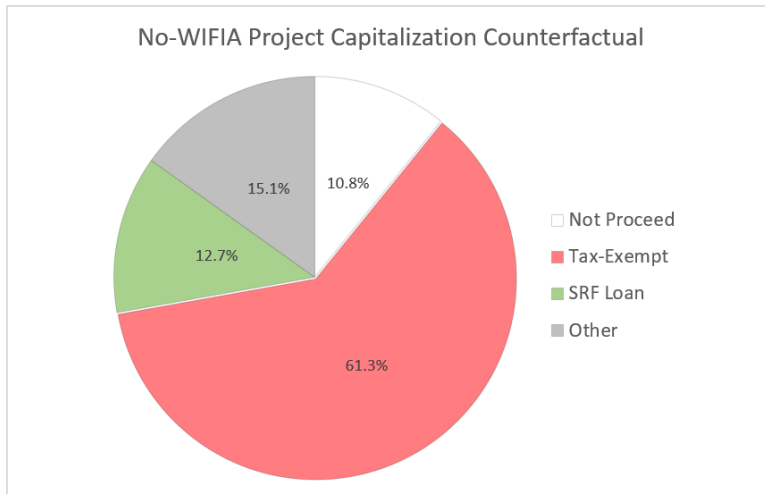
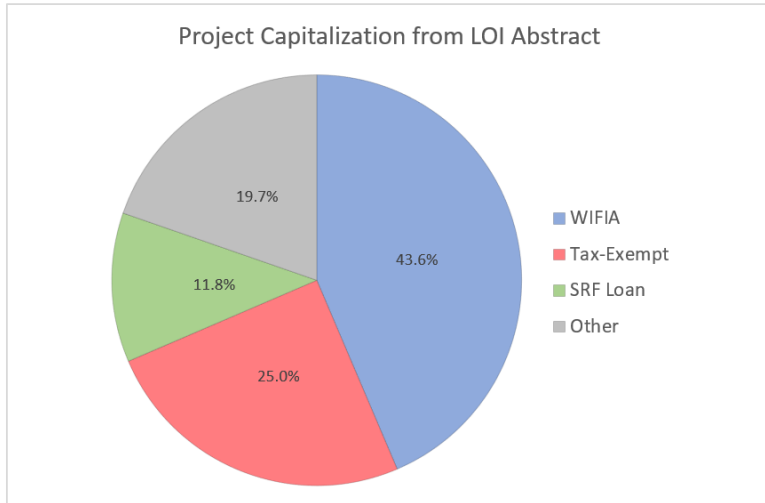


1 WIFIA LOI Abstract and Counterfactual Analysis Re TE Debt – 09/10/2018



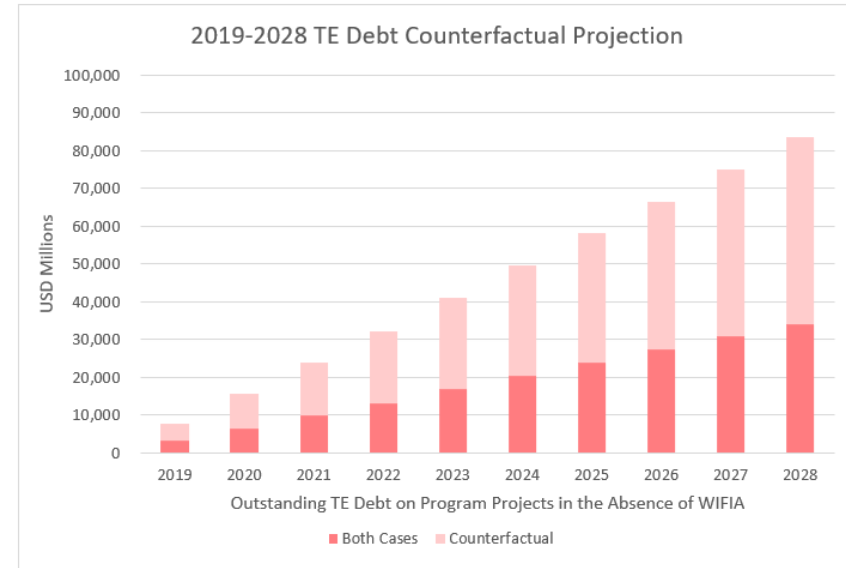
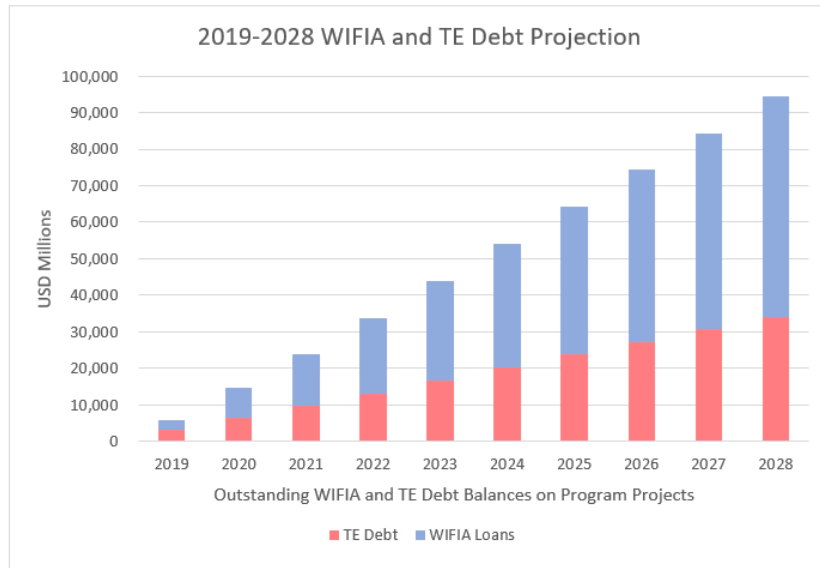
**LOI Abstract Results**

- Quick review of sample of 53 LOIs out of 62 current applications (9 LOIs excluded: all 6 CBIs, 1 incomplete and 2 outliers).
- Total project sources in sample: \$16.0 bn. Percentage break-down of financing sources in top pie chart.
- Proposed WIFIA loans in sample totaled 43.6% of project cost, less than 49% maximum.
- Tax-exempt (TE) debt explicitly listed as a financing source was 25% of total, or 57.3% of proposed WIFIA loan. It is not clear if other financing sources (SRF loans, borrower cash, state grants etc.) were partly funded with TE debt.

**No-WIFIA Counterfactual Methodology and Results**

- Quick review of each LOI in sample group to evaluate how the Applicant would likely proceed in the absence of WIFIA.
- Primary factors considered were (1) necessity of the project (e.g. basic system maintenance or upgrade, delayed investment in needed capacity, etc.) and (2) availability of other financing especially with respect to TE market. Applicant size, credit rating, scale of previous TE or SRF borrowing and objectives stated in application were considered.
- Most projects appear to be necessary, and most Applicants have good or excellent access to TE bond market. As a result, apparent counterfactual is that about 89% of project volume would go forward with increased TE debt replacing WIFIA source.

## 2 Projecting WIFIA Loan and TE Debt Balances 2019-2028



### WIFIA Loan and Debt Balance Projections Methodology

#### Drawdown and amortization assumptions:

- WIFIA Loan: 2-year draw, 3-year debt service deferred (3.0% rate), 30-year SL amortization
- TE Debt: 1-year draw, 4-year interest-only, 25-year SL amortization

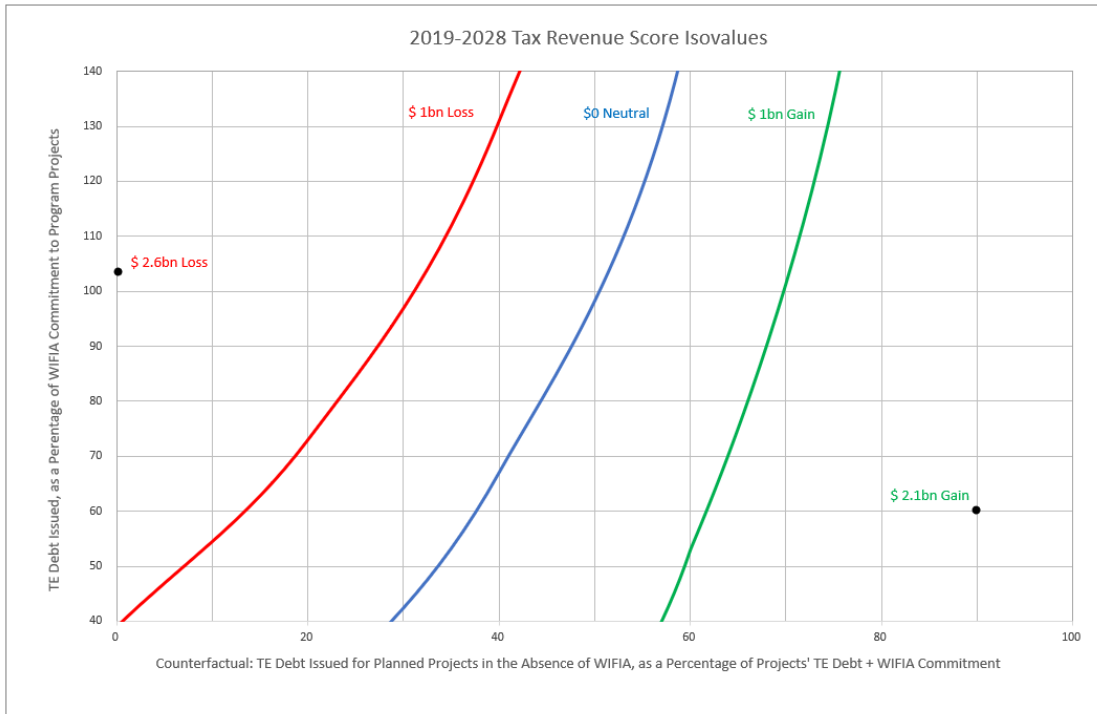
#### Future WIFIA Commitments:

- WIFIA commitment: \$5.5 bn in 2018, annual growth rate 3% thereafter through 2019-2028
- TE debt commitment: 57.3% of WIFIA commitment (from LOI abstract results)

#### No-WIFIA TE Counterfactual:

- No-WIFIA TE commitment at 89.5% of WIFIA commitment + TE commitment under WIFIA case (consistent with LOI abstract counterfactual evaluation)

### 3 Projecting TE Debt Balances Revenue Impact with Two Variables



#### Methodology

In WIFIA and No-WIFIA debt balance models two assumptions were changed to variables:

1. TE Debt commitment as % of WIFIA commitment. Range: 40% to 140%
2. No-WIFIA TE debt as % of WIFIA + TE commitment. Range: 0% (i.e. no projects proceed with TE debt in absence of WIFIA) to 100% (i.e. all projects proceed anyway)

Simple taxable bond substitution model to evaluate tax revenue loss from WIFIA and No-WIFIA TE debt balances – 4.0% taxable interest equivalent, 20% tax rate

Total 2019-2028 difference between WIFIA and No-WIFIA case TE debt revenue loss was plotted for select variable combinations.

#### Results

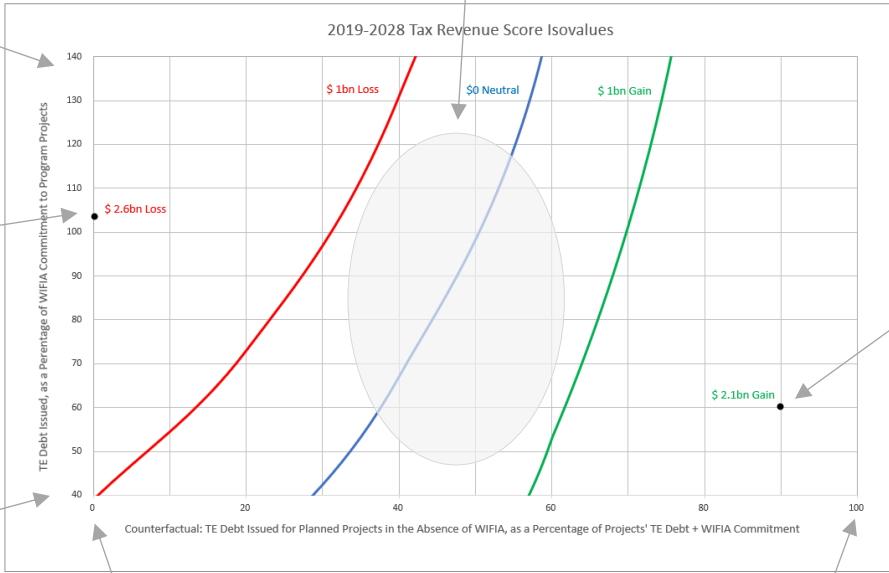
- Using Goal Seek, variable combinations that resulted in no difference between revenue loss under WIFIA and No-WIFIA cases (i.e. same TE debt in both cases) were plotted -- \$0 Neutral isovalue in chart.
- Variable combinations that resulted in \$1.0 bn of net loss (i.e. more TE debt issued due to WIFIA) and \$1.0 bn of net gain (i.e. less TE debt issued due to WIFIA) were then plotted.
- Two specific points were also plotted: (1) a \$2.1 bn gain reflecting values from LOI abstract and counterfactual (Y= 57.3% X=89.5%) and (2) a \$2.6 bn loss consistent with two assumptions: (a) WIFIA:TE debt ratio of 49:51 (Y=104%) and (b) All WIFIA-related TE volume would not otherwise occur in absence of WIFIA (X=0%).

4 Discussion Points

Why would project use very little WIFIA debt relative to TE Debt?

Area of most reasonable assumptions for 10-year projections of new program?

Is this where JCT is at?



LOI abstract point based on quick review – more counterfactual analysis and data will likely trend to middle

Why would project use a lot of WIFIA debt relative to TE Debt?

In light of basic water infrastructure needs in US, is 0% here reasonable?

How likely that WIFIA does not change investment volume and type, especially over 10-year time?