

Finlayson, Ian (ENE)

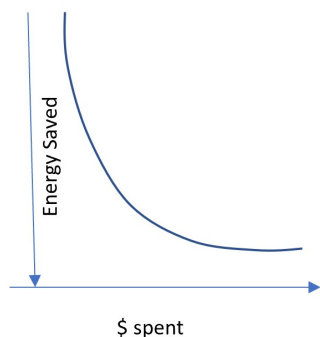
From: Dick Elkin <dickelkin@gmail.com>
Sent: Wednesday, 9 March 2022 1:17 PM
To: STRETCHCODE (ENE)
Subject: Comments on stretch code
Attachments: comments on stretch code.docx

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I would like to make a clear distinction between energy conservation and greenhouse gas reduction. To reverse global warming we need to greatly reduce greenhouse gas emissions to net zero or below. This is not the same as energy conservation. To date the stretch code has focused on conservation. Now it needs to focus on greenhouse gas reduction.

We have to think of energy conservation as being subject to the law of diminishing returns. Think of a curve such as the one on the right. As more money is spent, energy usage decreases, but at a diminishing rate. In addition, a second effect is also happening. Initially, nearly all energy was produced with greenhouse gas emitting fuels, so reducing energy consumption was 100% the same as reducing greenhouse gas emissions. However, over time, as a larger and larger percentage of energy is produced from renewable sources. So, energy reduction has a declining effect on greenhouse gas emissions. In the limit, if 100% of electricity is renewably generated and a building is heated with electricity, then energy conservation has no effect on greenhouse gas emissions reduction.

What this means is that the term “net-zero” must mean **greenhouse gas emission reduction** to zero and not zero energy usage.



Where are we on this journey? We are just past 25%, headed towards 50%. That is, about 25% of our electricity is renewably generated and we have also reduced our energy consumption by 25% from 1990 levels. We are at the point where we need to focus on greenhouse gas reduction and not confuse this with energy conservation. Energy conservation is useful in reducing greenhouse gases but money spent directly on reducing greenhouse gases is better spent than money spent on reducing energy consumption. The building code should reflect this dichotomy by requiring greenhouse gas reduction directly. Energy conservation should only be required to the extent it reduces greenhouse gas emissions.

This means the stretch code should have three points of focus: 1) one encourage solar pv on residential rooftops; 2) encourage batterie storages so that local electrical production can be evened out over the course of the day easing pressure on the grid and eliminating the need for fossil fueled peaker plants; 3) encourage electrification of

heating and cooling and of hot water heating – using heat pumps.

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Regards,

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