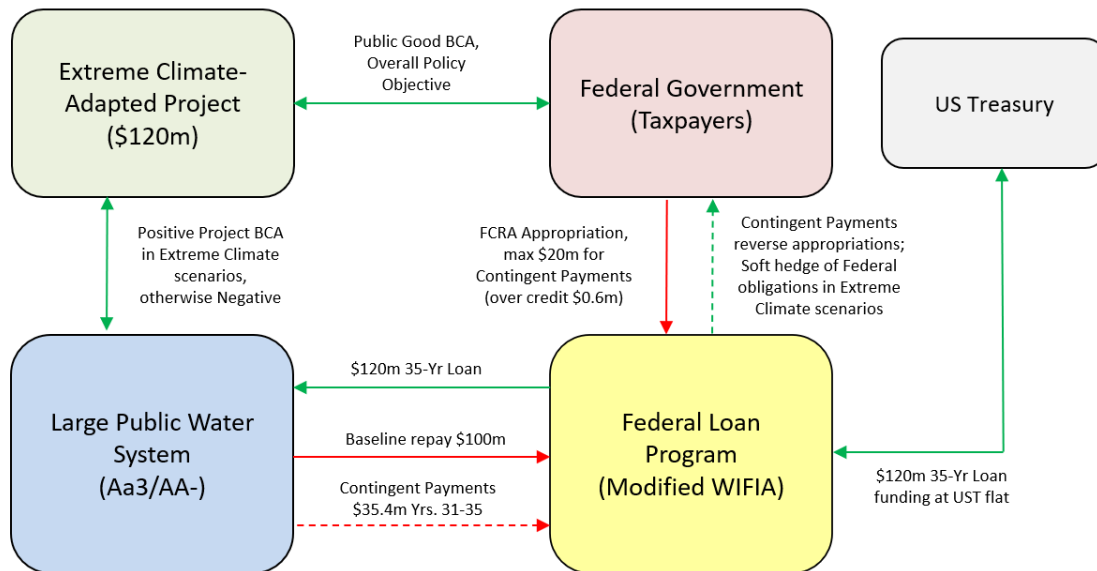


Climate Contingent Loan Program

January 4, 2021

1. Loan Structure and Underwriting



Public Water System – The Borrower

- A US public water system needs to finance a major essential infrastructure project. A \$100 million design has a positive BCA if baseline-trend climate conditions continue, but otherwise negative. A \$120 million design has a positive BCA if extreme climate conditions do develop. The system must minimize water rate rises to obtain stakeholder consensus for the project.
- A \$120 million 35-year Climate Contingent Loan can address the uncertainty. If baseline-trend conditions continue, the PV of loan repayment will be \$100 million. If extreme conditions develop, additional payments in years 31-35 will make loan PV \$120 million.

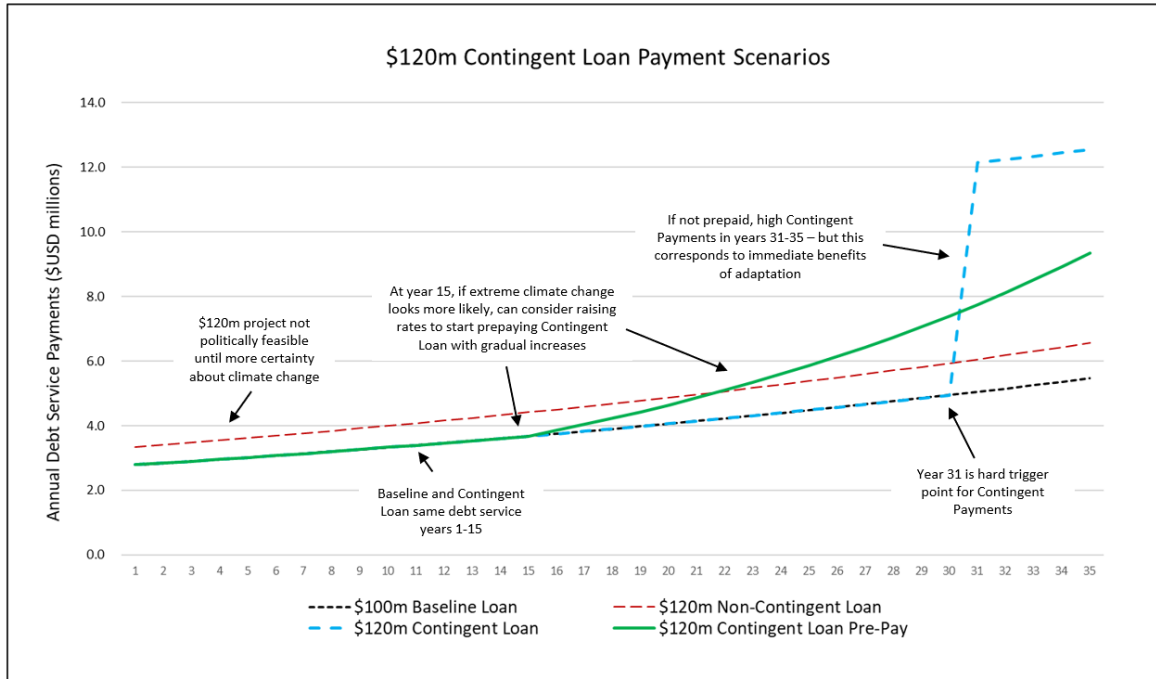
Federal Loan Program – The Lender

- An existing water infrastructure loan program, WIFIA, could be easily modified to make Contingent Loans. Primary innovation would be developing climate contingency payment criteria and additional assessment of the borrower’s engineering case. All other loan structure and features remain the same.

Federal Government Taxpayers – The Risk Counterparty

- A Contingent Loan will require an additional appropriation of Expected Loss in the FCRA analysis, a maximum PV of \$20 million if a full loss is expected. This is soft-hedged against lower federal obligations in these conditions. The federal government is a natural risk counterparty for large-scale infrastructure adaptation.
- If extreme conditions develop and Contingent Payments are triggered, the FCRA appropriation will be reversed, coincident to higher federal obligations in those conditions.

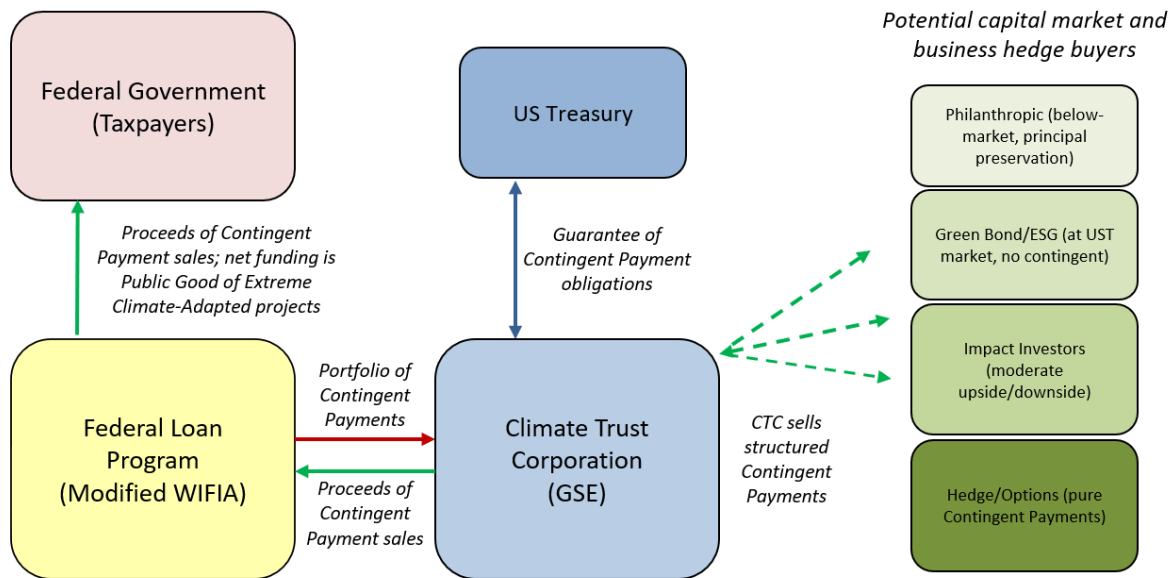
2. Loan Payment Scenarios



Borrower Uses Contingent Loan to Manage Water Rate Rises

- As typical in US, the System faces extreme resistance to raising water rates for even essential infrastructure. A \$120 million project is politically infeasible since positive BCA is uncertain.
- A \$100 million project is (just) feasible based on minimum essential need for continuing system operation. It is fully debt financed (standard for US public water infrastructure). Amortization reflects assumption of 2% annual rise in water rates, which is highly conservative (recent industry medians are closer to 5%).
- A \$120 million project financed with a Contingent Loan can have the same debt service requirements as a \$100 million project in years 1-15. Contingent obligations accrue at the Program loan rate (UST flat).
- At year 15, the possibility that extreme climate conditions will develop can be assessed. The System can re-engage with ratepayers and stakeholders to determine whether gradually higher water rates to pre-pay the expected contingent obligations are acceptable. This can be a measured, consensus-building process in the context of more certainty and awareness of the emerging reality.
- Alternatively, the System can wait until the hard trigger of contingent payments in year 31. This may result in a dramatic spike in water rates for five years. But at that point, the value of adapted project may be very obvious.
- Intergenerational and other stakeholder equity issues can be flexibly considered in this long-term scenario.

3. Loan Sell-Down and Market Creation



Federal Risk Counterparty Can Manage Exposure

- As the Federal Loan Program builds a portfolio of Contingent Loans, it is positioned to sell its risk position in a structured and/or securitized form and in an efficient scale.
- This can be initiated by a separate federally owned GSE, Climate Trust Corporation (CTC), that will develop marketable securities from the portfolio. The CTC is intended to be analogous to the Resolution Trust Corporation that was established in the 1990s to sell down federal exposure to foreclosed commercial real estate loans from the S&L crisis. The RTC implemented many financial innovations and successfully developed the CMBS market.
- Contingent Loan exposure can be packaged in various forms to meet a broad spectrum of climate-related investor demand, from philanthropic non-market objectives to pure business-related risk hedging. The CTC's long-term policy objective, consistent with federal infrastructure loan programs, is create a market that eventually will directly offer Climate Contingent Loans to US infrastructure borrowers.
- The net proceeds of sales are not intended to completely reverse the initial FCRA appropriations for Contingent Loan losses, since FCRA uses a risk-free discount rate and market investors will (on average) require a positive risk return. Rather, the net proceeds will establish the current private sector value of extreme climate adaption for infrastructure projects. The residual FCRA appropriation is therefore the cost of a Public Good that bridges the gap between economic value that can be privatized (by an efficient market) and the BCA-determined optimum value (established by federal review and selection of borrower proposals). As such, the net tax appropriation is a justified and efficient response to the uncertain possibility of extreme climate change.