

# Colorado Water Supply and Climate Change: A Business Perspective

Water is crucial to the economic vitality and growth of Colorado. It is the most critical resource issue facing our state today. Businesses have a stake in the development of water management policies and practices that take into consideration both known and likely risks. Failure to plan for future water shortages will not only inflict tangible hardships on Colorado's businesses and residents, but also undermine Colorado's greatest economic asset—its reputation as a great place in which to live, work, and visit.

Colorado's basic, underlying water challenges are well known. The state projects that municipal and industrial (M&I) demands could increase by as much as 81 percent by 2050, driven mostly by population growth. How these additional water needs will be met is uncertain, with an identified M&I gap of from 600,000 to one million acre-feet per year. (One acre-foot supplies two families for a year.)

What is not as well known is the extent to which climate change is likely to exacerbate the state's water challenges, by both reducing water supplies and increasing water demands. The first decade of the 21<sup>st</sup> century has shown us what we can expect, however. Water in the Colorado River during that 10-year period is down 16 percent compared to the last century, while the Rio Grande is down 23 percent. The state's only study so far on climate change impacts on water demands, meanwhile, suggests that Western slope crop irrigation needs could increase by as much as 27 percent by mid-century.

Water risks associated with climate change will be magnified by the operation of interstate compacts.

Water users in Colorado are not free to use all of the water in the rivers within state borders, but must let defined amounts of water flow into downstream states. If the lower-basin states

do not receive their entitled river flows, they can require cutbacks on water storage and use in Colorado. This is a unique risk and burden for Colorado, as the natural flows of all our rivers may diminish but every downstream state can still require undiminished deliveries to them.

In response to the mounting evidence that climate change will make it harder to meet the state's future water needs, the Rocky Mountains chapter of the nonpartisan, nonprofit business group Environmental Entrepreneurs (E2) commissioned a research paper that takes a close look at the economic threats that come with water shortage risks. The paper, *Colorado Water Supply and Climate Change: A Business Perspective*, is the first step in E2's ongoing work on water supply issues in Colorado. E2 is a national organization of business leaders who promote sound environmental policy that builds economic prosperity.

Action now is both crucial and timely. Much more is known now than even a year ago about how much climate change intensifies Colorado's long-standing water challenges. Governor Hickenlooper's recent call for a new State Water Plan provides an ideal opportunity to identify the key actions to reduce the state's water and climate risks—an opportunity we cannot afford to waste.



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**As a step in that direction, E2 Rocky Mountains recommends the following actions be taken, and calls on the business community to join us in promoting comprehensive solutions to Colorado's water challenges:**

- 1. Leadership and collaboration:** Colorado's governmental leaders need to give the state's water supply and climate change risks the priority and urgency they deserve.
- 2. M&I water conservation goal:** We urge the governor to set a state goal of reducing per capita M&I water use by 25 percent by 2025 and 50 percent by 2050, compared to 2010 levels. This goal should be incorporated into the State Water Plan and implemented by legislation. Setting and meeting an aggressive state water conservation goal is the single most important step that can be taken. Conservation is more cost-effective than other options, and frees up water to supply new growth, meet needs in times of shortage, and protect the environment.
- 3. M&I conservation pricing:** The State Water Plan and subsequent legislation should ensure 100 percent adoption of water rates that create incentives for M&I conservation. Conservation-oriented rates are effective and, as a market-based approach, give water users an incentive and the freedom to choose the ways in which they want to reduce their water consumption.
- 4. Planning for climate change impacts:** The state government should immediately begin developing detailed analyses of how climate change may affect M&I and agricultural water demands in the state. The governor should direct that the State Water Plan to consider at least one possible future scenario of very low water supply and very high water demand, a combination that is a realistic possibility as a result of climate change.
- 5. Water reuse:** The State Water Plan should identify new measures to expand the reuse of M&I water in Colorado. The Colorado Oil and Gas Conservation Commission should establish new requirements to expand reuse of wastewater from hydraulic fracturing (fracking) operations, which consume a rapidly growing share of M&I water in the state.
- 6. Agricultural water use:** The State Water Plan should identify new measures to reduce "buy and dry" permanent transfers of agricultural water to urban water providers. The governor should direct that the plan begin to define a path forward to improve water efficiency on farms and ranches.
- 7. Planning for compact curtailments:** The state government should develop for each major river basin a mechanism to deal with potential legal curtailments of existing water supplies and rights under interstate compacts—curtailments that loom more likely than ever in a hotter, drier climate.

If Coloradans want our economy to keep growing while preserving our state's unique natural resources, all of us—business, agriculture, government, residents—must work together to address the risks to our water supplies. The best and quickest way to start down this path is by reducing municipal and industrial water demand today, while properly planning for the water risks in the future.



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