ECONOMICS OF WATER PRICING

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AT
AMERICAN WATER RESOURCES ASSOCIATION
MANAGING WISCONSIN’S URBAN WATER RESOURCE

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THE TRAGEDY OF THE COMMON MILK SHAKE
DEMAND ELASTICITIES

PRICE

WATER

IEI = .3 in short run

IEI = .6 in long run
Since infrastructure costs are largely fixed, average total costs decline as quantity increases.
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CONTRASTING AVERAGE INFRASTRUCTURE COSTS WITH MARGINAL USER COSTS

$/UNIT OF WATER

MARGINAL USER COSTS

AVERAGE INFRASTRUCTURE COSTS

QUANTITY OF WATER
• LRMC (aka MARGINAL USER COST) = MARGINAL COST OF SUPPLY TODAY + MARGINAL COST IMPOSED TODAY ON OTHER USERS IN THE COMMON POOL + MARGINAL COST IMPOSED ON FUTURE USERS DUE TO DEPLETION TODAY.

• Note: Some of LRMC is retrospective while some is prospective. That is, some is required to recover costs incurred in the past while some is required to compensate the future user for the increased cost they will incur due to water use today. This prospective part is often called a “royalty paid to the future.”
MARGINAL VERSUS AVERAGE COST PRICING

DOLLARS PER UNIT OF WATER

DEMAND

MARGINAL USER COSTS

AVERAGE INFRASTRUCTURE COSTS

PAC

PMC

QUANTITY OF WATER

QMC

QAC

F

G

B

C

A
PRICE PATH ENCOURAGING EARLY INVESTMENT IN WATER CONSERVING CAPITAL EQUIPMENT

WAIT AND SEE PRICE PATH
INCREASING BLOCK PRICING

PRICE

P1
Po

QUANTITY (GAL/ DAY)

30
CONSUMER REACTION TO INCREASING – BLOCK PRICING

(A) "ESSENTIAL" USES

(B) "OPTIONAL" USES
PRICE

QUANTITY FLOW (GAL/DAY)

A
B
F
F'
G
G'
C
D
E