

ROI/NPV

Zenner Can Help You Figure Out if a Project has a Positive ROI and NPV

What is Return on Investment - ROI?

A performance measure used to evaluate the efficiency of an investment or to compare the efficiency of a number of different investments. ROI measures the amount of return on an investment relative to the investment's cost. To calculate ROI, the benefit (or return) of an investment is divided by the cost of the investment, and the result is expressed as a percentage or a ratio.

The return on investment formula:

$$\text{ROI} = \frac{(\text{Gain from Investment} - \text{Cost of Investment})}{\text{Cost of Investment}}$$

In the above formula, "Gain from Investment" refers to the proceeds obtained from the sale or use of the investment of interest.

BREAKING DOWN 'Return On Investment - ROI'

Return on investment is a very popular metric because of its versatility and simplicity. Essentially, return on investment can be used as a rudimentary gauge of an investment's profitability. ROI can be very easy to calculate and to interpret.

What is Net Present Value – NPV?

Net Present Value (NPV) is the difference between the present value of cash inflows and the present value of cash outflows. NPV is used in capital budgeting to analyze the profitability of a projected investment or project.

The following is the formula for calculating NPV:

$$\text{NPV} = \sum_{t=1}^T \frac{C_t}{(1+r)^t} - C_0$$

Where

C_t = net cash inflow during the period t

C_0 = total initial investment costs

r = discount rate, and

t = number of time periods

A positive net present value indicates that the projected earnings generated by a project or investment (in present dollars) exceeds the anticipated costs (also in present dollars). Generally, an investment with a positive NPV will be a profitable.

Why wait? Let Zenner help!

Simply supply your utility information in the form provided below, and we will run a projected ROI and NPV for your specific case. Complete the following form and save the file to your computer. Then email the file to marketing@zennerusa.com.

Zenner USA ROI Analysis

Date Prepared	
Zenner Information	
Name of Preparer	
Title	
Phone Number	

This analysis tool uses information provided by Utility and industry standard information. Included are benefits for AMI, in some instances for this business case those benefits from a two way fixed network system are being used. This does not represent a complete encompassing scenario and in some cases you may have to input manually those items not listed and that provide payback to the utility.

Basic Utility Inputs -- REQUIRED

1	Utility Information	
	Utility Name	
	Contact Person	
	Phone Number	

2	Utility Ownership (Check one)		Notes	
		Investor Owned		
		Cooperative Owned		
		Government Owned		

3	Meter Population		Total Meters	For Automation	
				% Replaced	% Retrofit
		Water		%	%
		Electric		%	%
	Notes				

4	Current Meter Reading		
		Number of times meters are read each year	
	Either		
5	Meter Reader Information		
		% of meters read by utility personnel	%
		Number of full time readers (or equivalent) used for billing reads	
		% of meters read by contractors	%
		Contractor price per read	\$
	Notes		

Additional Utility Inputs

	Traditional Meter Reading	Notes	Inputs
11	Average annual meter reader salary		\$
12	Number of meter clerks		
13	Average annual clerk salary		\$
14	Number of supervisors		
15	Average supervisor salary		\$
16	Benefits as a % of salary		%
17	Number of vehicles		
18	Annual cost per vehicle		\$
19	Current number of hand-helds		
20	Hand-held purchase price per unit		\$
21	Average life of hand-held (Years)		
22	Annual maintenance fee per hand-held		\$
23	Annual overhead/office space		\$
24	Annual cost of injuries to meter readers		\$

25	Annual damages caused by meter readers		\$
	Off-Cycle Reads	Notes	
26	On-off reads per year		
27	Cost per read		\$
28	Re-reads per year		
29	Cost per read		\$
	Accounting & Customer Service	Notes	Inputs
30	Number of customer calls per year		
31	% due to high or estimated bill		%
32	Calls handled per operator per year		
33	Operator Salary		\$
34	% reduction in calls with automation		%
35	Number of re-bills per year		
36	Cost per re-bill		\$
37	Assumed % reduction with automation		%
38	Annual number of estimated bills		
39	Cost of computation per bill		\$
40	Number of days from read to bill system		
41	Annual water & sewer revenue		\$
42	Opportunity cost of capital		
	Financial	Notes	Inputs
43	Inflation rate		%
44	Depreciation Life (5,7,10,15 or 20 years)		
45	Combined tax rate		%
46	Opportunity cost of capital		%

Water System Information

	Outage Management (Water Only)	Notes	Inputs
1	No-Water calls per year		
2	% due to customer-side problems		%
3	Cost per site visit		\$
4	Annual line department costs		\$
5	% spent on outage restoration		%
6	% reduction with automation		%
7	Outage minutes per customer per year		
8	% reduction with automation		%
9	Average cost of installation, including travel		\$
10	Average Water meter inaccuracy (%)		%

11	Average Water rate per 1000 gal		
	Revenue Protection	Notes	Inputs
9	Percent of revenue lost to theft		%
10	Percent lost to Tamper		%
11	Percent lost to Leakage		%
12	Percent reduction in above with AMI		%
13	Increased staffing cost with automation		\$
	Meter Configuration Updates	Notes	Inputs
14	Number of Meters updated each year		
15	Cost of scheduled truck roll		\$
16	Percent reduction in truck rolls		%
	Remote Disconnect	Notes	Inputs
17	Number of Disconnects per year		
18	Cost of scheduled truck roll		\$
19	Percent reduction in truck rolls		%
	Meter Operations	Notes	Inputs
20	Typical meter life		
21	Number of meters sample tested/year		
22	Average cost of a meter test		\$
23	Average cost of standard new meter		\$
24	Average cost of installation, including travel		\$
25	Average water meter inaccuracy		%
26	Average water rate per 1000 gals \$		\$