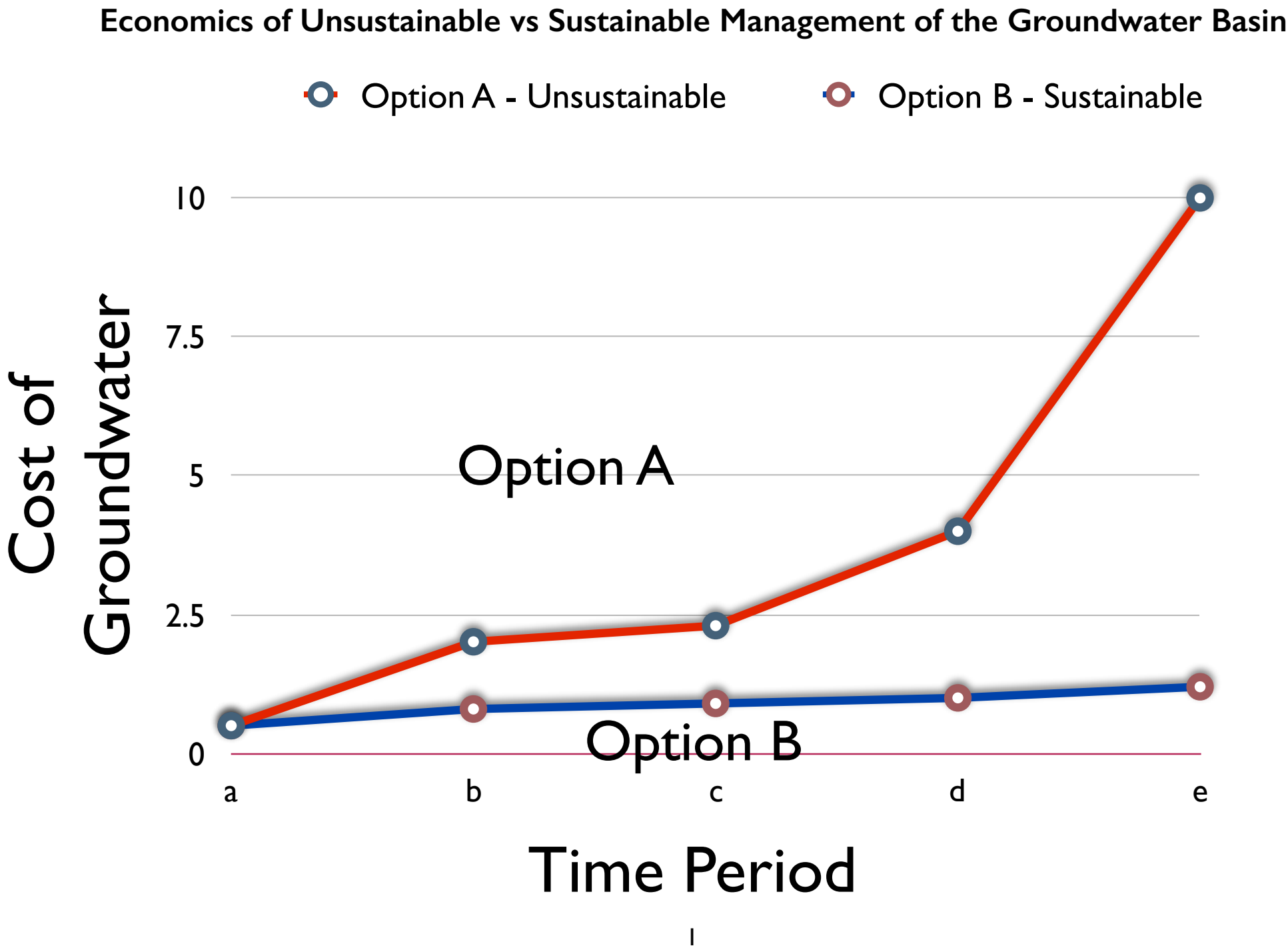

Economics of Unsustainable vs Sustainable Management of the Groundwater Basin
Option A - Unsustainable
Option B - Sustainable
10
7.5
5
2.5
0
Cost of Groundwater
Option A
Option B
a
b
c
d
e
Time Period

Wells, Booster Stations, Reservoirs and Associated Tranmission Mains	Growth/R&R	Priority			Reason	2013 COST	FY 2015-16	FY 2016-17	FY 2017-18	FY 2018-19	FY 2019-20	FY 2020-21	FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25
Environmental review for Wilcox Reservoir, forebay and transmission lines	G							$ 100,000								
Wilcox Reservoir, 2.0 MG	G	1a			1	$ 2,000,000			$ 2,300,000							
Wilcox Related Transmission Mains	G	1b			1	$ 2,000,000			$ 2,300,000							
Wilcox Booster Station/Forebay	G	1c			1	$ 400,000			$ 460,000							
New wells north end of Valley	R	2a			2	$ 600,000							$ 762,000			
Transmission mains for new well	R	2b			2	$ 375,000				$ 250,000	$ 250,000					
Indianhead Reservoir, 0.5 MG	G	3a			3	$ 800,000						$ 992,000				
Indianhead Transmission Mains	G	3b			3	$ 500,000						$ 620,000				
Water Treatment Facility (phase 1)	R				4	$ 500,000							$ 635,000		$ 250,000	
Water Treatment Facility (phase 2)	R				4	$ 500,000								$ 650,000		$ 250,000
New Reservoir ID-4	R					$ 800,000									$ 1,064,000	
Transmission mains for new reservoir	R															$ 500,000
Wastewater Plant		Priority			Reason	2013 COST										
Wastewater plant upgrades	R	1			5	$ 40,000	$ 72,500	$ 41,200	$ 42,436	$ 43,709	$ 45,020	$ 46,371	$ 47,762	$ 49,195	$ 50,671	$ 52,191
Forcemain replacement at La Casa del Zorro, collection system repairs	R					$ 100,000		$ 112,000								
Sewer main replacement/upgrades	R							$ 200,000		$ 200,000			$ 200,000			$ 500,000
Solar Project	G	1					$ 205,088									$ 500,000
Conversion to Tertiary Treatment - Study needed to determine cost	G						$ 200,000									
Pressure Reducing Stations		Priority			Reason	2013 COST										
ID4, Reducing Sta. design and installation	R	1			7	$ 20,000							$ 25,400			
ID5, Reducing Sta. design and installation	R	2			7	$ 25,000		$ 28,000								
ID5, Reducing Sta. design and installation, Borrego Valley Rd.	R	3			8	$ 25,000				$ 28,750						
Pipelines		Priority	length	size	Reason	2013 COST										
Environmental review for Borrego Springs Pipeline	G							$ 25,000								
Borrego Springs Rd, Weathervane Dr. to Barrel Dr.	G	1a	1500	10"	9	$ 56,250		$ 63,000								
Borrego Springs Rd, Walking H Dr. to Tilting T Dr.	G	1b	2170	10"	9	$ 81,375			$ 91,140							
Borrego Springs Rd, Tilting T Dr. to Country Club Rd. First half	G	1c	1900	10"	9	$ 71,250				$ 84,075						
Borrego Springs Rd, Tilting T Dr. to Country Club Rd. Second half	G	1d	1800	10"	9	$ 67,500					$ 81,675					
Borrego Springs Rd, Christmas Circle to Diamond Bar Dr.	G	1e	1040	10"	9	$ 39,000						$ 48,360				
Borrego Springs Rd, Diamond Bar Dr. to T Anchor Dr.	G	1f	1580	10"	9	$ 59,250							$ 73,470			
Borrego Springs Rd, Christmas Circle loop	G	1g	822	10"	9	$ 30,825								$ 40,073		
Borrego Springs Rd, Upgrade 6" to 10" Country Club Rd. to San Pablo Rd.	G	1h	2200	10"	10	$ 82,500									$ 109,725	
Borrego Springs Rd, Upgrade 8" to 10" 660' north of Weathervane Dr.	G	1i	660	10"	10	$ 24,750										$ 33,660
Country Club Road from Booster Sta #3 south to Slash M Rd.	G	2	2200	6"x2	11	$ 77,000		$ 86,240								
Borrego Valley Rd. South of Tilting T - Hold for engineering study	R	3	2000	12"	12											
Circle J Dr.	R	4	1800	6"	11	$ 54,000										
Bending Elbow Rd. Second half	R	5	1700	6"	11	$ 51,000	$ 55,590									
Double O	R	6	3000	6"	13	$ 90,000		$ 100,800								
Club Circle East	R	7	1400	8"	14	$ 42,000			$ 48,300							
Club Circle West	R	8	1400	8"	14	$ 42,000				$ 49,560						
De Anza Dr. 1600 block	R	9	1250	6"	14	$ 37,500					$ 45,375					
Pointing Rock Dr/Montezuma Rd Loop First half	R	10	1563	8"	14	$ 46,890						$ 58,144				
Pointing Rock Dr/Montezuma Rd Loop Second half	R	11	1564	8"	14	$ 46,920							$ 59,588			
Country Club Road from Tilting T Dr. south to Booster Sta #3	R	12	2800	6"	14	$ 84,000								$ 109,200		
Environmental review for new conveyance pipelines	G							$ 25,000				$ 25,000				
Conveyance pipeline down Borrego Valley Rd. from Palm Cyn to well ID1-12	G		11100	8"		$ 666,000								$ 865,800		
Pipeline installation to convey well water directly to reservoirs ID-1	R							$ 300,000								
Pipeline installation to convey well water directly to reservoirs ID-4	R									$ 700,000	$ 300,000					
Relocate alley water mains to streets in southern ID-4	R					$ 75,000		$ 84,000		$ 88,500		$ 93,000		$ 97,500		$ 102,000
Other Infrastructure																
Repairs to Stirrup Road commercial property	R						$ 5,000	$ 5,000	$ 5,000	$ 5,000						
Groundwater Management																
Viking Ranch Fallowing																
Viking Ranch Purchase Reserve																
Groundwater Management-Legal							$ 60,000									
Prop 218 Process							$ 110,000									
GSP basin wide development costs							$ 126,000									
District portion of GSP							$ 12,000									
TOTAL - CAPITAL IMPROVEMENTS PROGRAM							**$ 846,178**	**$ 1,070,240**	**$ 5,246,876**	**$ 1,449,594**	**$ 722,070**	**$ 1,882,875**	**$ 1,803,220**	**$ 1,811,767**	**$ 1,474,396**	**$ 1,937,851**
TOTAL - SHORT LIVED ASSETS (FROM SHEET 2)							**$ 654,600**	**$ 442,600**	**$ 367,620**	**$ 428,037**	**$ 327,402**	**$ 357,583**	**$ 372,003**	**$ 468,034**	**$ 423,425**	**$ 446,575**
Total CIP and Short Lived Assets							**$ 1,500,778**	**$ 1,512,840**	**$ 5,614,496**	**$ 1,877,631**	**$ 1,049,472**	**$ 2,240,458**	**$ 2,175,224**	**$ 2,279,802**	**$ 1,897,821**	**$ 2,384,426**

	REASON EXPLANATION				
	1	District-wide Storage	6	11	Weakest existing pipeline
NOTE	2	Additional Water Supply	7	12	Loop ID1-ID5 east side
3% per year inflation factor added except to sludge removal where 10% was added	3	Additional Water Storage	8	13	3" main, limited fire flow cap.
	4	District-wide Water Treatment	9	14	Replace old mains
	5	Infrastructure Replacement	10		

Borrego Water District

- the water district operates and maintains a 24x7 positive pressure system to supply *potable* water to its customers
- the *potability* of the District's public water supply is regulated by state and federal drinking water standards and is tested regularly to make certain these standards are met
- by delivering *potable* water on demand 24/7 to its customers, the district helps support the public health and economic well-being of the community

District Economics

- assuming the district is being well-managed and properly governed by a responsible Board
  - from a *public health* perspective, most of the district's costs are non-discretionary. Costs are primarily driven by safe drinking water regulations and *potable* water supply economics
  - from an *economic development* perspective, most of the district's costs are non-discretionary. Water quality and supply uncertainty constrains *sustainable* economic development

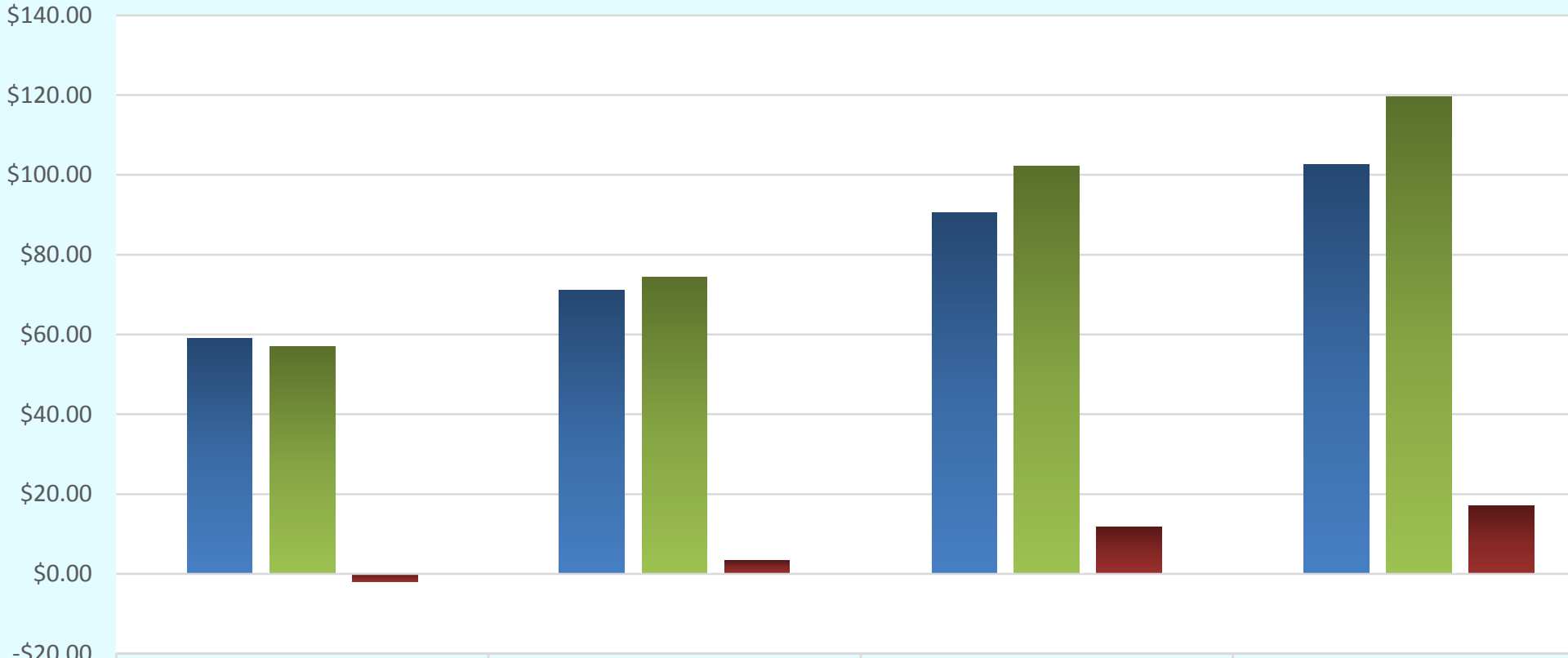
Proposed Rate Changes for FY 2017 - FY 2021

- assumptions
  - ratepayers continue to want potable water delivered to their homes and businesses for public health reasons and to support property values
  - best engineering analysis at this time is that this will cost ~9.0M in new infrastructure and spending will be necessary within the next 3-4 years
  - instead of assessing ratepayers this cost all at once, it is most advantageous to borrow this amount and spread this cost over 30-40-years
  - to borrow the funds for this new infrastructure will require improvements to existing annual cash flow and reserves

Proposed Rate Changes for FY 2017 - FY 2021

- monthly base service rates will decrease ~20% (all meter sizes) for FY 2017
- residential water rates for Tier 1 (< 7 units/mo) will increase from $2.42 to $3.16/unit in FY 2017
  - Tier 2 (> 7 units/mo) = $3.48/unit in FY 2017
- commercial water rates will increase from $2.42 to $3.35/unit
- sewer rate revenue will increase 9,4,4,4,4% between FY 2017-FY 2021

Residential Bill Impacts

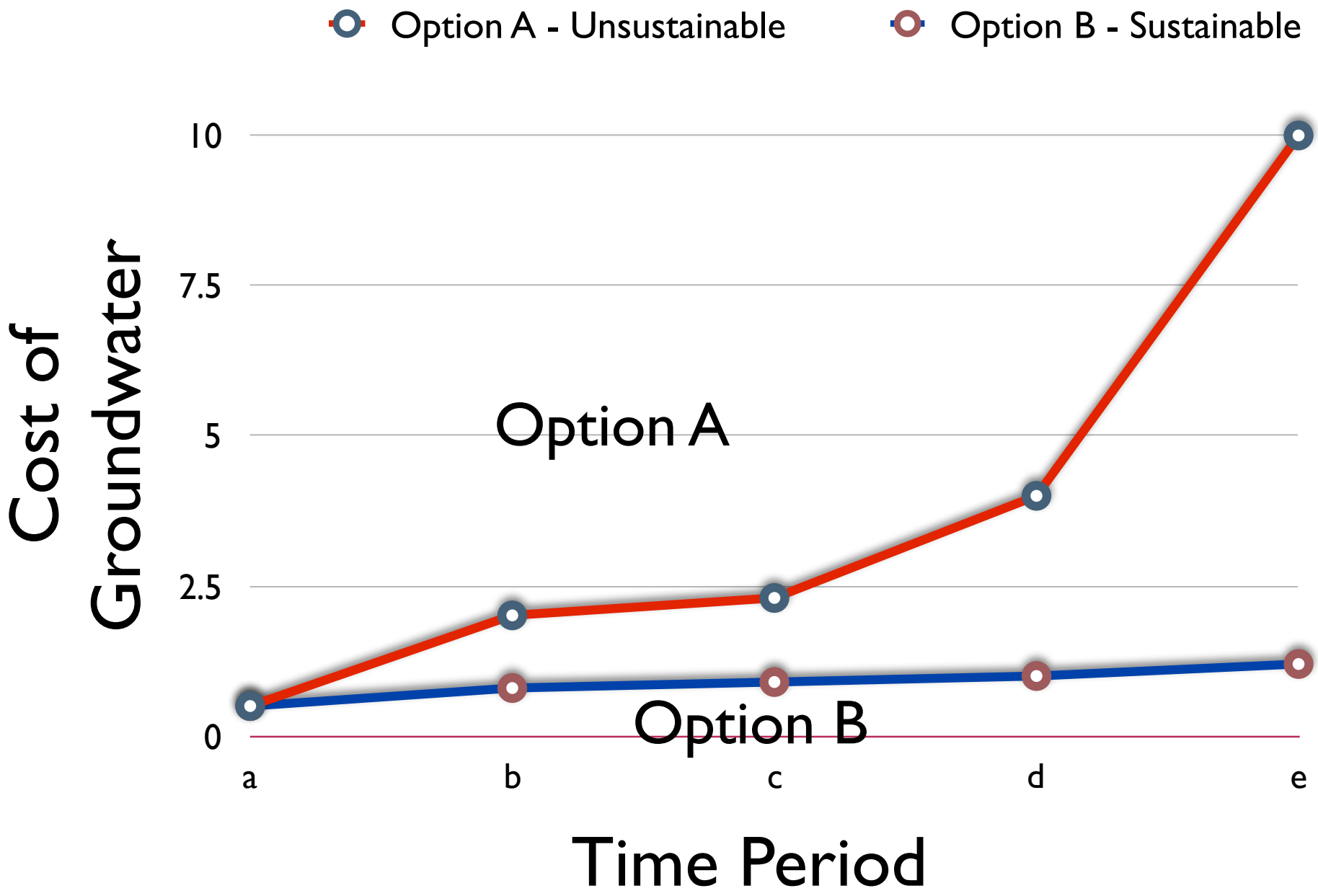


	7 hcf	12 hcf	20 hcf	25 hcf
Current Charge	$58.98	$71.08	$90.44	$102.54
Proposed Charge	$57.01	$74.41	$102.25	$119.65
Impact	-$1.97	$3.33	$11.81	$17.11

Usage

Current Charge Proposed Charge Impact

Economics of Unsustainable vs Sustainable Management of the Groundwater Basin



Adjudication Option

- estimate 2X increase in rates proposed for FY 2017-FY 2021
- *An Evaluation of California's Adjudicated Basins (2016)*, University of California, Santa Cruz
  - ***Groundwater adjudication is fundamentally not about the sustainable management of a groundwater basin***
  - Rather, it is about the court addressing a controversy between parties about a "problem" in the basin and designating who should be responsible for providing a solution
  - ***This is a central issue with adjudications if the goal is the sustainable management of a groundwater basin***

Regulatory Option

- estimate is 3x the cost of SGMA to achieve sustainability plan
- exclusive use of penalties to drive reductions rather than use of water markets