REPORT BRIEF: REDD+ SUPPLY AND DEMAND 2015-2025

OVERVIEW

A USAID funded Forest Carbon, Markets and Communities program (FCMC) report, *REDD+ Supply and Demand 2015-2025,* estimates potential supply and demand for REDD+ from 2015-2025. The estimates include supply and demand for project and subnational market-based REDD+ credits along with generation and payment for REDD+ emission reductions (Norway and Brazil).

- The report finds that supply of REDD+ credits from current project and subnational programs exceeds demand in all likely scenarios, with the exception of a Blue Sky demand scenario where supply only exceeds demand when Brazilian emission reductions are included.
- The low cost mitigation potential from REDD+ is only expected to be partially realized in the near term under the most optimistic demand scenario. Other policy tools to incentivize REDD+ alongside a carbon market and results-based payments may be needed to expand the mitigation contribution from REDD+.

BACKGROUND

Forest loss in developing countries represents a significant contribution to global emissions along with significant climate change mitigation potential. How reducing emissions from deforestation and degradation, forest conservation, sustainable management and enhancement of forest carbon stocks (REDD+) will be incentivized in a future climate agreement is still being finalized under the United Nations Framework Convention on Climate Change (UNFCCC). One option is the use of carbon markets. A voluntary market for forest credits started in the 1990s, and has grown over the last decade. Bilateral and multilateral initiatives are also piloting market mechanisms and non-market payments for emission reductions. The feasible credit supply from deforestation has been estimated at up to 1.8 $GtCO_2e$/yr at under 20 USD/tCO_2eq, with significantly higher estimates for theoretical supply (up to 4.3 $GtCO_2e$/yr).[1]

METHODOLOGY

Two supply estimates are provided.

- **Potential Supply** is estimated empirically by calculating the potential volume of REDD+ credits that may be generated by registered VCS REDD+ projects plus the potential volume from additional REDD+ projects and subnational or jurisdiction level REDD+ programs under development.
- **Expanded Supply** captures significant uncertainty in jurisdictional supply above that included in the Potential Supply estimate. This uncertainty results from programs under the umbrella of the Governor's Climate and Forests Task Force (GCF) and Brazil's national level emission reductions.

Three scenarios estimate potential demand.

- **Status Quo demand** represents the demand currently observable from the voluntary market and Japan along with fixed dollar funds such as the Forest Carbon Partnership Facility's Carbon Fund, Initiative for Sustainable Forest Landscapes, and REDD Early Movers. Variance in demand in the Status Quo scenario is driven by the price paid by the fixed dollar funds. Payments from Norway are also considered separatly within the Status Quo scenario.
- The **Compliance Growth demand** scenario includes Status Quo and estimates potential future demand from regulations or national purchases that may be seen in developed and developing countries along with potential demand from the aviation sector. Variability in demand is driven by the ambition of these measures.
- **Blue Sky demand** represents the highest and least likely demand scenario and is predicated on strong domestic action by national governments to limit the impacts of climate change. The main difference between the Blue Sky and Compliance Growth scenarios is the inclusion of demand from US and Canadian national schemes, demand from Japan and New Zealand, and increased demand for REDD+ from Australia.

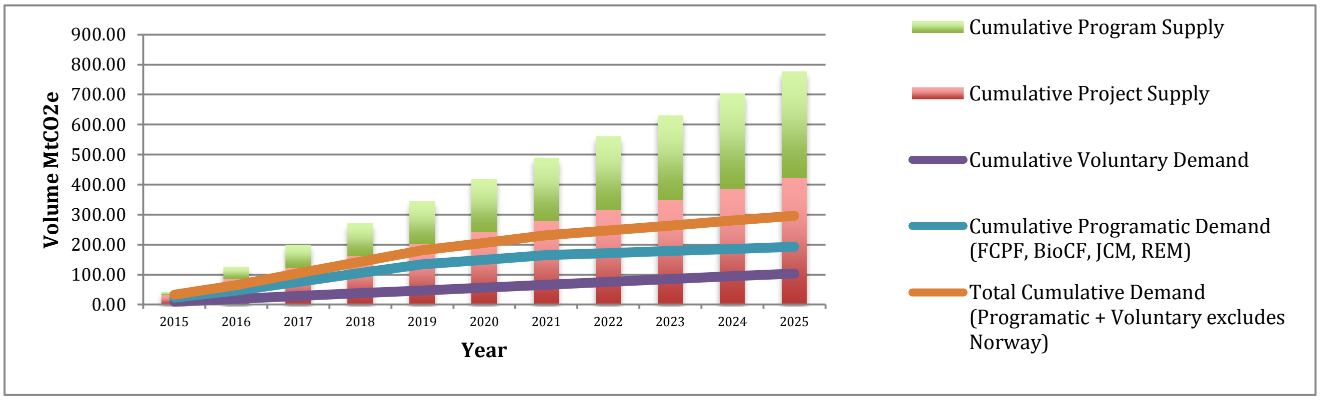
[1] Coren M., Streck C. & Myers Madeira M., (2011) "Estimated supply of RED credits 2011-2035", *Climate Policy*, 11:6, 1272-1288

Demand estimates do not include the Green Climate Fund as pledges and allocation of funding was unknown when the analysis was conducted. Should the fund start operations during 2015-25, then demand is expected to increase from this source. The US, UK, Germany, and Norway also have commitments to scale up results-based payments. Their commitments were not quantified but would be an additional source of demand not captured in the analysis.

KEY FINDINGS

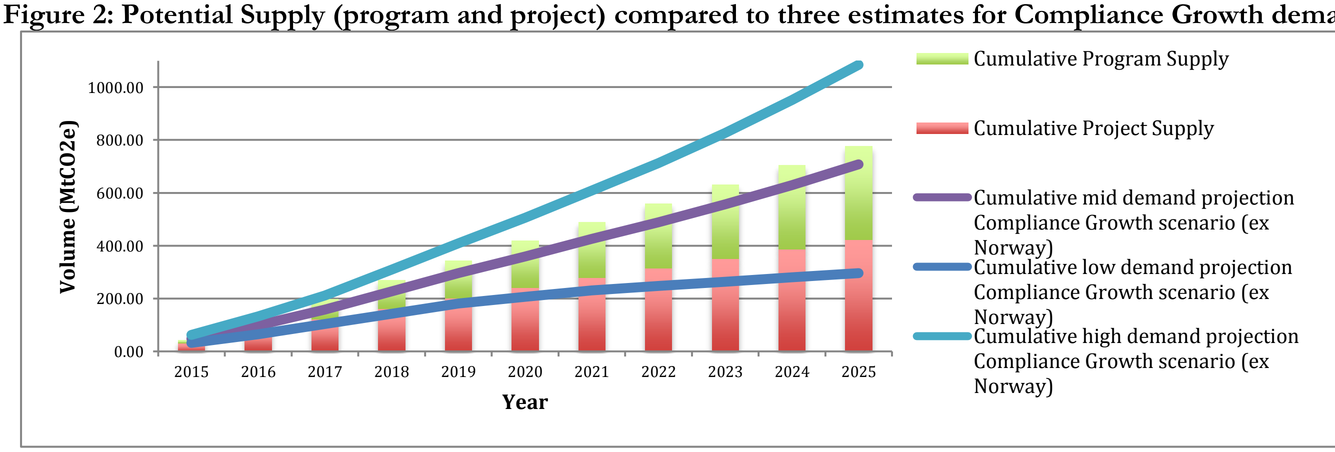
- Supply and demand in the REDD+ credit market is unbalanced. There is short-term program level undersupply, but this is expected to quickly turn into chronic oversupply for projects and programs for most demand scenarios over the outlook period (2015-2025). See Figures 1–3.
- The oversupply situation means that prices subject to market forces will remain depressed and expanding demand to absorb supply is critical.

Figure 1: Potential Supply (program and project) compared to three estimates for Status Quo demand



- The Potential Supply scenario projects 918 $MtCO_2e$ over 2015-25 (83 $MtCO_2e$/yr), including retroactive crediting of emissions reductions that occurred before registration. After the initial period of backdating, average annual supplies are 71 $MtCO_2e$. Projects account for 518 $MtCO_2e$ of the Potential Supply and 400 $MtCO_2e$ comes from programs.
- For the Status Quo scenario, demand estimates vary between 207 and 739 $MtCO_2e$ over 2015-25 depending on price assumptions paid by the fixed dollar funds.

Figure 2: Potential Supply (program and project) compared to three estimates for Compliance Growth demand



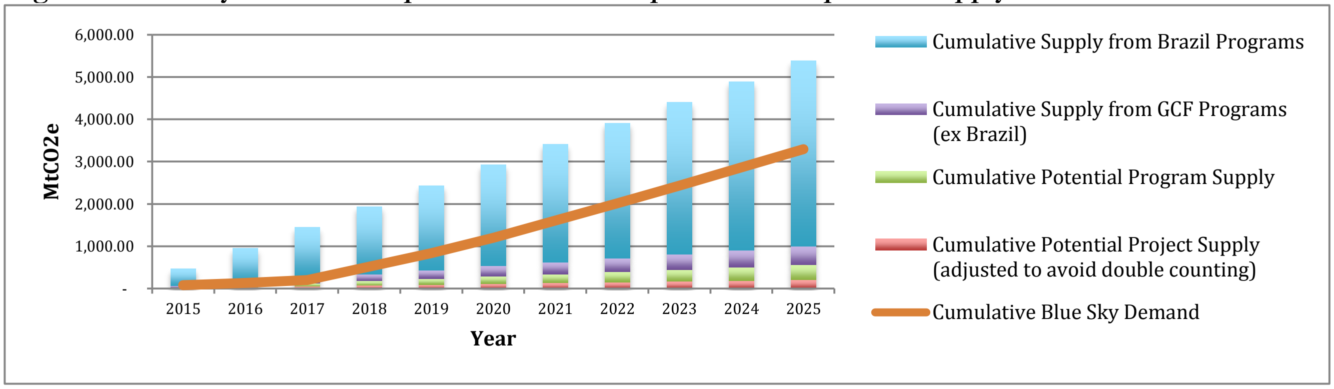
- For the Compliance Growth scenario demand varies between 429 and 1,188 $MtCO_2e$ over 2015-25. Compliance demand growth could come from Australia, Aviation, California and the US Clean Power Plan.
  - Australia has removed its cap-and-trade bill, but remains committed to meeting its 2020 GHG emissions target of five percent below 2000 levels. This target implies a potential cumulative shortfall of 421 $MtCO_2e$ over 2014-20, which could be made up of a mix of international and domestic actions, including REDD+.
  - International aviation is moving towards a market-based mechanism to achieve carbon neutrality from 2020. If REDD+ offsets are included this could generate up 142 $MtCO_2e$ in new demand over the outlook period.

– California has already implemented cap-and-trade legislation that allows for the potential inclusion of REDD if additional rules are promulgated. California and Mexico recently signed a Memorandum of Understanding to enhance cooperation to reduce GHG emissions which could spur a forest carbon market in California.

– President Obama's Administration proposes to limit carbon pollution via the Clean Power Plan, which may add to demand. Potential litigation may block or create delays for this initiative.

- Blue Sky demand is estimated at 3.5 $GtCO_2e$ over 2015-2025. The Expanding Supply scenario captures the impact of significant new programmatic supply potential from the GCF (442.1 $MtCO_2e$ – ex-Brazil) and Brazil (4,380.30 $MtCO_2e$ total, including 2,978.30 $MtCO_2e$ claimed from states participating in the GCF). Together the potential Expanded Supply add 4.8 $GtCO_2e$ in total over 2015-25. This is added to Potential Supply to achieve a total supply of 5.4 $GtCO_2e$ (490.9 $MtCO_2eq$/yr).

Figure 3: Blue Sky demand compared to all the components of Expanded Supply



- However, the Brazilian federal government is not claiming its national reductions are offsets or credits and is not currently seeking to bring them to market. It is also unclear if the Brazilian states participating in the GCF will be able to bring some or all of the emission reductions generated at the national level to market through state-level REDD+ initiatives. Acre is the most likely and included in the Potential Supply scenario. Others may follow.

IMPLICATIONS AND POLICY ACTIONS

- A substantial global commitment above and beyond our Blue Sky scenario is needed for market mechanisms to fully harness the low cost abatement potential of REDD+. On its own Blue Sky demand may only partially realize the low cost mitigation potential from REDD+ in the near term. Based on third party studies of feasible credit supply, additional low cost supply beyond the Expanded Supply estimate is possible, yet the Blue Sky demand scenario only represents 18% of this annual feasible supply. Markets may absorb volume over time, but other policy tools alongside ambitious market commitments and non-market payments may be needed to more rapidly drive low cost mitigation from REDD+.
- Continued weak demand will put a downward pressure on market prices. This may discourage REDD+ supply countries from engaging in markets and may create disillusionment in results-based REDD+ more broadly. With continued oversupply many projects and programs may fail to be developed or not continue, resulting in a loss of skills and experience and potential increases in deforestation and forest degradation.
- Demand is driven by domestic mitigation actions, but schemes that use flexibility mechanisms for cost containment generally only allow internationally recognized offsets. If REDD+ markets are to work, REDD+ credits need to be incorporated in a future UNFCCC agreement alongside other options to incentivize REDD+.
- Growth in domestic compliance demand for REDD+ is uncertain and large scale demand may be slow to emerge even with an international agreement. International aviation is an important growth opportunity, but this potential requires clear policy signals on approach and timing.
- Market rules can balance the objectives of encouraging broad sovereign participation, stimulating low cost abatement, and preventing market flooding. Rules could include volume limitations from high volume countries (caps), conservative rules to estimate tradable credit volumes, exclusion of some reductions from entering a market, and/or rules to prevent double payment for reductions from market and non-market sources.

Program Chief of Party: Stephen Kelleher, stephen.kelleher@fcmcglobal.org
USAID FCMC Finance and Carbon Markets Activity Manager: Evan Notman, enotman@usaid.gov
Authors: Nicholas Linacre, Robert O'Sullivan, David Ross, and Leslie Durschinger, FCMC and Terra Global Capital, LLC
For more information contact FCMC Finance and Carbon Markets Task Lead: Robert O'Sullivan, rosullivan@fcmcglobal.org
FCMC Project Website: www.fcmcglobal.org

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