

Perpetuity: 30 year loans,
forgivable loans, interest subsidy

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The Big Questions:

- How much subsidy should the SRF provide?
- How should we provide this subsidy?
 - Interest Rate Subsidy
 - Forgiven Principle Subsidy
 - Extended Term Financing Subsidy
 - Centennial Grants (does not affect loan fund perpetuity)



Perpetuity

- Need a new definition in rule.
- CWA is vague:
 - “The fund shall be established, maintained, and credited with repayments, and the fund balance shall be available in **perpetuity** for providing such financial assistance.”
- CFR §35.3115 - Eligible activities of the SRF.
 - “Funds in the SRF shall not be used to provide grants. SRF balances must be available in **perpetuity** and must be used solely to provide loans and other authorized forms of financial assistance”
- Google?:
 - “The state or property of lasting forever.”



What does it mean to last “forever”?

- No wrong answers. Ecology can manage our own program. EPA provides no guidance.
- Don't run out of money?
- Grow the fund?
 - At what rate?
 - CPI?
 - ENR BCI?
- How much is it possible to grow the fund?
 - For Today's discussion, as a basis for comparison, “forever” means 60 years into the future (2076)
 - 60 years keeping up with ENR BCI: \$550M/year in 2076



“Investment” model assumptions

- Long term interest rate: 3.6% for 20 year loans.
 - Based on 60% of tax-exempt 20 year bond “11-Bond GO index” since Sept. 1979
- Cap grants continue at today’s levels
- No extended financing
- No interest subsidy
- No forgiven principle



Investment Model Results

- Over 60 years (through 2076), the “investment” model can finance \$29.6 Billion in Clean Water Infrastructure.
- The “investment” model provides no subsidy.
- The “investment” model is only a theoretical baseline to compare the impacts of different kinds of subsidy.
- BASIS FOR COMPARISON: 60 year “cumulative loan disbursements”



Value of the SRF

- More than financial return.
- Ability to assist infrastructure for financially challenged systems
- Ability to finance projects necessary for environmental protection.



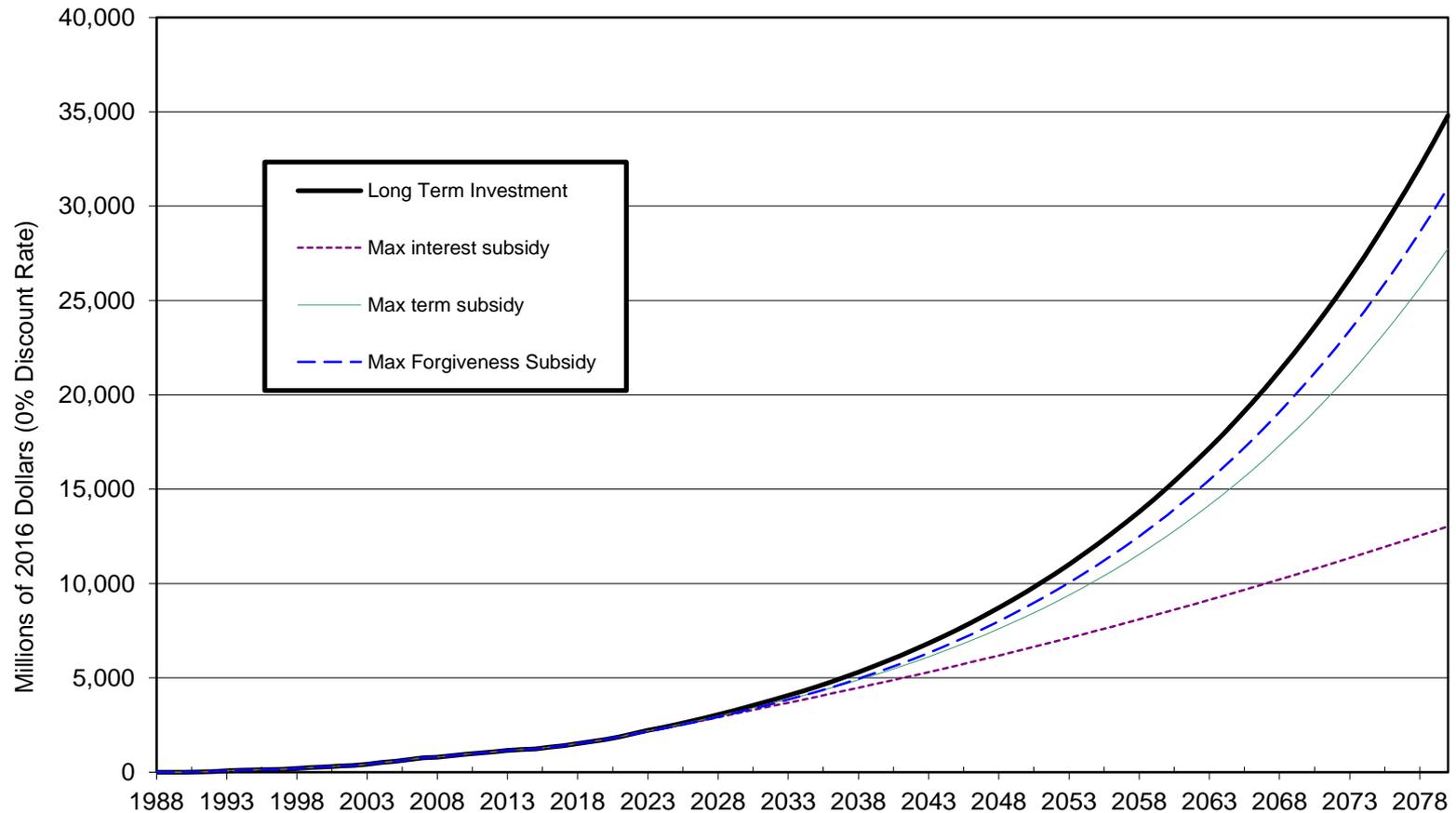
How Much Subsidy Can We Afford?

- QUESTION: How much subsidy to provide compared to “investment” model?
- QUESTION: How should we provide this subsidy?
 - Interest Rate Subsidy
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 - Extended Term Financing Subsidy



Comparing Options

Comparison of Cumulative Project Disbursements



Comparing Options

	60 year cumulative disbursements	Relative loss compared to "Investment Model"
Investment model	\$29.609 B	--
Forgive 30% of the Cap Grant	\$26.430 B	-10.7%
30 year loans at 3.6%	\$23.752 B	-19.8%
20 year loans at 0%	\$12.058 B	-59.3%
Max 30%, 30 year @ 0%	\$9.589	-67.6%
Ecology "today"	\$28.085 B	-5%
Maintain 100M/year	\$7.309 B	-75.3
Fund Grows with ENR BCI*	\$16.986 B	-42.6%
If Cap Grants end	\$19.125 B	-35.4%

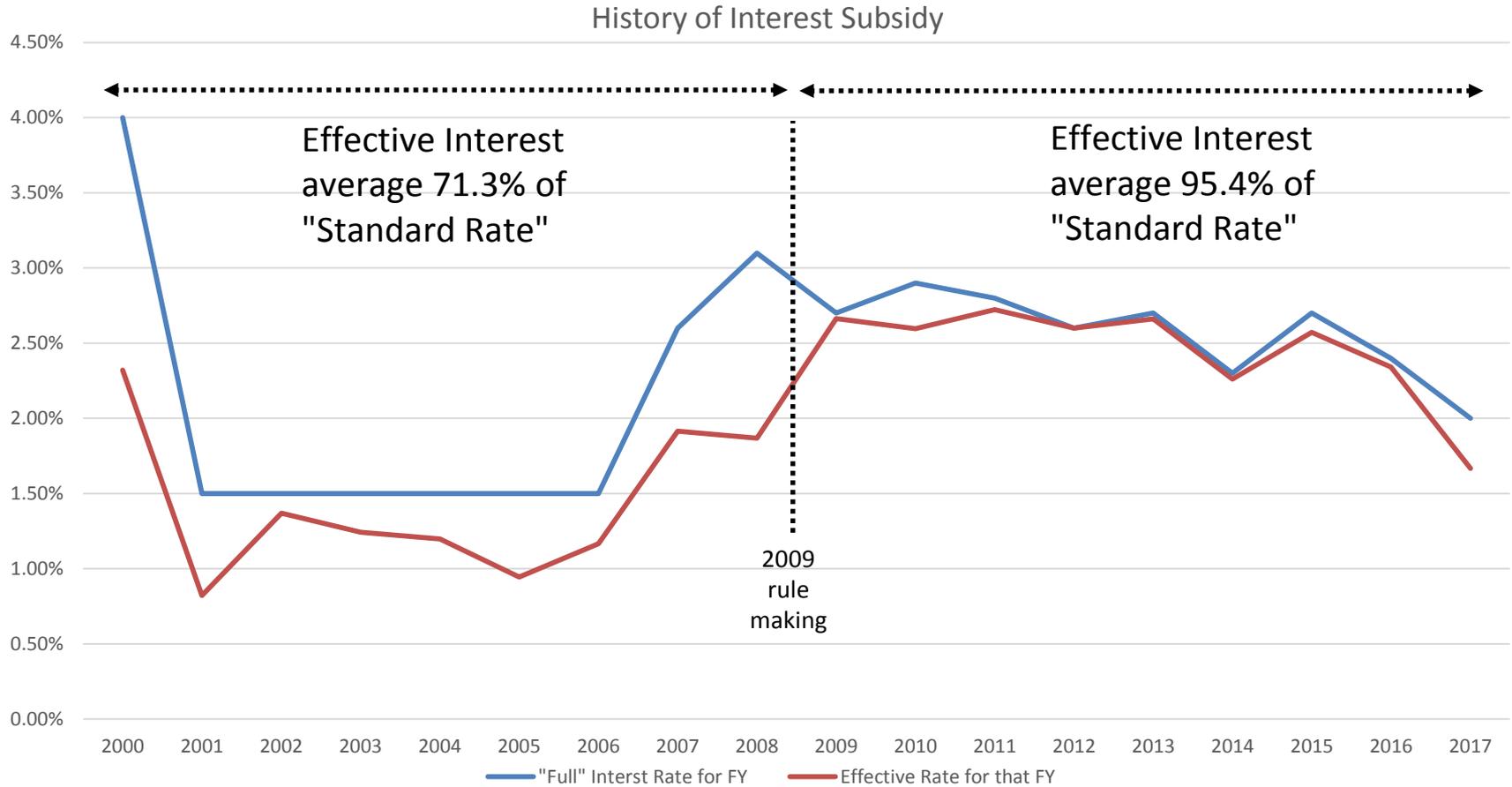


What is Ecology doing Now?

- Interest Subsidy (FY09-FY17 average)
 - Fund wide effective interest at 95% of “standard rate”
- Forgiven Principle (FY12-FY17 average)
 - Forgive 8% of our capitalization grant.



CWSRF interest rates



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Forgivable Principle Options

20 year loans, 3.6% interest, Cap grant= \$24M.	60 year cumulative disbursements	Relative loss compared to "Investment Model"
Investment model	\$29.609 B	
30% forgiven	\$26.430 B	-10.7%
20% forgiven	\$27.496 B	-7.1%
15% forgiven	\$28.022 B	-5.4%
10% forgiven	\$28.555 B	-3.6%
5% forgiven	\$29.083 B	-1.8%



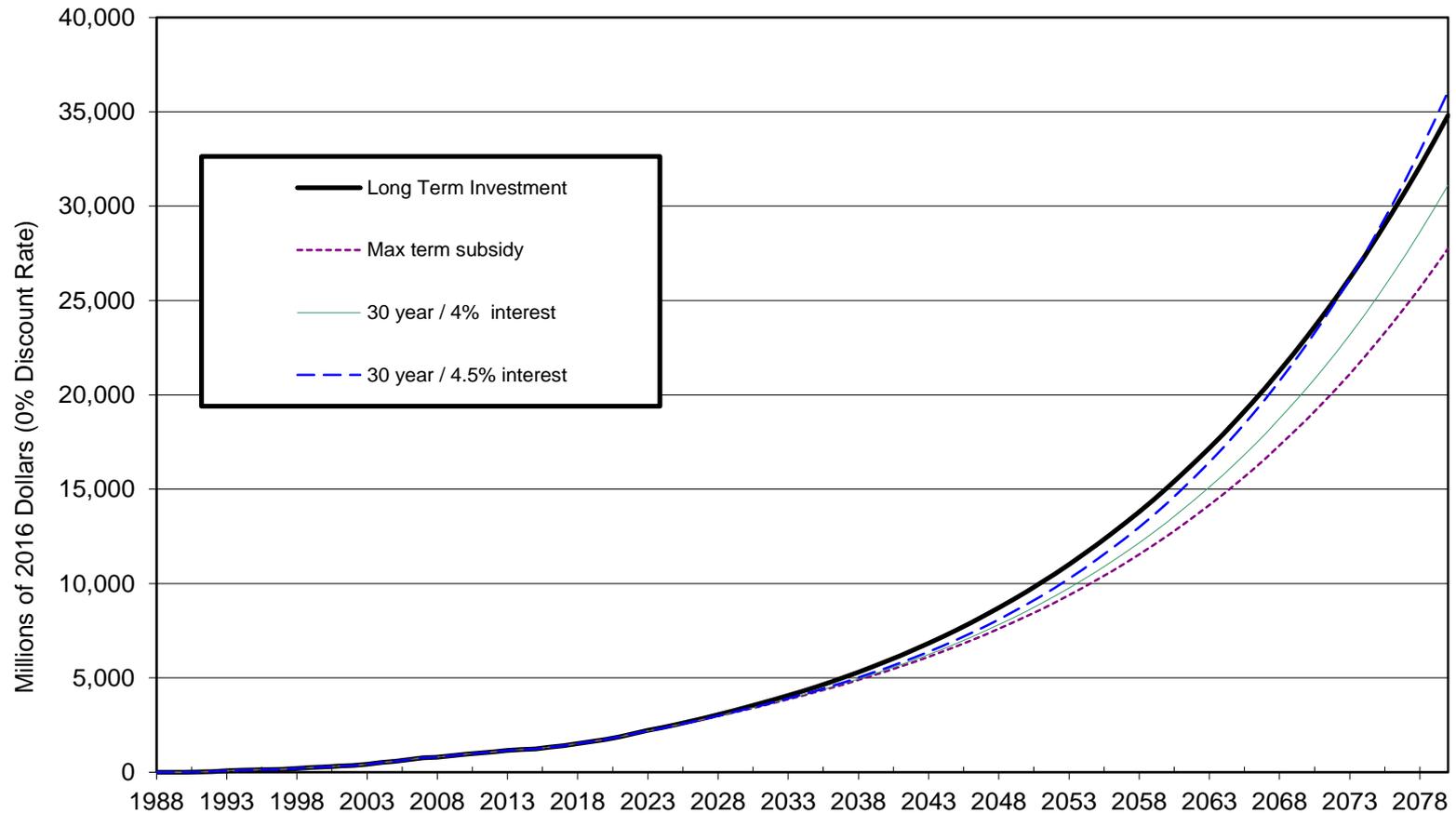
Interest Subsidy Options

20 year loans, 3.6% "Base Rate"	60 year cumulative disbursements	Relative loss compared to "Investment Model"
Investment model	\$29.609 B	
95% Effective Interest	\$28,112 B	-5.1%
90% Effective Interest	\$26.709 B	-9.8%
85% Effective Interest	\$25.393 B	-14.2%
80% Effective Interest	\$24.160 B	-18.4%
75% Effective Interest	\$23.000 B	-22.3%
0% Effective Interest	\$12.058 B	-59%



30 year Options: interest rate

Comparison of Cumulative Project Disbursements



30 year Options: interest rate

All loans @ 30 years, Cap Grant - \$24M.	60 year cumulative disbursements	Relative loss compared to "Investment Model"
Investment model	\$29.609 B	
30 year term @ 3.6%	\$23.752 B	-19.8%
30 year term @ 4.0% *	\$26.314 B	-11.1%
30 year term @ 4.5% **	\$30.024 B	+1.4%

* 4.0% interest is 60% of the average of the tax-exempt 30 year bond index since Sept. 1979

** At 4.5% interest 30 year loans have no net cost to the fund.



30 Year Hardship Options

25% of loans are hardship, 3.6% "Base Rate" Cap grant= \$24M	60 year cumulative disbursements	Relative loss compared to "Investment Model"
Investment model	\$29.609 B	
Hardship: 30 year loans @ 4%	\$27.298 B	-7.8%
Hardship: 30 year loans @ 3.2%	\$26.135 B	-11.7%
Hardship: 30 year loans @ 2.4%	\$25.008 B	-15.5%
Hardship: 30 year loans @ 1.6%	\$23.923 B	-19.2%



Mix and Match

25% of loans are hardship, 3.6% "Base Rate" Cap grant= \$24M	60 year cumulative disbursements	Relative loss compared to "Investment Model"
Investment model	\$29.609 B	
Forgive 15%, Loans (50/50): 30yr @ 4.5% / 20yr @ 3.6%, Hardship: 30yr @ 3.2%,	\$25.180 B	-15.0%
Forgive 0%, Loans (50/50): 30yr @ 4.5% / 20yr @ 3.6%, Hardship: 30yr @ 2.4%,	\$23.996 B	-19.0%
Forgive 15% until grants end in 2022 Loans (50/50): 30yr @ 4.5% / 20 yr @ 3.6%, Hardship: 30 year loans @ 3.2%,	\$16.191 B	-45.3%



From a Borrowers Perspective

\$10,000,000 project; 1000 sewer accounts	Annual payment	Lifetime payments	Monthly Rate Increase
Bond Market (20 year @ 6%)	\$871,845	\$17,436,911	\$72.65
SRF Loan (20 Year @ 3.6%)	\$709,992	\$14,199,847	\$59.17 (100%)
SRF Loan (30 Year @ 4.0%)	\$578,301	\$17,349,029	\$48.19 (81%)
SRF Loan (20 Year @ 3.6%) FP/Grant: \$5,000,000	\$354,996	\$7,099,923	\$29.58 (50%)
SRF Loan (30 Year @ 4.0%) FP/Grant: \$5,000,000	\$289,150	\$8,674,514	\$24.10 (41%)
SRF Loan (20 Year @ 0%) FP/Grant: \$5,000,000	\$250,000	\$5,000,000	\$20.83 (35%)
SRF Loan (30 Year @ 0.0%) FP/Grant: \$5,000,000	\$166,666	\$5,000,000	\$13.89 (23%)



From a Borrowers Perspective

\$10,000,000 project; 1000 sewer accounts	Annual payment	Monthly Rate Increase	Lifetime payments	Loss to fund
SRF Loan (20 Year @ 3.6%)	\$709,992	\$59 (--)	\$14,199,847	--
SRF Loan (20 Year @ 3.6%) FP: \$2,500,000	\$532,673	\$44 (75%)	\$10,653,459	-9.3%
SRF Loan (30 Year @ 3.34%)	\$532,785	\$44 (75%)	\$15,983,551	-12.4%
SRF Loan (20 Year @ 3.6%) FP: \$5,000,000	\$354,996	\$30 (50%)	\$7,099,924	-18.7%
SRF Loan (30 Year @ 0.41%)	\$355,119	\$30 (50%)	\$10,653,555	-28.0%
SRF Loan (30 Year @ 4%) FP: \$5,000,000	\$289,150	\$24 (41%)	\$8,674,515	-25.6%
SRF Loan (20 Year @ 1.50%) FP: \$5,000,000	\$291,156	\$24 (41%)	\$5,823,114	-34.2%



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We Meet again in November...

- What if the cap grants disappear?
- What if we raise the “standard rate” to 80% of Bond Index?
- What if interest rates are different in the future? (higher or lower)
- What if there is a new federal requirement to...



What is your feeling for how Ecology should manage 30 year loans for NON hardship communities?

- Don't allow that?
- Set interest our “standard rate” +1.0% premium (like Oregon)?

What is your feeling for how Ecology should manage 30 year loans for HARDSHIP communities?

- Offer as an option?
- What “standard 30 year rate” to use?
- Use a similar continuum to 20 year loans?

Do you have a feeling for how much subsidy (relative to an “investment” model) Ecology should provide?

- Is there a maximum we should hold ourselves to?
- Is there an average we should aim for in any given year?
- Should it change if/when cap grants end?

What is your feeling for how Ecology should offer subsidy for Hardship communities (grant, FP, term, interest)?

- Re-evaluate the \$5M grant cap?
- Re-evaluate the hardship levels or the hardship continuum?