

The Union budget of India 2016-17:

Scalability of underground drainage and faecal sludge management

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Consortium for
DEWATS
Dissemination
Society



Urban India



81% not treated

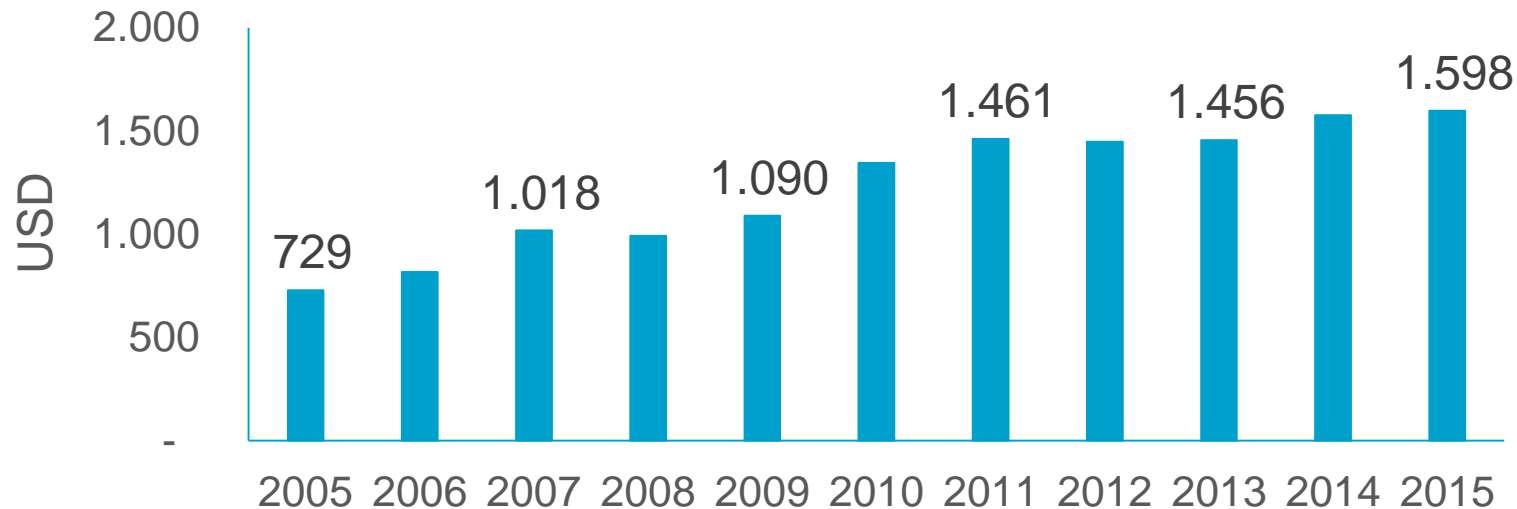
Background and Approach

1. FSM and Sewerage are vastly different:
 - Not comparing merits, feasibility, viability of the two
 - Both compete for same resource pool with same ultimate goals
2. Cost data collected based on DPR from 23 centralised system and 6 FSM towns
3. Budget figures and other economic data: 2016-17
4. Projected data (population, growth rate etc) from World Bank
5. Highly conservative approach



How much \$\$ does India have?

Description	Amt - USD	Amt - INR
GDP (Current US)	2.09 Trillion	136 Trillion
Per Capita per year	1,598	1,03,886



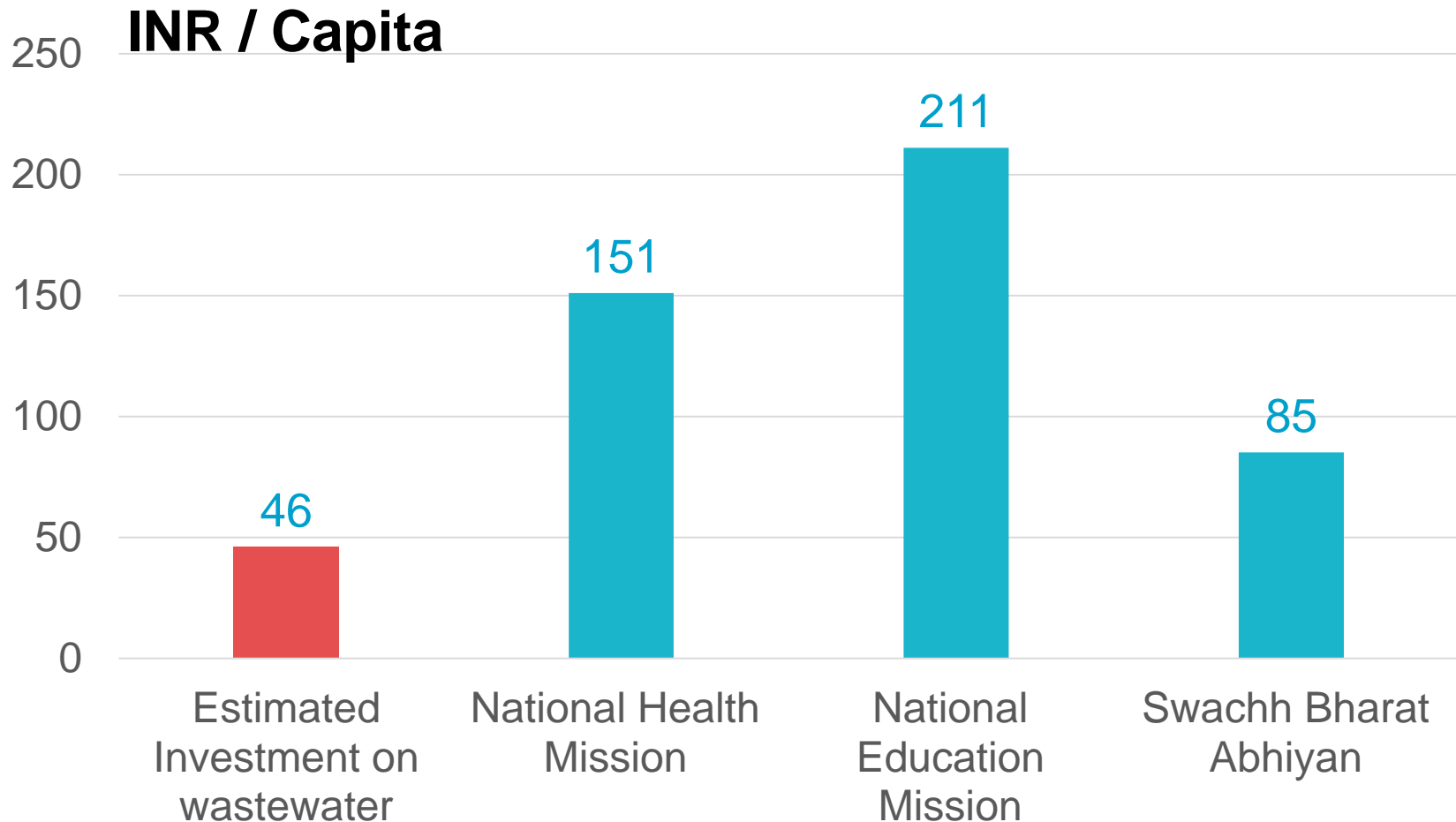
Government Spending?

Description	Amt in USD	Amt in INR
Union budget 2015-16	0.27 Trillion	17.8 Trillion
Union budget /Capita	209	13,558
States Budget /Capita	205	13,349
Total Budget /Capita	414	26,907

Budget for Wastewater in 2016-17?

Description	Total Budget		Wastewater	
	USD	INR	%	INR/capita
AMRUT	0.63 B	41 B	31%	10
State and City	0.20 B	13 B	100%	10
Smart City	0.50 B	32 B	25%	6
National River Conser	0.06 B	4 B	50%	1
SPM Rurban Mission	0.04 B	3 B	30%	1
Namami Gange	0.35 B	23 B	60%	10
External Assistance	3.38 B	220 B	5%	8
Total				46

Is the estimated too high?



MODELLING INPUTS : INR 50



Different Solutions : Capex

Options	Capex / capita (INR)	Capex / capita (USD)
Sewerage system	INR 3,201– 42,695	48 – 650
FSM	INR 500 – 2,000	8 – 30

MODELLING INPUTS :

Centralised system: INR 10,000 – USD 150

FSM: INR 700 – USD 11



Different Solutions : Opex

Options	Opex / capita (INR)	Opex / capita (USD)
Sewerage system	295 – 3,648	5 – 56
FSM	100 – 250	2 – 4

Two Key Inputs

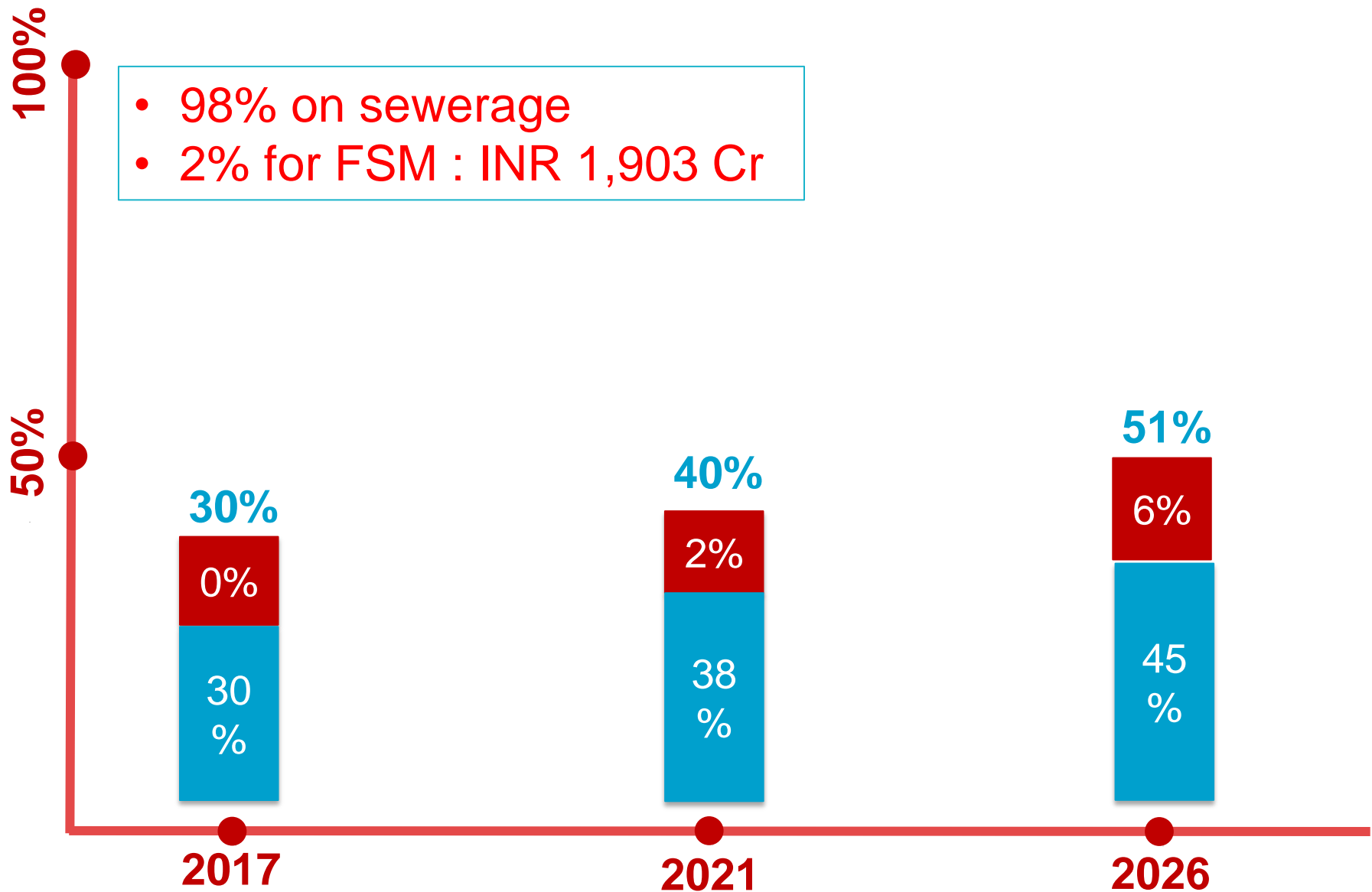
Cost



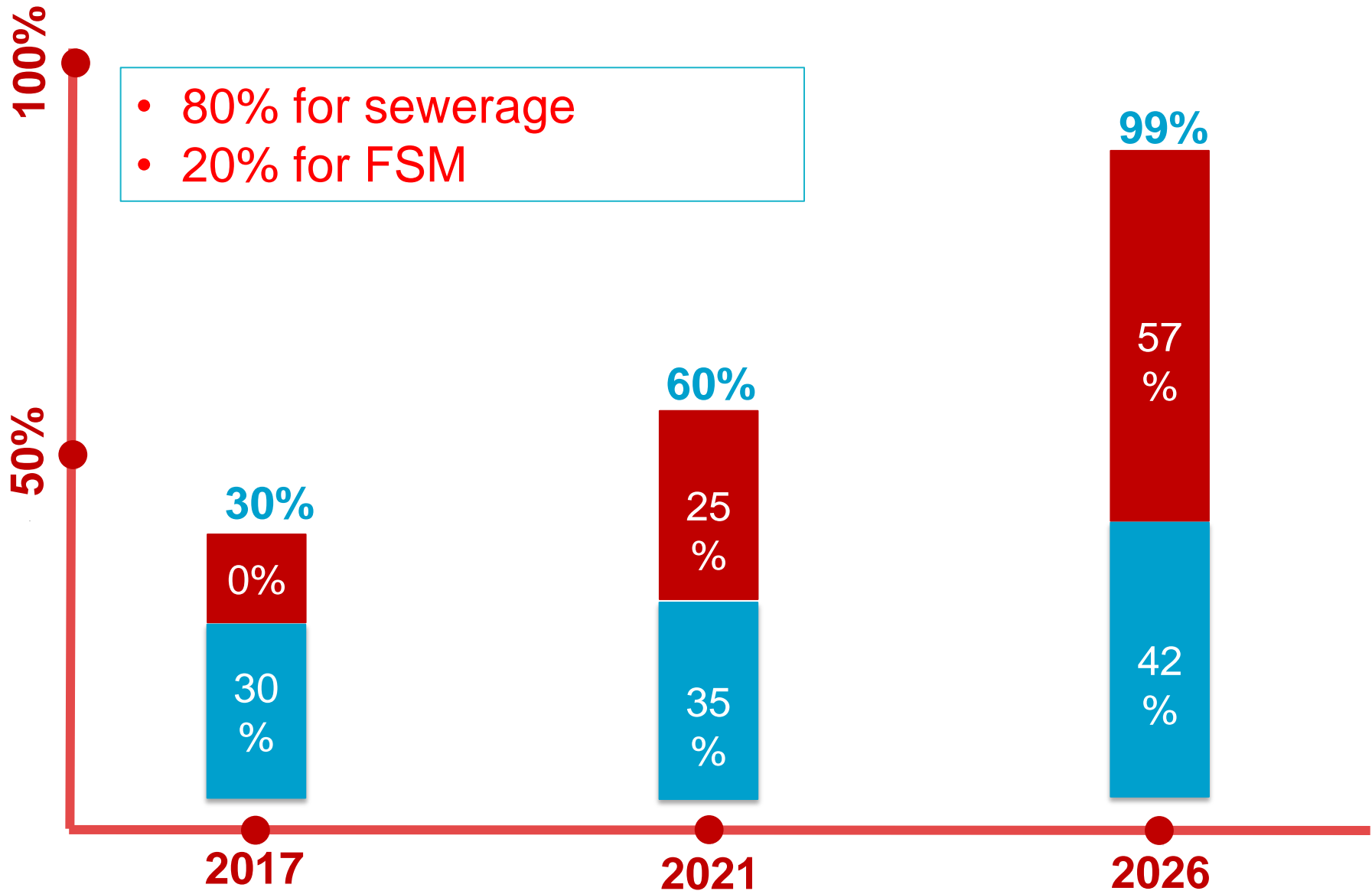
Budget per
year



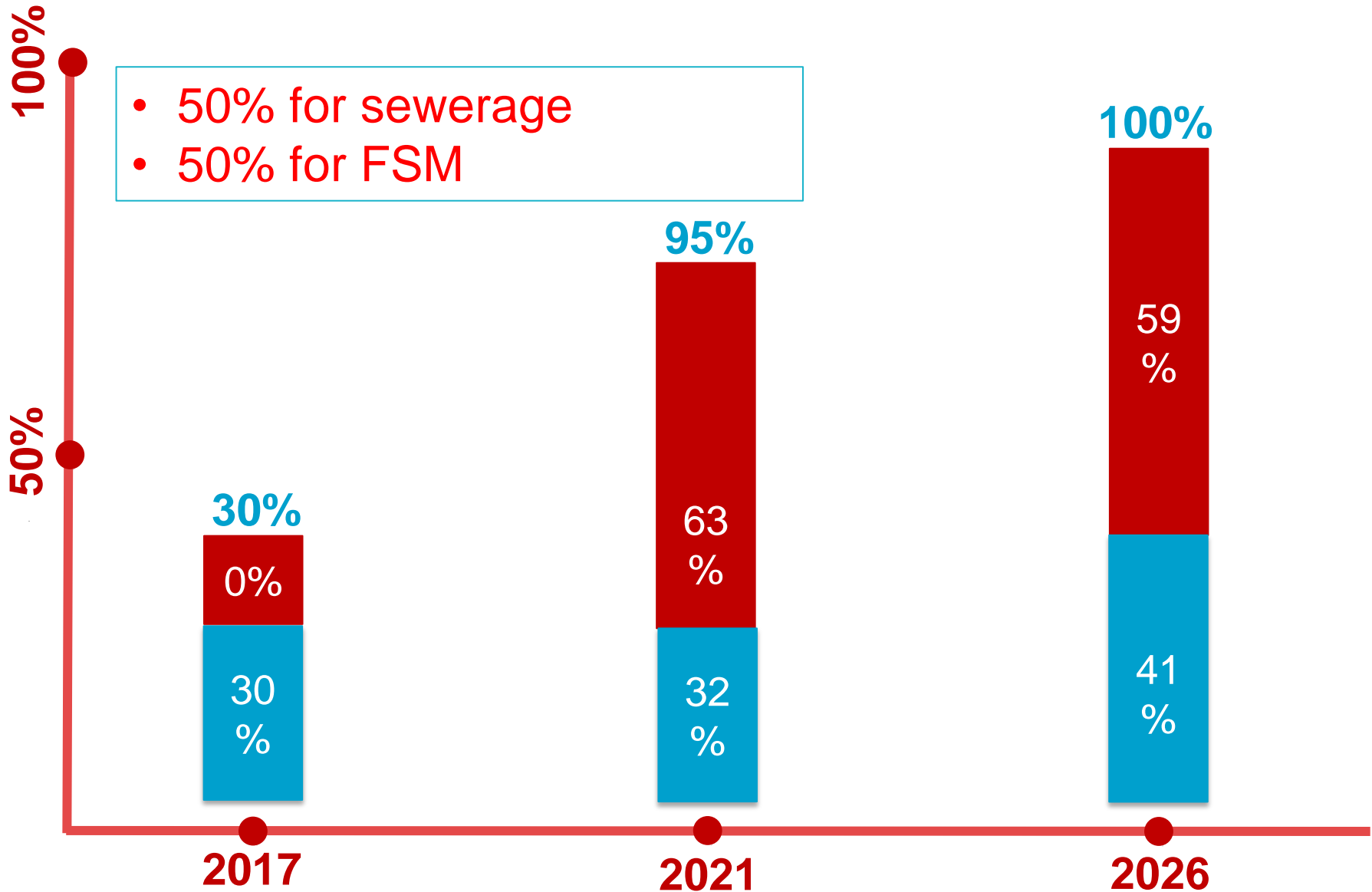
1: Current Investment Pattern



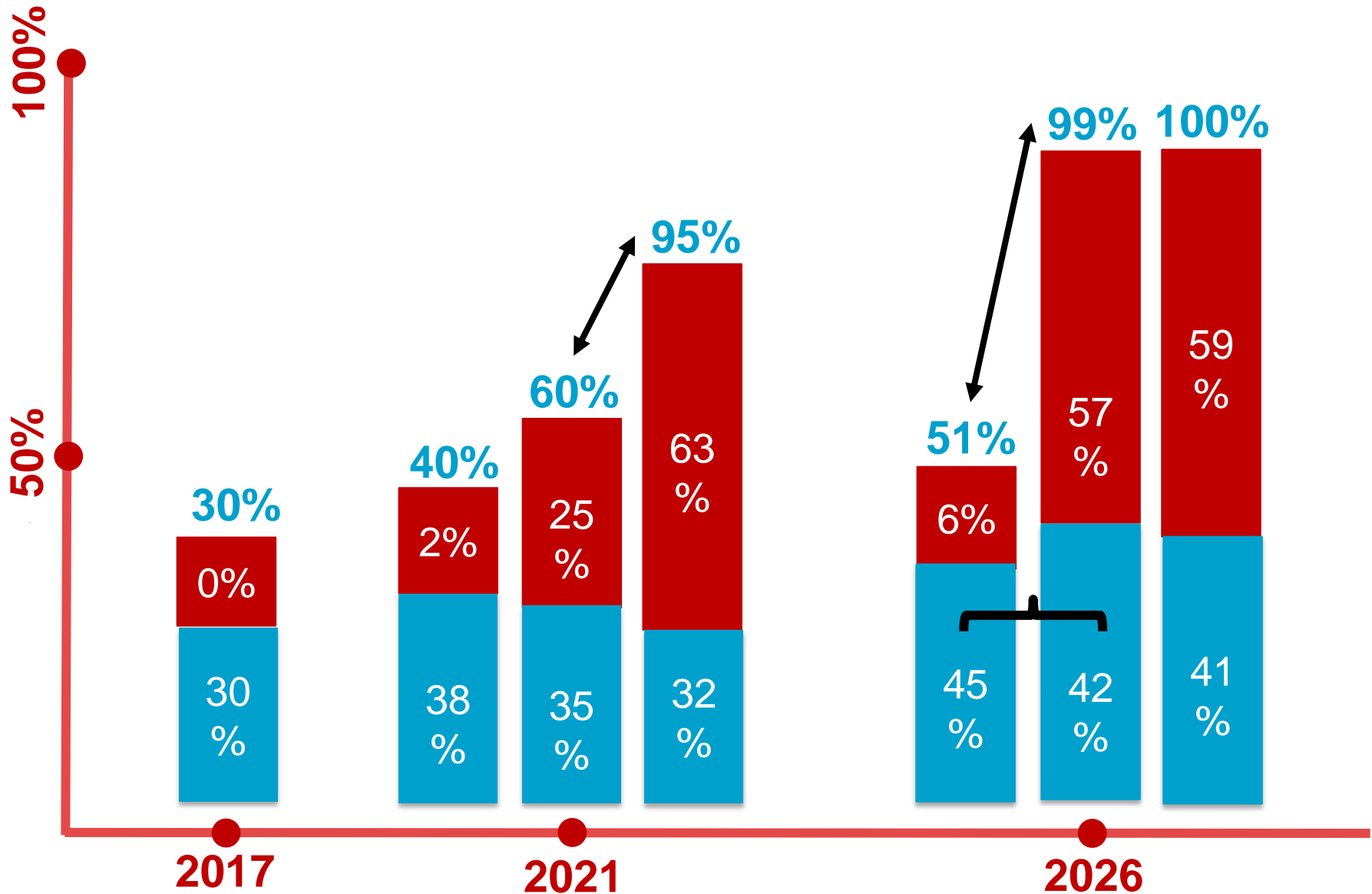
2: Partial Investment in FSM



3: Full Coverage by 2021



Comparing the Scenarios



Conclusions

- Current plans: 40% coverage in 5 years; 51% by 2026
- 20% diversion to FSM: almost 100% coverage by 2026; but 3% fewer people get sewerage
- More aggressive FSM investment can give 100% coverage as early as 2021



Conclusions

- 'Good' solution for all instead of 'Perfect' solution to few
- High Coverage essential for Health / Environment impact
- FSM can help get the intended impact of **existing and future** investment



Thank You



Main template

