk and flexibility, ensuring potential revenue shortfalls are covered when energy consumption fluctuates.
- » To safeguard their interests, investors might also seek clauses imposing penalties on off-takers for consistently failing to meet agreed-upon consumption levels, along with future clauses to adjust terms if off-taker performance deviates significantly from projections.
- » Study the alternative of contracts with supply from a matrix of different renewable energy sources to compensate for the surplus or deficit in energy production during different seasons. In addition, consider the design of a renewable system that supplies a lower percentage than required and complement it with non-renewable sources that ensure supply in times of high demand with penalties or differentiated prices.
- » To address inflation and the reduced purchasing power of later payments, the payment terms could be indexed to a publicly accepted monitoring mechanism, such as the Consumer Price Index (CPI) or a specific energy index. This indexing would ensure that the real value of payments remains consistent over time.

### 3. Developing Ancillary Services Markets

- » To manage the variability of renewable energy, introducing ancillary services markets is key. Africa, with its surplus of green metals and energy minerals (e.g., [Nigeria](#) and [DRC](#)), presents a unique opportunity. Governments should incentivize (tax breaks and subsidies) energy companies to exploit these minerals provided they integrate green manufacturing into their operations.
- » Recently, [many African countries](#) are integrating energy storage solutions into their national energy strategies. However, more African governments still need to recognize the importance of energy storage in addressing the challenges of renewable energy variability and supply-demand disruptions.
- » Utilities can procure ancillary services like energy storage, demand response, and grid balancing to stabilize the grid and handle the intermittent nature of renewables. This approach reduces the reliance on rigid take-or-pay clauses, fostering a more adaptable and resilient energy system.

### 4. Leveraging Power Pools

- » African governments could utilize power pools in Africa which are taking shape. For example, the Southern African Power Pool (SAPP), West African Power Pool (WAPP), East African Power Pool (EAPP), and Central African Power Pool (CAPP). These regional collaborations offer a platform for countries to trade electricity, optimize resources, and improve grid stability to a neighboring country.

### 5. Supporting regulatory and policy reform

- » Governments and regulators need to play an active role in reforming energy contracts. By setting clear policies and frameworks that encourage flexibility and equitable risk distribution, they can foster a more stable investment environment. Regulatory support for flexible contract terms and the development of ancillary services markets is crucial for sustainable energy sector growth.

## TOWARDS MORE TRANSPARENCY IN THE SECTOR

The fact that TOPs are typically confidential and usually only come to light only when government budgets are tight, is problematic. The most comprehensive dataset on PPAs, [PPA Watch](#), contains information from only fifteen countries, nine of which are African. The survey highlights that many countries, such as Ghana, Senegal and South Africa, rarely or never publish their contracts with Independent Power Producers (including any individual clauses). Brazil was the most transparent of those surveyed.

Given the long-term duration of these contracts, often up to 25 years, more transparency in the sector should be discussed. The financial implications of TOPs for many governments have been considerable in the short-term and in many cases will remain considerable for years to come.


There is an example to follow. Looking at the oil, gas and mining sector, the Extractive Industries Transparency Initiative (EITI) has now included contract transparency in the latest EITI Standard. Twenty years ago, there was nearly a united front of companies and governments against any form of disclosure. This discussion is an evolution, which we believe should be more thoroughly considered.

## CONCLUSION

The take-or-pay clause, though intended to provide stability for investors/energy producers, presents significant challenges in renewable energy markets and could potentially have a negative impact on scaling renewable energy. Its rigid nature can strain utilities, deter investment, and lead to inefficiencies.

To address these issues, governments around the world should push for more flexible contract structures, develop ancillary services markets, and ensure robust regulatory and policy support. Governments should not attempt to do this unilaterally – there must be a dialogue with investors as these clauses can dramatically impact the investor's business case as well as government revenues. These reforms, notably flexibility in contracts, are crucial for aligning renewable energy contracts with the realities of the dynamic energy landscape in many countries. They equally foster a sustainable and resilient energy sector that meets the growing demand for clean and reliable power.

The bottom line is that governments must carefully consider this issue’s complexities, thoroughly evaluating their negotiation strategies, keeping in mind the challenges faced by utilities, the involvement of multiple stakeholders, and the sector’s nascent nature. All of this

while keeping the investor at the table and maintaining interest to invest. The responsibility lies with the government to craft thoughtful, forward-looking policies that address these intricacies and support the continuing growth of renewable energy. 



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