

RECLAMATION

Managing Water in the West

Cost Allocation Process CVP Cost Allocation Study Public Meeting

November 19, 2013



U.S. Department of the Interior
Bureau of Reclamation

Cost Allocation – Purpose

- To comply with Federal law and policy requirements regarding project financing
- To determine financial feasibility of a project
- To equitably and impartially distribute the advantages & cost savings of a multi-purpose project among the purposes served, without regard to reimbursement or cost-sharing policy

Project Cost Allocations (PEC 01-02)

Section 7(A). Costs to be Allocated

- Costs are adjusted for time of occurrence by the application of appropriate compound interest and annuity factors to derive equivalent present worth monetary values **at the beginning of the first calendar year of project service**

Project Cost Allocations (PEC 01-02)

Section 8. Benefits Used in Cost Allocation

- All benefits, SPA costs, and costs for allocation purposes will be placed on a comparable basis in relation to time of occurrence using the same interest rate and period of analysis. Benefits will be calculated to their present worth (lump sum) amounts **at the first calendar year of project service**

Project Cost Allocations (PEC 01-02)

Section 10. Period of Analysis

- The period for estimating benefits and costs used in the cost allocation process will be the same as that used in project formulation and evaluation, which is the lesser of the economic life of the project, or 100 years **beyond the initial date of service**. (P&G 1.4.12)

Cost Allocation – Methodology

- The standard method for allocating costs of Federal water resource projects is the Separable Costs Remaining Benefits (SCRB)
 - 7-Step Process

SCRB 7-Step Process

1. Estimate the monetary **Benefits** provided by each project purpose
2. Estimate **Single Purpose Alternative Costs** and determine **Justifiable Expenditure** (*lesser of the Benefits or Single Purpose Alternative Costs*) for each purpose
3. Estimate **Separable Costs** and subtract from **Justifiable Expenditure** to determine **Remaining Justifiable Expenditure** for each purpose
4. Calculate the proportionate share of **Remaining Justifiable Expenditure** for each purpose
5. Determine the **Remaining Joint Costs** by subtracting the sum of all **Separable Costs** from the **Total Project Costs**
6. Allocate the **Remaining Joint Costs** among the project purposes according to the percentages derived in step 4
7. Calculate the total costs allocated to each purpose

Benefit Analysis

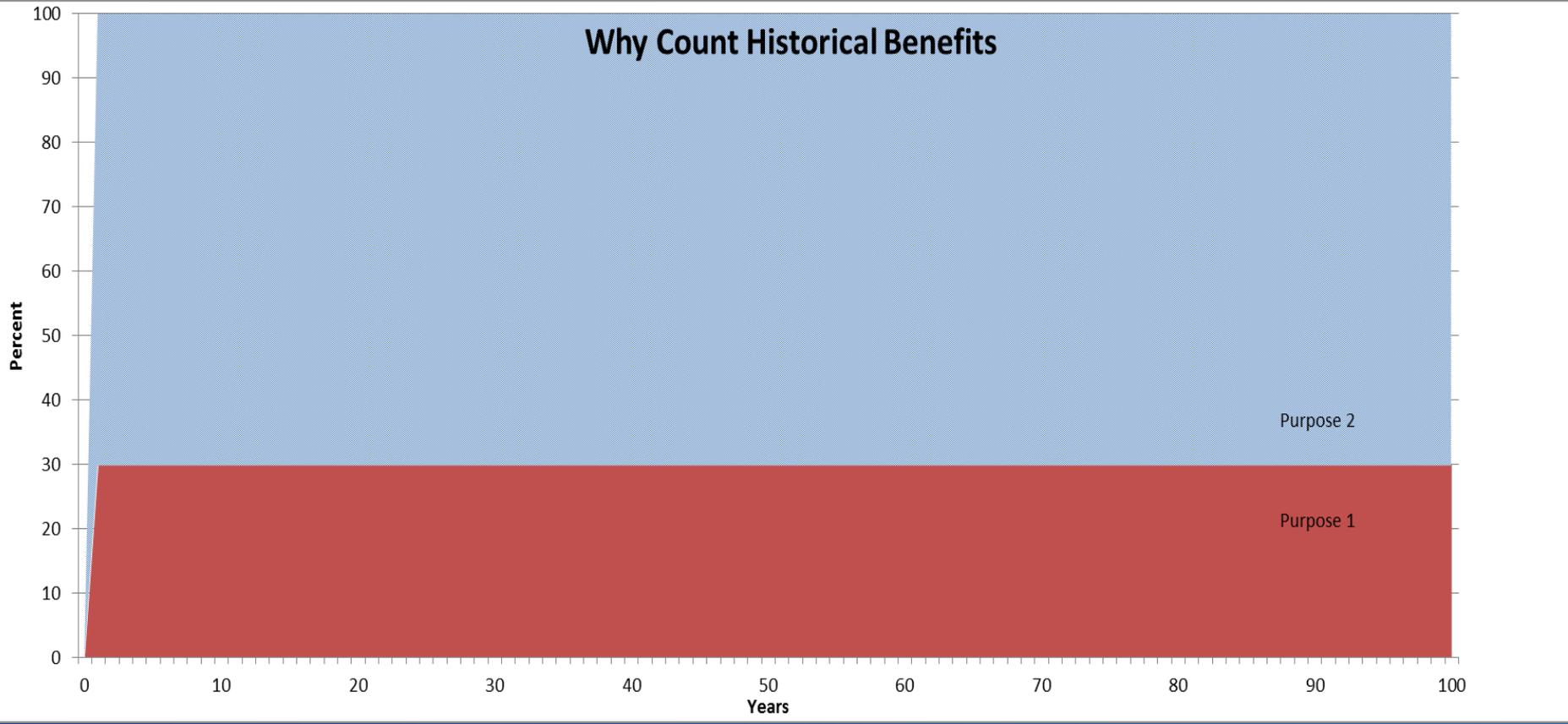
- **Benefits Evaluation**

- 100-year period(s) for each project purpose
- Historical benefits brought forward (compounded) to base year
- Future benefits brought back (discounted) to base year
- Accomplishments/deliveries times base year unit value
- Historic Benefits = Actual accomplishments/deliveries
- Future Benefits = Reasonably foreseeable accomplishments/deliveries

Cost Allocation – Relevant Concepts

- Cost allocation is used to assign project costs to various categories for repayment. However, neither repayment policy nor actual collection of revenues drive the allocation process.
- When the justifiable expenditure is determined by single purpose alternative cost, a change in benefits doesn't necessarily result in a corresponding change in allocated costs.

Why Count Historical Benefits



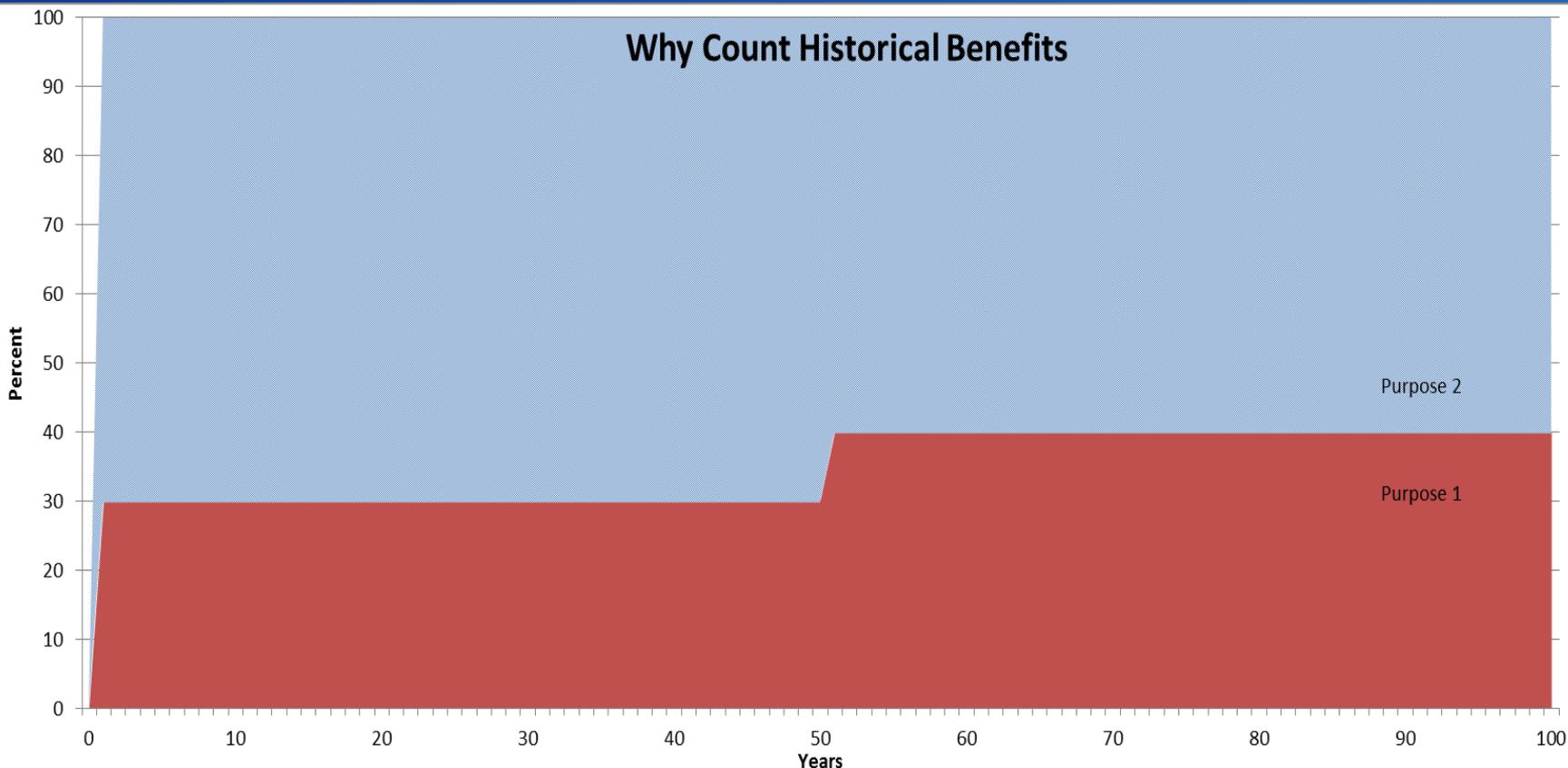
Project Cost: \$1,000,000

Original Benefit Stream

Proportion of Benefits from:	Purpose 1	Purpose 2	Purpose 1	Purpose 2
	30.00%	70.00%	\$300,000	\$700,000

Past & Future Years 1 through 100

Why Count Historical Benefits



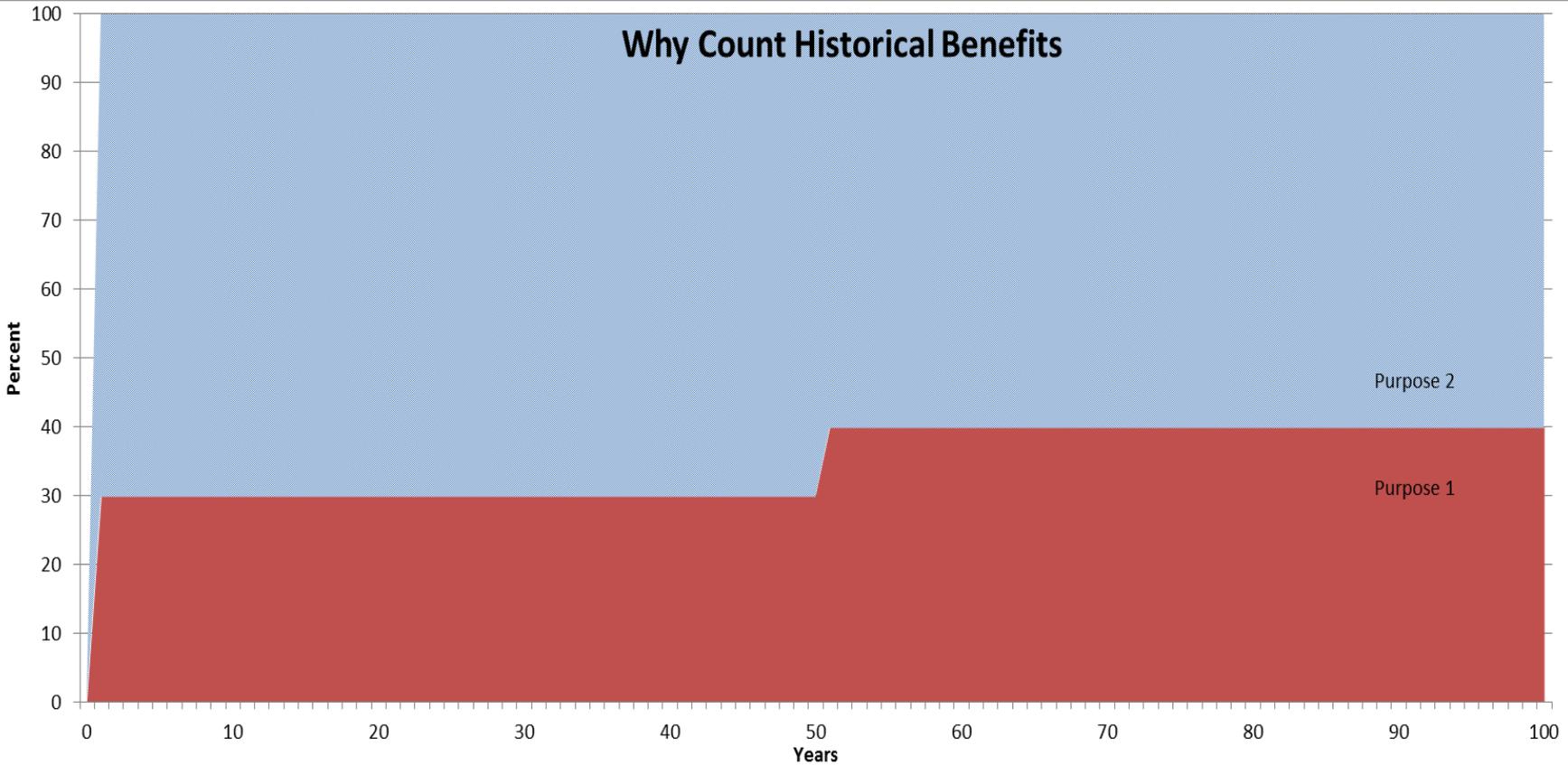
Project Cost: \$1,000,000

Changed Benefit Stream (Year 51)

Proportion of Benefits from:	Purpose 1	Purpose 2	Purpose 1	Purpose 2
Past Only Years 1 through 50	30.00%	70.00%	\$150,000	\$350,000
Future Only Years 51 through 100	40.00%	60.00%	\$200,000	\$300,000
Past & Future Years 1 through 100	35.00%	65.00%	\$350,000	\$650,000

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Why Count Historical Benefits

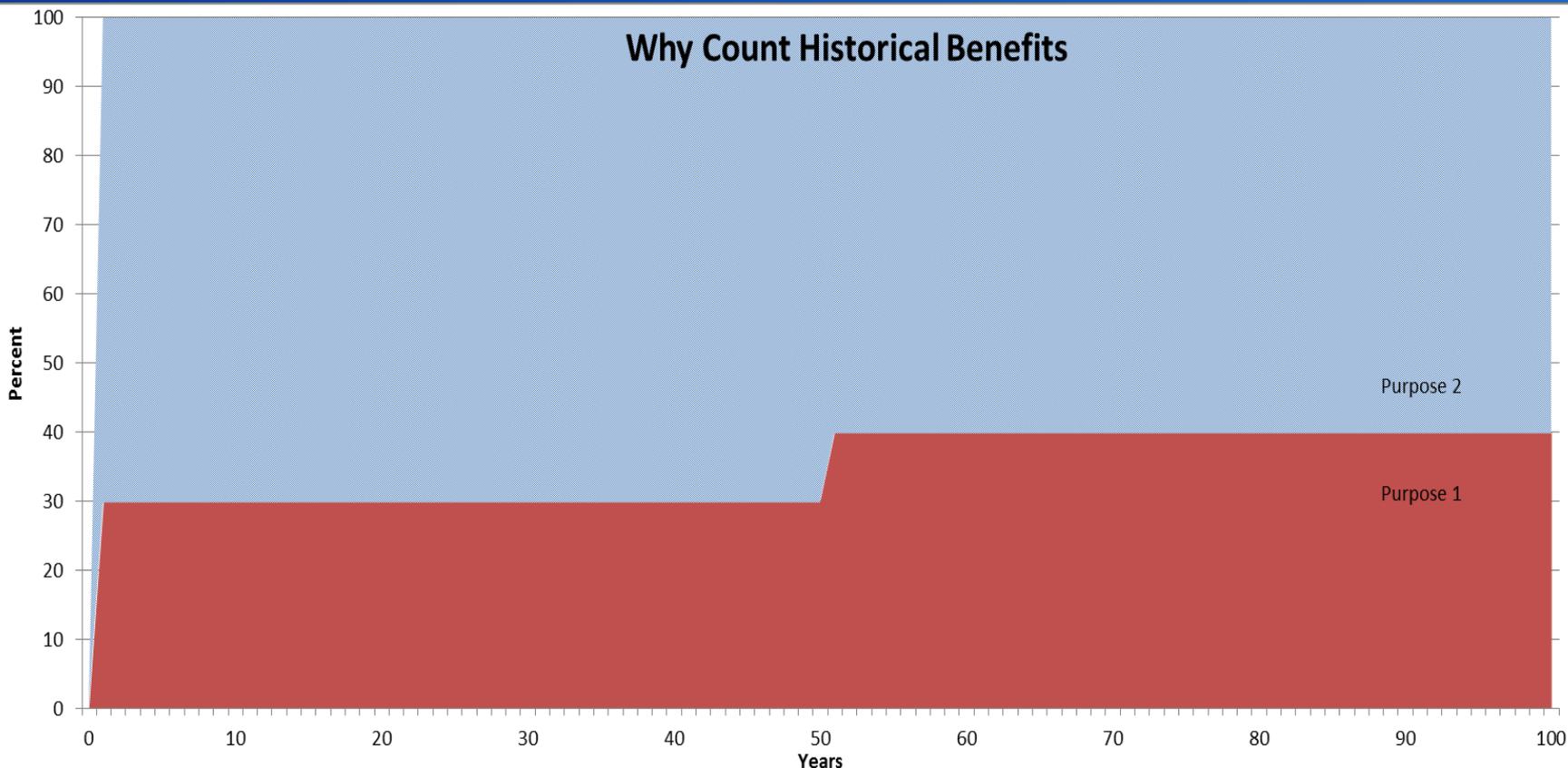


Constant Payment

Project Cost: \$1,000,000
 Repaid by Year 50: 500,000
 Remaining Obligation: 500,000

Proportion of Benefits from:	Purpose 1	Purpose 2	Purpose 1	Purpose 2
Past Only Years 1 through 50	30.00%	70.00%	\$150,000	\$350,000
Future Only Years 51 through 100	40.00%	60.00%	\$200,000	\$300,000
Past & Future Years 1 through 100	35.00%	65.00%	\$350,000	\$650,000

Why Count Historical Benefits

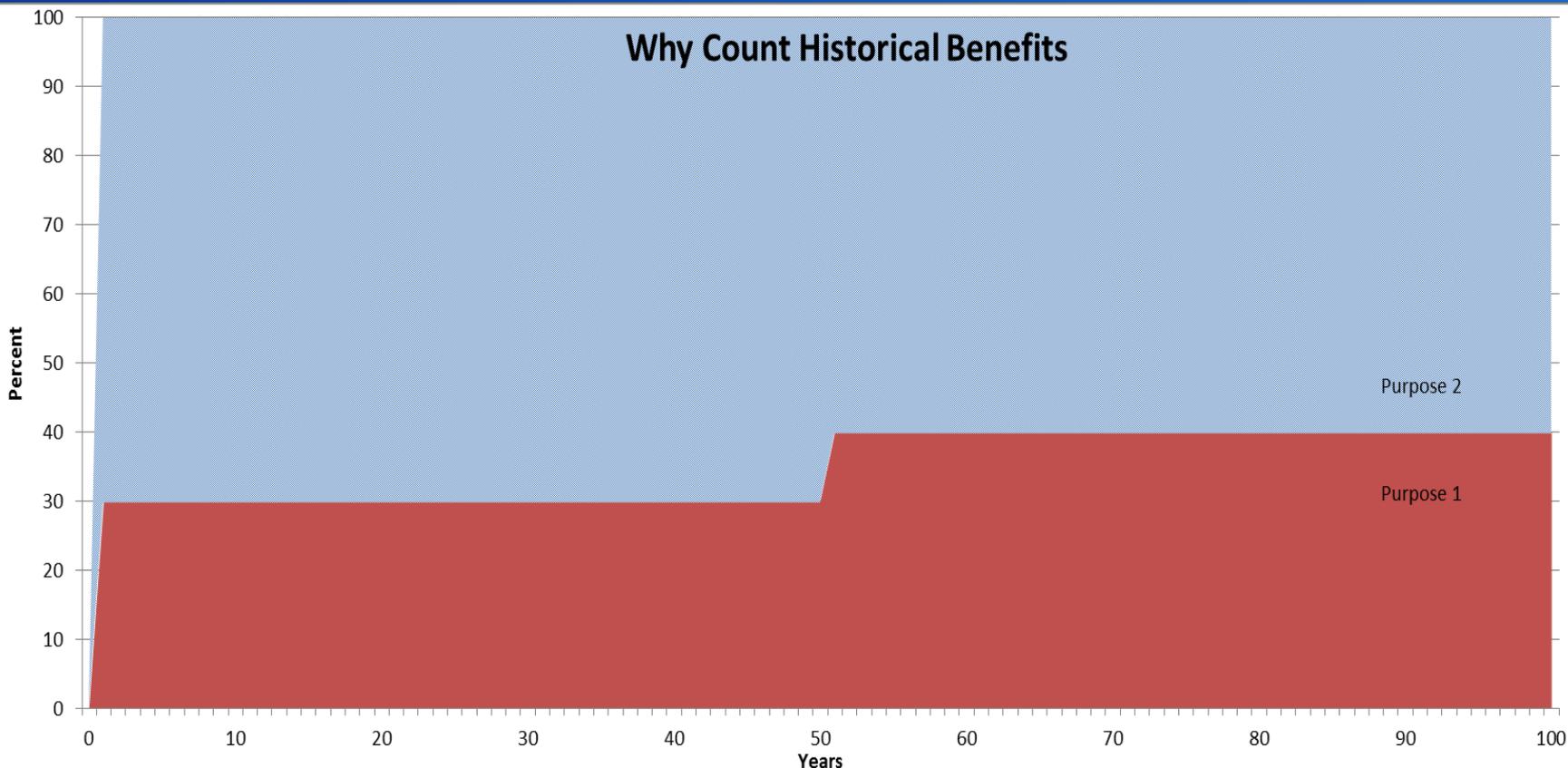


Accelerated Repayment

Project Cost: \$1,000,000
Repaid by Year 50: 750,000
Remaining Obligation: 250,000

Proportion of Benefits from:	Purpose 1	Purpose 2	Purpose 1	Purpose 2
Past Only Years 1 through 50	30.00%	70.00%	\$225,000	\$525,000
Future Only Years 51 through 100	40.00%	60.00%	\$100,000	\$150,000
Past & Future Years 1 through 100	35.00%	65.00%	\$325,000	\$675,000

Why Count Historical Benefits



Delayed Repayment

Project Cost: \$1,000,000
Repaid by Year 50: 250,000
Remaining Obligation: 750,000

Proportion of Benefits from:	Purpose 1	Purpose 2	Purpose 1	Purpose 2
Past Only Years 1 through 50	30.00%	70.00%	\$ 75,000	\$175,000
Future Only Years 51 through 100	40.00%	60.00%	\$300,000	\$450,000
Past & Future Years 1 through 100	35.00%	65.00%	\$375,000	\$625,000

Primary Take-away Points

- A change in the ratio of total project benefits occurring at any point during the analysis period affects the overall share of project benefits in direct proportion to the amount of time the change is in effect.
- The only scenario in which a change in benefits results in a corresponding change in repayment of allocated costs is when repayment is directly correlated to the generation of benefits.

Questions?

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