

The Government's 25-Year Plan to Improve the Environment



about the author ...
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a green future ...

The Government's recently published 25-Year Plan to Improve the Environment is much to be welcomed, albeit not without some reservations. In particular, the management of surface water to avoid floods and droughts receives very light and, by-and-large, unconvincing coverage.

The Plan is a weighty 151-page tome; this may encourage many interested but busy readers to garner the gist of future environmental aims and delivery policies from the Plan's two Forewords and its Executive Summary. Sadly, so far as surface water management is concerned, this leaves the reader little the wiser.

managing surface water ...

Closer inspection of the body of the plan does reveal a number of surface-water related aspirations, including a desire for clean and plentiful water, and the avoidance of floods. The missing link, however, is scant recognition that, insofar as surface water is concerned, all aspects of its management needs to be taken into account collectively rather than separately.

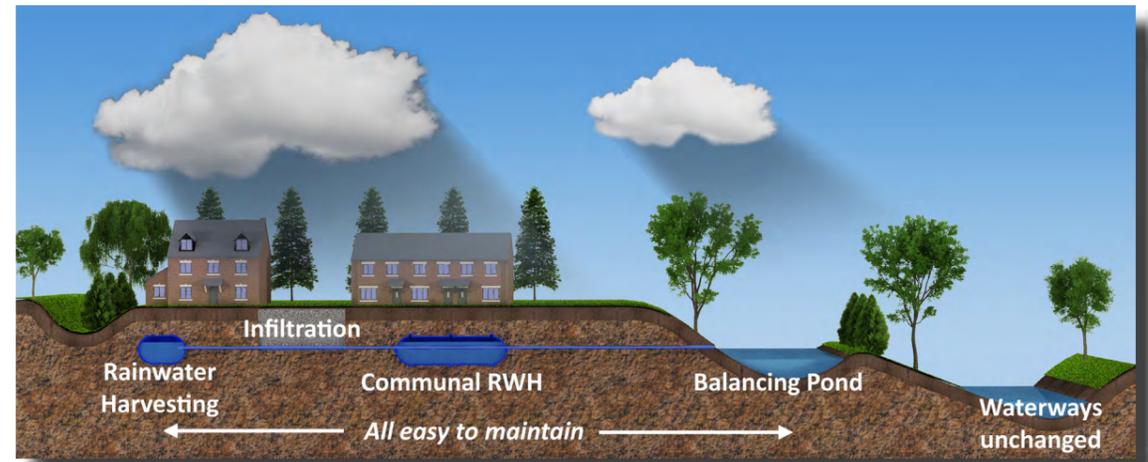
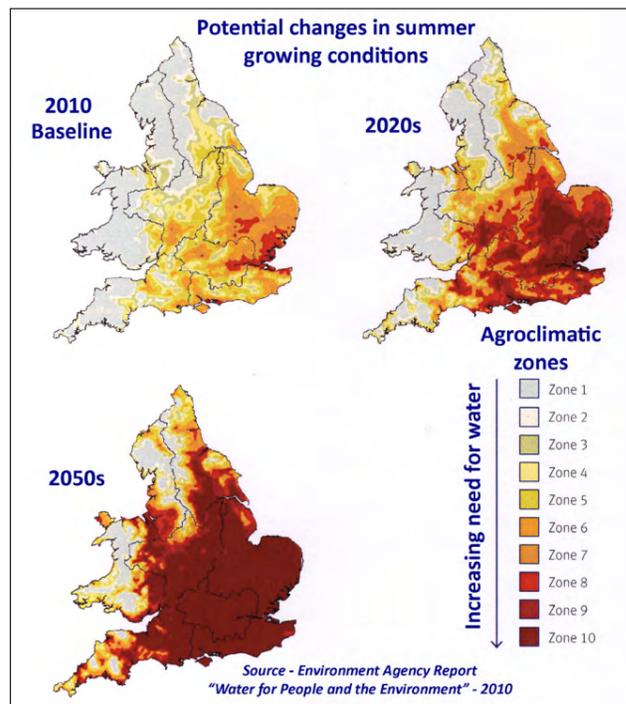
Taking the agricultural sector as an example, Environment Agency projections (see chart) indicate a rapid and imminent deterioration in growing conditions, the response to which is increasing investment in farm-level reservoirs; this is likely to gather pace as the projections become reality over the next few years.

Saving winter rainfall solely to provide water for summer irrigation use, however, is an opportunity lost from a downstream flood-prevention point of view. Catchment reservoirs built simply for this purpose will typically become full by late Autumn, thereafter over-flowing and thus offering no mitigation to flood risks. With Government encouragement, however, an attenuation capacity could relatively easily be built into catchment-level reservoirs. These would be designed to retain water during significant rainfall events, releasing it later at a rate with which downstream infrastructure can cope. This would help to reduce flood risks, allowing any residual risk to be re-calculated and associated flood-defence needs adjusted accordingly.

urban sustainable drainage ...

The principle of attenuation is already applied to urban SuDS, so why not to catchment collection

as well? More importantly, why is the principle of collecting water for agricultural re-use deemed to be obviously sensible, whereas its urban equivalent is not? A high proportion of water used domestically and commercially is for non-potable purposes, such as toilet flushing, for which the use of harvested rainwater or recycled greywater is entirely satisfactory from both a hygiene and aesthetic perspective.



Sadly, for some unexplained reason, and unlike other countries facing similar surface water management issues, the UK Government seems to be disinterested in water re-use playing a part in its overall surface water management strategy. The Welsh Government policy, in sharp contrast, is to place collecting rainwater for re-use right at the top of its measures for mitigating flood risks.

Put into practice, this policy results in combined SuDS/water re-use systems (along the lines illustrated) serving the twin purposes of reducing demand on mains water supplies (a key 25-Year Plan aim incidentally) and reducing downstream flood risks. Such integration also makes the overall system easier to maintain, and thus more straightforward to adopt as envisaged in the 2010 Flood & Water Management Act. Why this approach is not part of the UK's overall thinking is particularly puzzling, given its recognition by the Welsh Government, and the relative abundance of water per capita in Wales compared, say, to south-east England.

integration, regionality & nature ...

Two possible explanations come readily to mind, the first being the "silo" approach to the various aspect of surface water management, with adequacy of supplies, flood risks, quality and environmental impact all being managed at both the policy and implementation levels by separate Departments and organisations. Even assuming high-levels of time-consuming inter-Departmental liaison and coordination, from an effectiveness and efficiency perspective, it would be much better to use integrated management/organisational structures for the management of surface water.

Secondly, surface water management does not lend itself well to national policies, as issues vary widely with geography and topography. Neither does it

lend itself to political administrative boundaries, water husbandry being aligned with geography, topography and natural water-courses.

Plan implementation ...

Happily, the Government's 25-Year Plan to Improve the Environment, contains provision for developing mechanisms for measuring, monitoring and fostering its progress; hopefully, this will result in the Plan to be used as a baseline on which to build, rather than a constraint which prevents further creative evolution.

If so, far more flesh needs to be put on the current bare-bones insofar as surface-water management is concerned. A good start would be made by replacing current departmental and organisational silos, with fully integrated arrangements that take into account all aspects of surface-water management; moreover, such arrangements need to be based on river-basin geography, and river-basin policies and programmes.

Policies and programmes also need to ensure that surface-water management decisions are based on all the relevant factors, and take an integrated approach to both the developed and natural landscapes. Most importantly of all, both floods and water-shortages need to be held in mind when making surface-water management decisions, in the process giving proper consideration to the cost-effective contribution that water re-use can make to reducing the future risks of both.

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