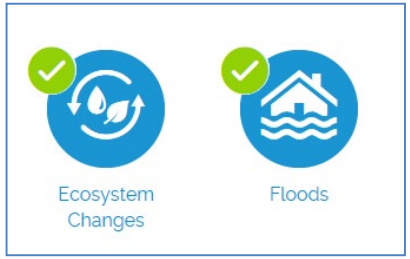
United States
Environmental Protection
Agency

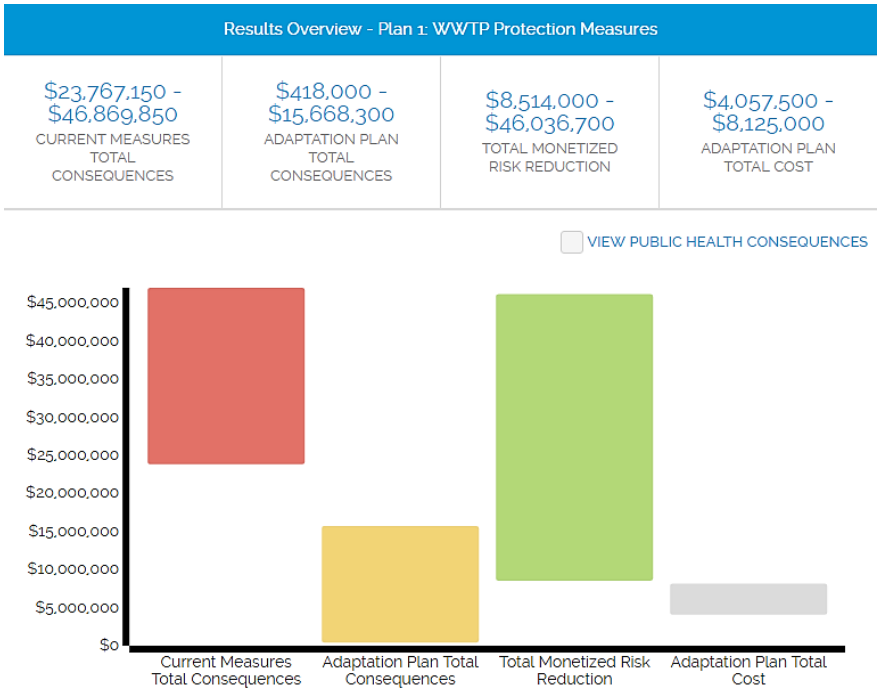
EPA's CREAT: Decision Support Example

EPA's Creating Resilient Water Utilities (CRWU)

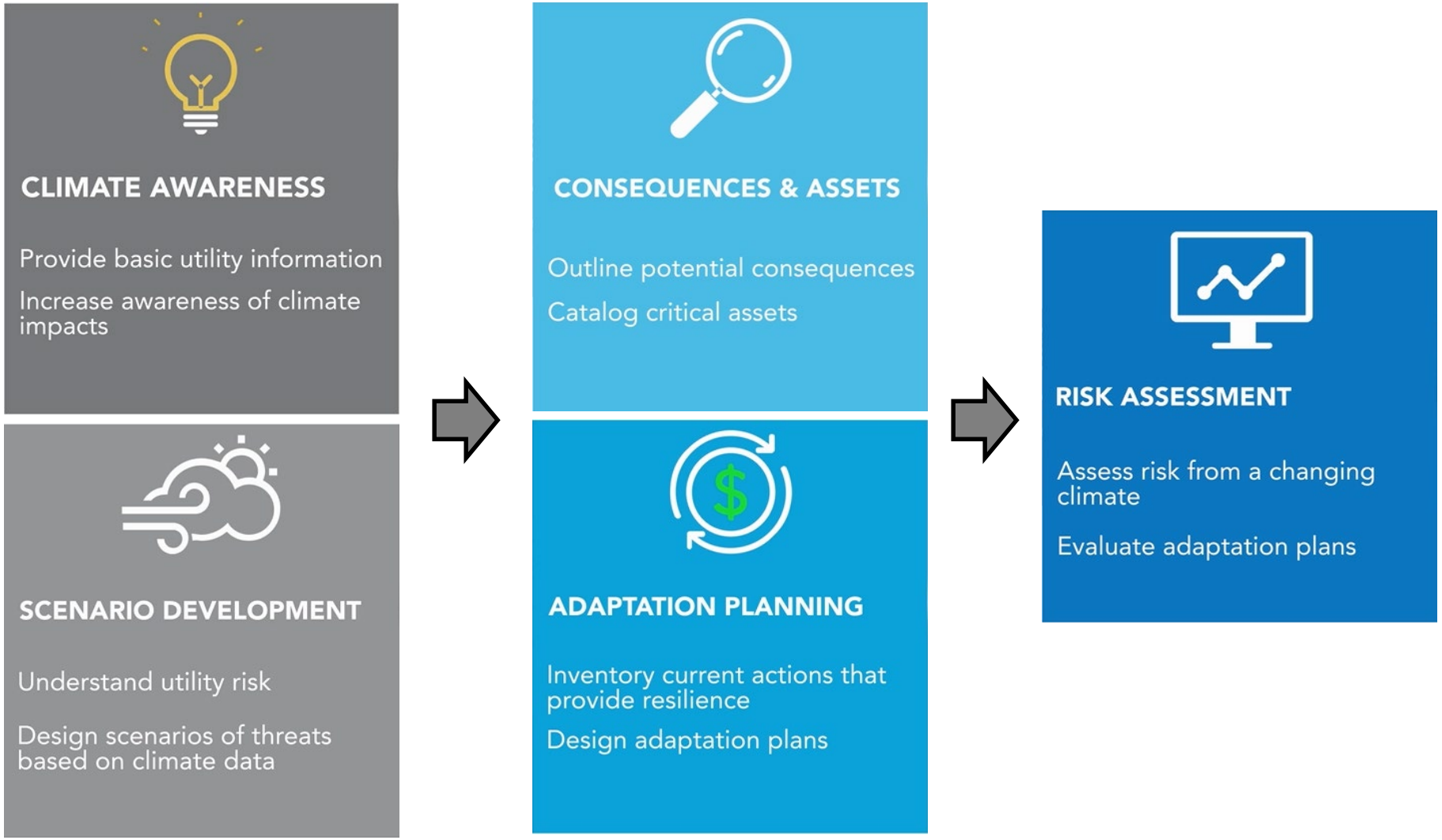
The CREAT Process

- **Web-based tool** for assessing risk of potential impacts
- **Module-based process** with clearly defined goals and reports
- Multiple scenarios provided to help **capture uncertainty**
- **Assessment of current resilience** will help inform adaptation planning
- Results help utilities compare **risk reduction** and **implementation costs**





Tool Resource - CREAT 3.0 Modules

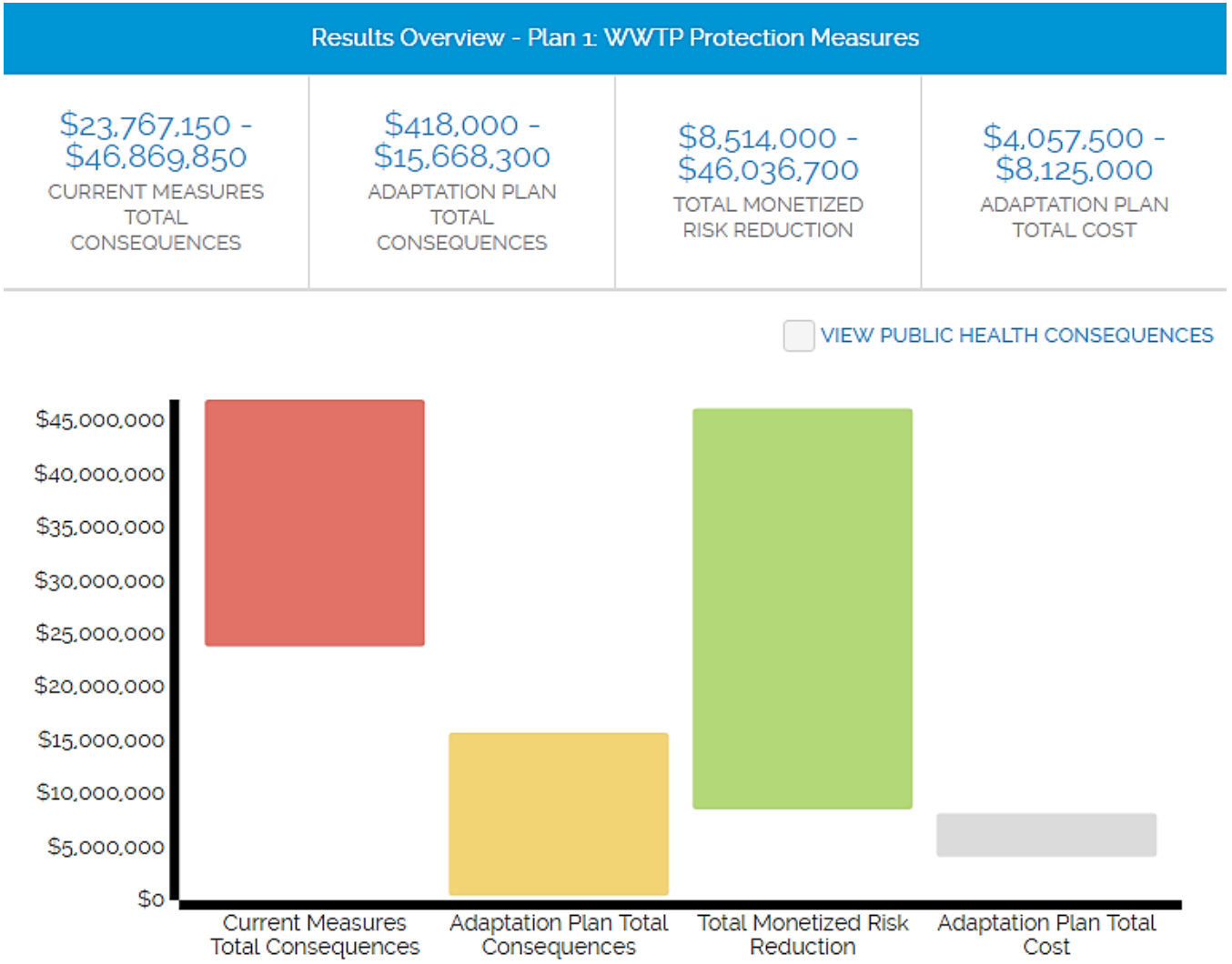


Economic Consequences

LEVELS	Utility Business Impacts
VERY HIGH	Long-term or significant loss of expected revenue or operating income
	$1,590,000+
HIGH	Seasonal or episodic compromise of expected revenue or operating income
	$1,062,000 - $1,590,000
MEDIUM	Minor and short-term reductions in expected revenue
	$531,000 - $1,062,000
LOW	Minimal potential for loss of revenue or operating income
	$0 - $531,000

- Ranges of values are provided for each category based on utility information
- Basis for default values are published sector survey data
- Values can be modified, additional categories can be considered

CREAT Outputs: Risk Results



Consider Other Economic Factors/Impacts

Contribute your risk assessment results to the Adaptation Case Study and Information Exchange Map to share your lessons learned with others. The map provides an opportunity for utilities to learn about climate change adaptation planning efforts from their peers across the United States.

Add Custom Impact

PLAN REPORT	PLAN NAME	TOTAL COST	ENERGY IMPACTS	SOCIO-ECONOMIC IMPACTS	COMMUNITY PUBLIC HEALTH IMPACT	UTILITY BUSINESS IMPACTS	SOURCE/RECEIVING WATER IMPACTS
Download	Collection Priority	$25,000 - $100,000	Low	Neutral	Beneficial/Ene	Neutral	Beneficial/Ener
Download	System Protection	$275,000 - $1,100,000	Low	Medium	Beneficial/Ene	Beneficial/Ei	Beneficial/Ener

Note: CREAT generates a plan report you can view and download after you complete at least one critical asset/threat pair assessment for each adaptation plan. If you are viewing this report on a tablet, it will display best using the Microsoft Word App.

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Example Case Studies – Camden County MUA (NJ)

- Assessment focused on improving operations under changing climate conditions as well as addressing potential extreme events
- Planning efforts encompass multiple goals for optimizing energy use and cost along with gains in resilience

GOAL	ADAPTIVE MEASURES
Improve water quality / Reduce CSOs	Capturing excess stormwater using planted trees and rain gardens through the Camden SMART initiative
	"Daylighting" streams that had previously been paved over using a low interest loan from the New Jersey Environmental Infrastructure Trust
	Converting an abandoned building into a riverside park
	Cleaning inlets to optimize the sewer system's performance through changes in operations and maintenance
	Replacing netting systems to optimize the sewer system's performance through changes in operations and maintenance
Improve air quality	Installing catalytic converters to reduce emissions
	Reducing I&I to minimize energy use and cost throughout the CCMUA system
Minimize costs	Using gravity connections as a replacement to municipal pumping stations
	Implementing electric peak shaving
	Using heating loops and energy-efficient equipment to increase total energy efficiency
Reduce energy	Installing a 1.8 megawatt solar panel array through a purchase agreement at no cost to CCMUA, and buying power from the contractor at a discounted rate
	Implementing a sewage-to-heat facility through a grant from the New Jersey Board of Public Utilities which converts latent heat in sewage into heat at the plant
	Building a digester facility to produce enough biogas to meet about 50 to 60% of the utility's power needs
	Installing a 1.8 megawatt solar panel array to provide 10% of energy needs at the wastewater treatment plant

United States Environmental Protection Agency

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