

Water Demand Management

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Preface

A common characteristic of water demand in urban areas worldwide is its inexorable rise over many years, and projections of continuing growth over coming decades. The chief influencing factors are population growth and migration, together with changes in lifestyle, demographic structure and the possible effects of climate change. The detailed implications of climate change are not yet clear, and anyway will depend on global location, but must at least increase the uncertainty in security of supply. This is compounded by rapid development, creeping urbanization and, in some places, rising standards of living.

Meeting this increasing demand from existing resources is self-evidently an uphill struggle, particularly in water stressed/scarce regions, in the developed and developing world alike. There are typically two potential responses; either 'supply-side', meeting demand with new resources or 'demand-side', managing consumptive demand itself to postpone or avoid the need to develop new resources. There is considerable pressure from the general public, regulatory agencies, and some governments to minimise the impacts of new supply projects (e.g. building new reservoirs or inter-regional transfer schemes),

implying the emphasis should be shifted towards managing water demand by best utilising the water that is already available.

In the UK, considerable effort is now being concentrated on addressing future water needs, and demand management is seen as a key element in the government's sustainable development policy, which concentrates on managing demand for water by controlling leakage and maximising its efficient use. The need to develop, investigate and implement environmentally sustainable, technically feasible, economically viable and socially acceptable options has never been more urgent.

This document on *water demand management* is written within the context just outlined and has been produced by the academic/government/industry network – *WATERSAVE*. This and other similar networks have been sponsored over three years by the UK's Engineering Physical Science and Engineering Research Council to foster collaboration and technology transfer in important industry sectors.

The book now in your hands was produced as one of a series of key deliverables of the network; the others being six national workshops, an international conference and a web-site. Further details of these other elements can be found at <http://www.watersave.uk.net>.

The concept of the book was to assemble a comprehensive picture of demand management topics ranging from technical to social and legal aspects, through expert critical literature reviews on the subject. We believe the depth and breadth of coverage to be a unique contribution to the field.

Finally, writing a chapter for a book of this type is no mean feat, and we would like to acknowledge the contribution and dedication of our team of authors. Throughout the book you will find a range of styles and content and approach, but we suggest the whole is greater than the sum of the parts. Indeed, this variety reflects the diversity of approaches needed to tackle the important goal of safely and wisely managing out water into the 21st century.

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