

One of the reasons that environmental law and policy is so interesting, and so challenging, is that it is very, very difficult to reduce what we mean by “environmental quality” to one single metric. A couple of recent posts by a leading progressive policy blogger (Matt Yglesias) make this point very well.

First in [December](#), and then a [few days ago](#), Yglesias made the argument that the environment would be far better off [if the population density of California came closer to that of New Jersey](#):

Consider New Jersey, which is hardly a jam-packed tenement. It nonetheless contains five times as many people per square mile as California. In other words, if the Golden State were as dense on average as New Jersey over 188 million people would live there. And California is a mighty nice place to live. Thanks to its mild weather, Californians use very little energy to heat and cool their offices compared to most Americans. According to 2005 data, the [average Californian had half the carbon footprint of the average American](#) for roughly this reason. And yet a California that existed at a New Jersey level of population density would have *even lower* per capita CO2 emissions since many car trips would be shorter distances and a larger share of the population would be walking/biking/transiting around some of the time. And while of course this would be a dramatic transformation, my point is that unlike imagining Manhattan as Kowloon Walled city it's *not* a crazy idea.

Yglesias used this point to make the argument in December for rethinking [how we do environmental review and for significantly loosening zoning restrictions on density](#). Notwithstanding Yglesias's hyperbolic headline for his December blog post (“When Environmental Regulations Promote Ecological Devastation”), I think there are good arguments for “upzoning” many transit-oriented communities. ([I have much more mixed feelings about granting exemptions for environmental review for what appear to be ecologically sustainable development projects](#) – but that's the subject for another post, and reasonable minds might [differ on this point](#).)

The weakness in Yglesias's argument is that he only looks at one single environmental metric (here, carbon footprints). Sure, if you quintupled the population of California, it's possible that reduced heating and cooling needs would reduce overall carbon footprints (though there are large parts of the state where, in fact, you do need a strong AC unit to make it through the summer, such as the Central Valley, or heaters in the winter, such as

the Sierra Nevada). But there is another resource that California is in short supply of, and that might well limit population density long before we get to 188 million people in the state: water.\* Even if we diverted all of the water away from agriculture in the Central Valley, that might not be enough to serve all 150 million new residents in the state. (Currently [about 25% of all Californian water is used for urban uses](#), so quintupling our urban population would require some changes!) And perhaps we could pipe in water from elsewhere (Oregon? Washington state? British Columbia? There was even a plan to dam the Yukon and ship the water to the US through Canada.). But the transportation of both food and water can also be energy-intensive. Right now, about [19% of California's electricity \[pdf\]](#) is already used to transport water around the state. That would only increase if we had more people in the state, since the most pleasant parts of the state to live, from a heating and cooling perspective, are also the farthest away from water (I'm looking at you LA and San Diego - and even the Bay Area is pretty dry most of the year too). And shipping the food that would otherwise be grown in the Central Valley from somewhere else would take carbon emissions as well.\*\*

Perhaps it would still be a net gain from a carbon perspective. But it's not as simple as Yglesias makes it out to be. Which probably shows the importance of doing sophisticated environmental reviews and lifecycle planning analyses, even for projects that might at first glance to be environmentally sustainable.

\* This post only focuses on the issue of water. But obviously there are lots of other impacts from a massive expansion of population in California that we may, or may not, be willing to accept as a society....

\*\* As Dan [notes](#), even just looking at energy, water matters. Not enough water may constrain or affect the ability to produce the energy that 188 million Californians would need too.