

# Low-carbon lifestyles and behaviours in Sustainable Communities

@gregorysearle

***BioRegional***

**north america**  
SOLUTIONS FOR ONE PLANET LIVING



Award-winning solutions to climate change







21<sup>st</sup> century lifestyles?



# THE WORLD OF THE FUTURE FUTURE CITIES

HOMES & LIVING INTO THE 21ST CENTURY



INSORNE & BAYES



NOVEMBER 1985 \$3.95  
**Popular Science**  
THE WHAT'S NEW MAGAZINE

**AIR BAGS:**  
Will They Help  
You Survive  
"Fatal"  
Car Crashes?



The Truth About  
Limited-Slip  
Differentials  
New Underwater  
Breathing Systems  
By SCOTT  
CARPENTER



FF



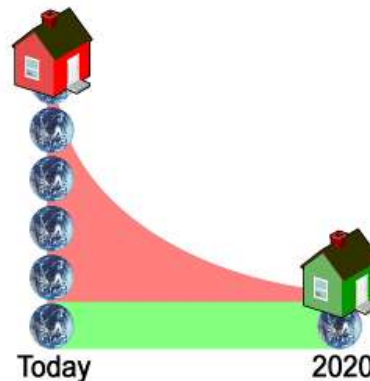


Petite Rivière  
Une collectivité en santé

# Petite Rivière

Montreal, Canada





## Do we fit on the planet?



If everyone lived the lifestyle of the average American we'd need **5 planets** to support our consumption.



The average Canadian



The average European



## ONE PLANET LIVING

*is a 21st century lifestyle.  
Healthier. More social.  
Living within our fair  
share of earth's resources.*

**BioRegional**

*can help you get there*





INTRODUCTION



TRANSPORTATION



HOUSING



SHOPPING



SUMMARY



TAKE ACTION

## Emissions Summary (tons CO<sub>2</sub>/yr)

Powered by

CoolCalifornia.org

GOVERNMENT • UNIVERSITY • NGO PARTNERSHIP

OK.

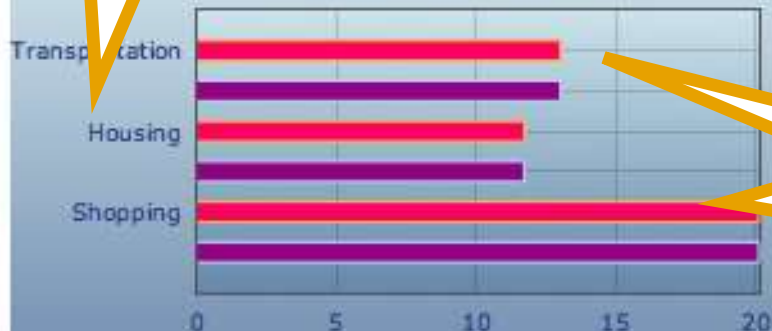
Why do we focus ALL our attention on buildings...

AL carbon footprint is 100% of comparable households, and 496% of the global average. ?

These emissions are the equivalent of burning 104 barrels of oil, or driving 9 typical 25 mpg cars 10,000 miles per year.

### Your Total Carbon Footprint

Metric tons CO<sub>2</sub>/year



How does my Carbon Footprint (metric tons CO<sub>2</sub>e/yr) compare? ?

When combined impact of Food+Transport+Shopping is 3x larger?

10

World Average Household





Anna Lodge  
BedZED ecoConciierge

**BEDZED**

Sutton, London, UK

**42%** of total CO<sub>2</sub> savings from  
behavior change

Residents know **19**  
neighbors on average

**65%** less vehicle  
miles travelled



*"BedZED's environmental achievements suggests that neighborhood-scale sustainable development can go much further than has been imagined in the USA."*

**Urban Land**



Organized food boxes



Car-sharing



Social Capital





These projects around the world have used the One Planet Communities framework in their design and construction. Developments with this logo are endorsed ONE PLANET COMMUNITIES.



Healthy eco-lifestyles.  
Zero carbon buildings.



EcoConcierges planned  
for all One Planet  
Communities



*“One Planet Communities will allow us to make a difference on a scale - and with the urgency - that all of us now know is absolutely necessary.”*

- **Achim Steiner, Executive Director, UNEP**





SONOMA MOUNTAIN  
BUSINESS CLUSTER  
AT ROHNERT PARK



*"Best in the US."* – Dwell Magazine .



*“Coddling Enterprises, originally a developer of shopping malls, has reinvented itself into an innovative, large-scale green builder.” - **Forbes***







## Zero Carbon

**2.1 MW of existing solar power**

**Exceed stringent Title24 energy code by 50-80%**



**REDUCE GHGs FROM BUILDINGS BY 100%**



## Zero Waste

**Recycle existing buildings, parking**

**Leasing requirements discourage packaging**



**ELIMINATE WASTE SENT TO LANDFILL IN OPERATIONS**





## Sustainable Transport

5-minute  
lifestyles



Biofuels from  
vineyard waste

Convenient  
car-sharing

They're all doing it. [RUCarsharing.com](http://RUCarsharing.com)?

- 1 TON/PERSON TRANSPORT GHGs (82% REDUCTION)



## Local & Sustainable Food

Sustainable  
restaurants

eco-grocer +  
Farmer's  
market

Community  
gardens

Edible  
landscape



65% OF ALL FOOD FROM LOCAL SOURCES





## Land Use & Wildlife

Pollinator gardens

Habitat on green roofs

10% of site in hi-biodiversity zone + 20% greenspace



50% OF DEVELOPMENT FOOTPRINT CONSERVED OFF-SITE



## Equity & Local Economy

Green jobs incubator

30% affordable housing

Precedent-setting labor agreement



4,400 jobs for 4,400 residents (800+ onsite now)





How do we take low-carbon behaviors to massive scale?

eco concierge  
BioRegional

For existing buildings



THE TOWER COMPANIES  
Transcend.



# Framework for ecoConcierge Program

1. Design for Sustainable Behaviors:  
Building Assessment + Enabling retrofits
2. Oversee hiring and training of EcoConcierge
3. Supporting partnerships with green service providers
4. Enabling “Delegated” Actions
5. Build Social Capital & promote fitness/wellness
6. Social Marketing & Education
7. Household Coaching and Formation of eco-teams
8. VERIFICATION : monitoring, assessment + feedback



## Enable

Establishing new “defaults” in the built environment.  
Supporting sustainable behaviors with services & facilities. Target: 80% participation



## Foster

Building social capital, establishing new cultural “norms” and actively coaching for sustainable behaviors.  
Target: 25% participation





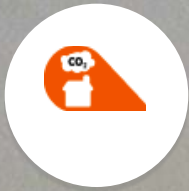






Elevators: the  
new “town hall”



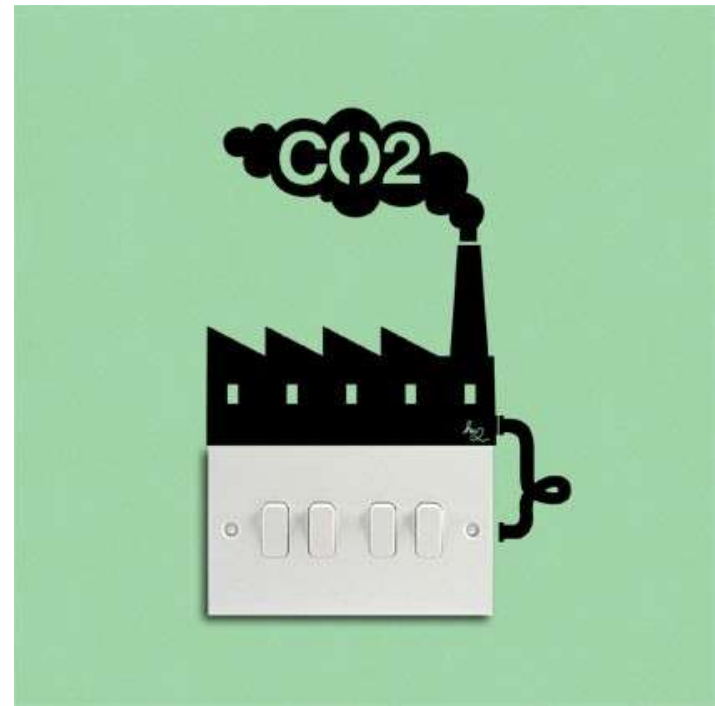


# Prompting



How would you feel if someone just turned you on and left?

Conserve Energy!







## Roof top vegetable gardens





hydroponic edible gardens for urban windows  
**windowfarms.org**





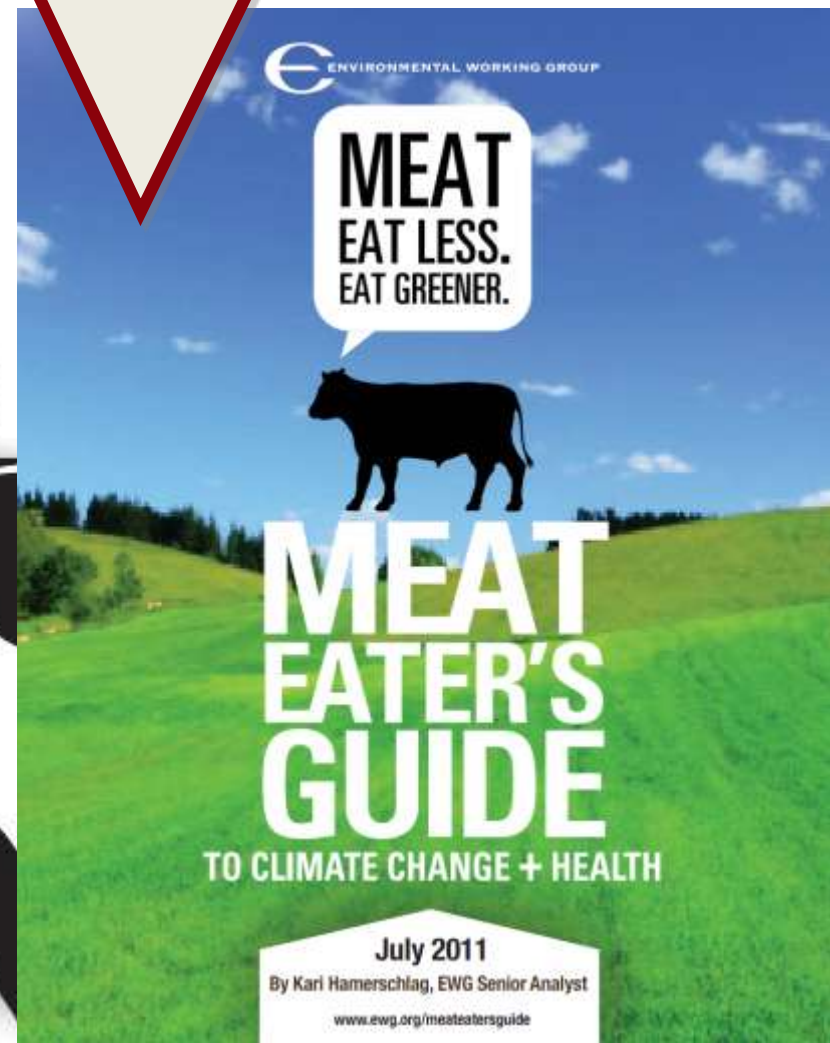


Shifting 1 day per week from red meat and dairy to chicken, fish, eggs, or veg achieves more GHG reduction than buying **100% locally sourced food**.

**Now we get Mondays off!**



Changes in diet can save up to 1.6 tons of GHGs each year per person and protect against heart disease, cancer, obesity – and death!





## Low-Carbon Lunch

	ACEEE Conference Standard	BECC 2007	BECC 2009
Meat-Based Lunch	90-95%	83%	20%
Veg. Lunch	5-10%	17%	80%







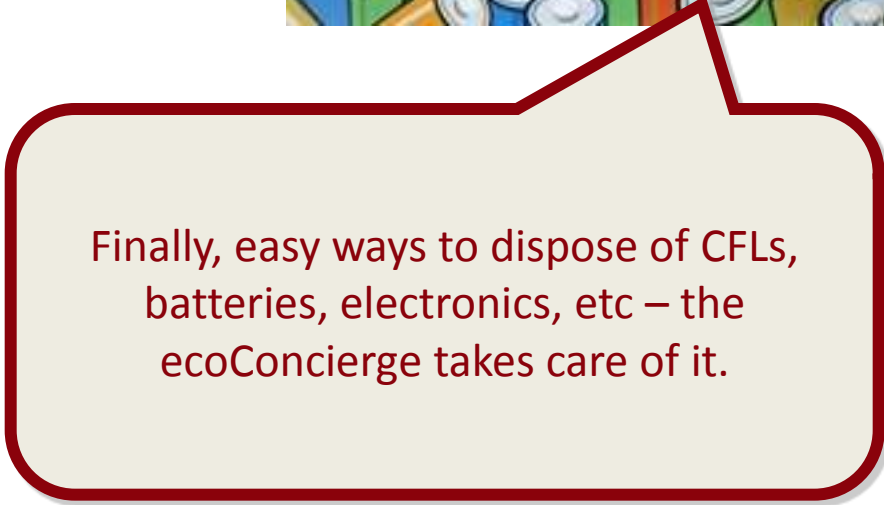
Zero Waste







Making it as easy as possible to know what is allowed in recycling, composting



Finally, easy ways to dispose of CFLs, batteries, electronics, etc – the ecoConcierge takes care of it.





Cycle storage  
as art

Bike tools in parking  
garage makes  
maintenance easy





...And create new services  
run by Tower

Explore creating a “cargo  
bike” share managed by  
the ecoConcierge.







# Proximity!





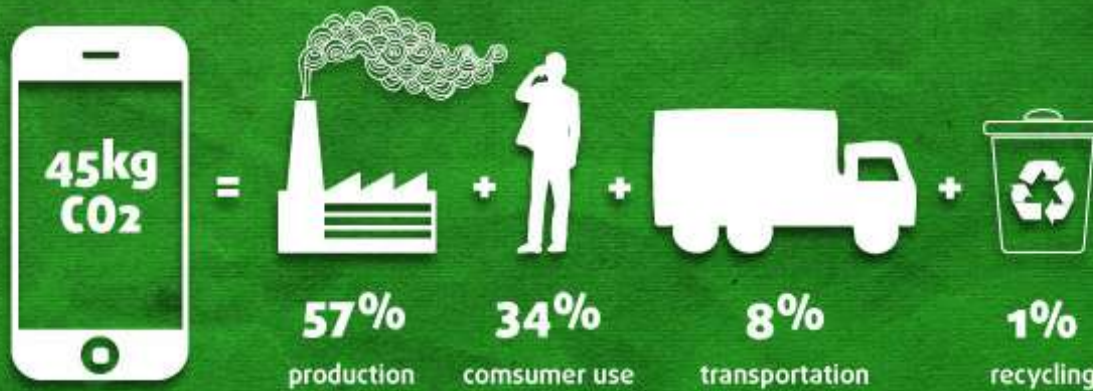
Monthly car & truck tire inflation by the ecoConcierge reduces wear & tear, extends life of tires & helps save the planet



3.3% efficiency increase in 200 automobiles =  
36 tons CO<sub>2</sub> saved



# Emissions produced by the iPhone 4



**iPhones** purchased in 2010 contributed to **2350 million kg of CO<sub>2</sub>** being released into the atmosphere.

If all the **iPhones** sold in 2010 were charged once it would be **equal** to leaving a normal light **bulb on** for over **357 years**.



The end of shopping?





*"Little Free Libraries"*

Lo-tech infrastructure to get unwanted items to neighbors, charities and businesses that will put them to good re-use





# Rent a car from someone nearby.



Instant hourly rentals. Full insurance included.

**Join Now**

Or take the tour



**constantx**  
BMW 328i  
Parkmerced, California  
\$15 / hour



**NobHillMatrix**  
Toyota Matrix  
San Francisco, California  
\$8.75 / hour



**isho**  
Subaru Impreza  
San Francisco, California  
\$10 / hour



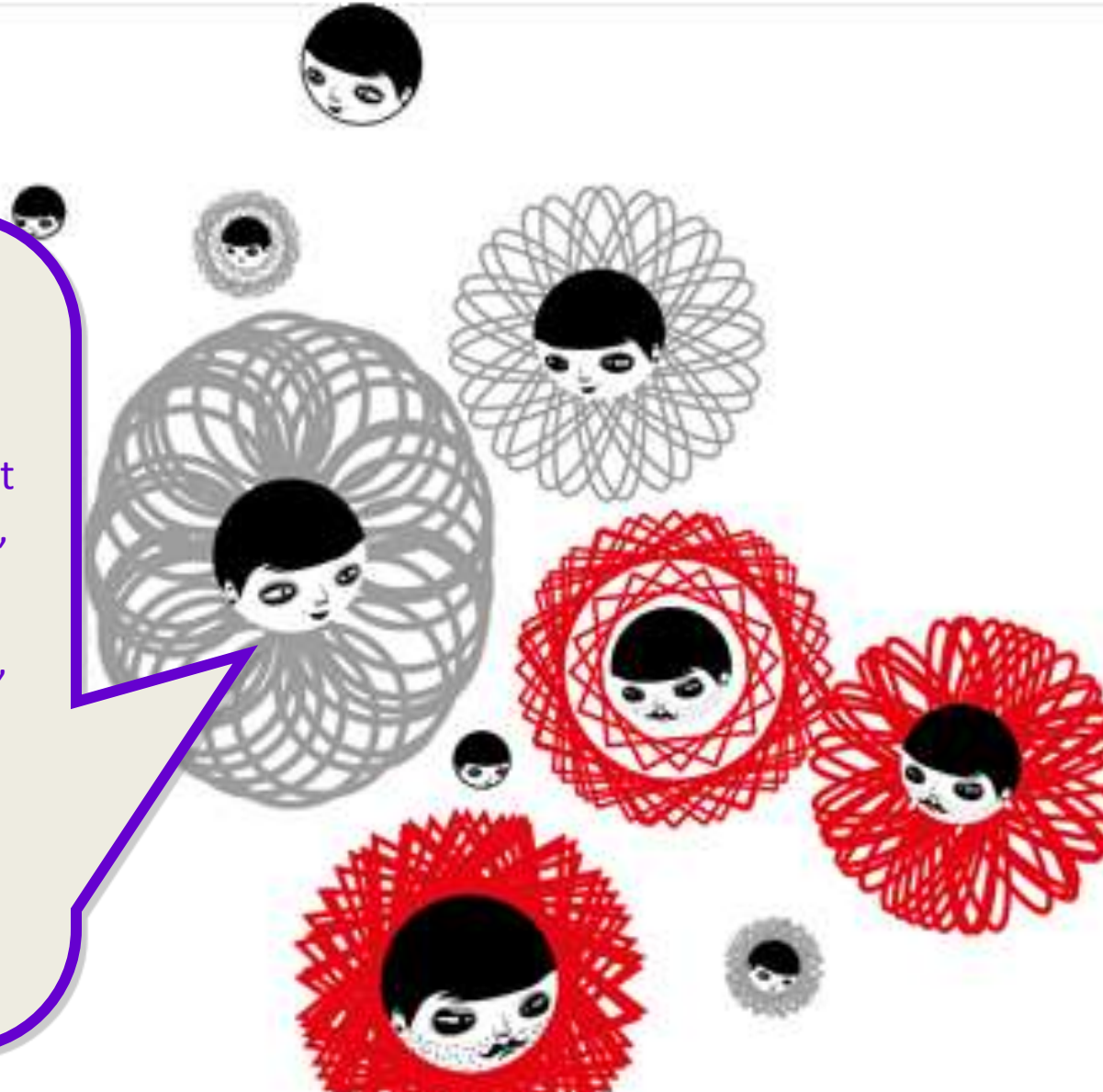
**lennysan**  
BMW 325i  
Northeast San Francisco  
\$8.50 / hour



Lo-tech & hi-tech tools to get people sharing, participating in “collaborative consumption”.



A highly inter-connected resident population creates social capital, brings huge health & happiness benefits, and creates the conditions for “social contagion” of sustainable actions through peer pressure and “norming”





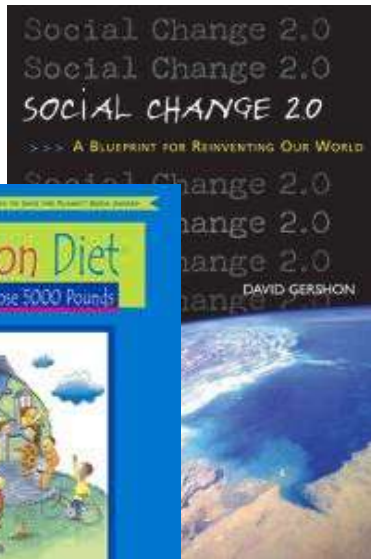
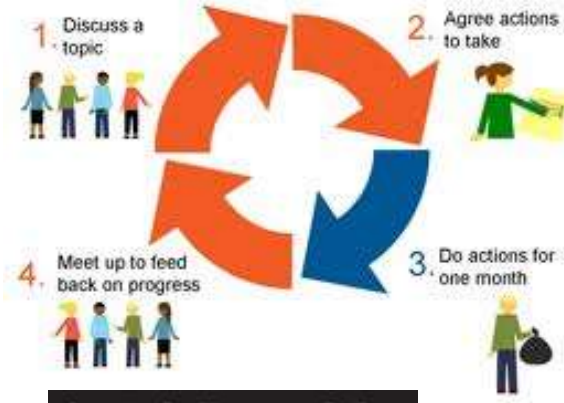
**Film Night**  
**Monday 13<sup>th</sup> December**  
**6-10 pm** at the \_\_\_\_\_

EcoConcierge helps organize and enlist residents in group activities.



# Formation of eco-Teams

Groups of households  
that meet regularly



BioRegional employs the Empowerment Institute methodology for creating “Eco-Teams” which has been developed over 25 years of research. It has helped over 20,000 people reduce their environmental footprint by 25% and trained dozens of communities to implement this methodology.



# Outcome: Projected GHG Savings

(sample 200 unit building)

## ECOCONCIERGE

	Avg Footprint/unit (mt)	Units	Participation Rate	Avg savings	Tons GHG Saved (mt)
General	49	200	25%	25%	612.5
Tires	0.18	300	80%	100%	43.2

**655.7**

## ECOCONCIERGE YEAR 3

	Avg Footprint/unit (mt)	Units	Participation Rate	Avg savings	Tons GHG Saved (mt)
General	49	200	66%	25%	1617
Tires	0.18	300	90%	100%	48.6

**1665.6**

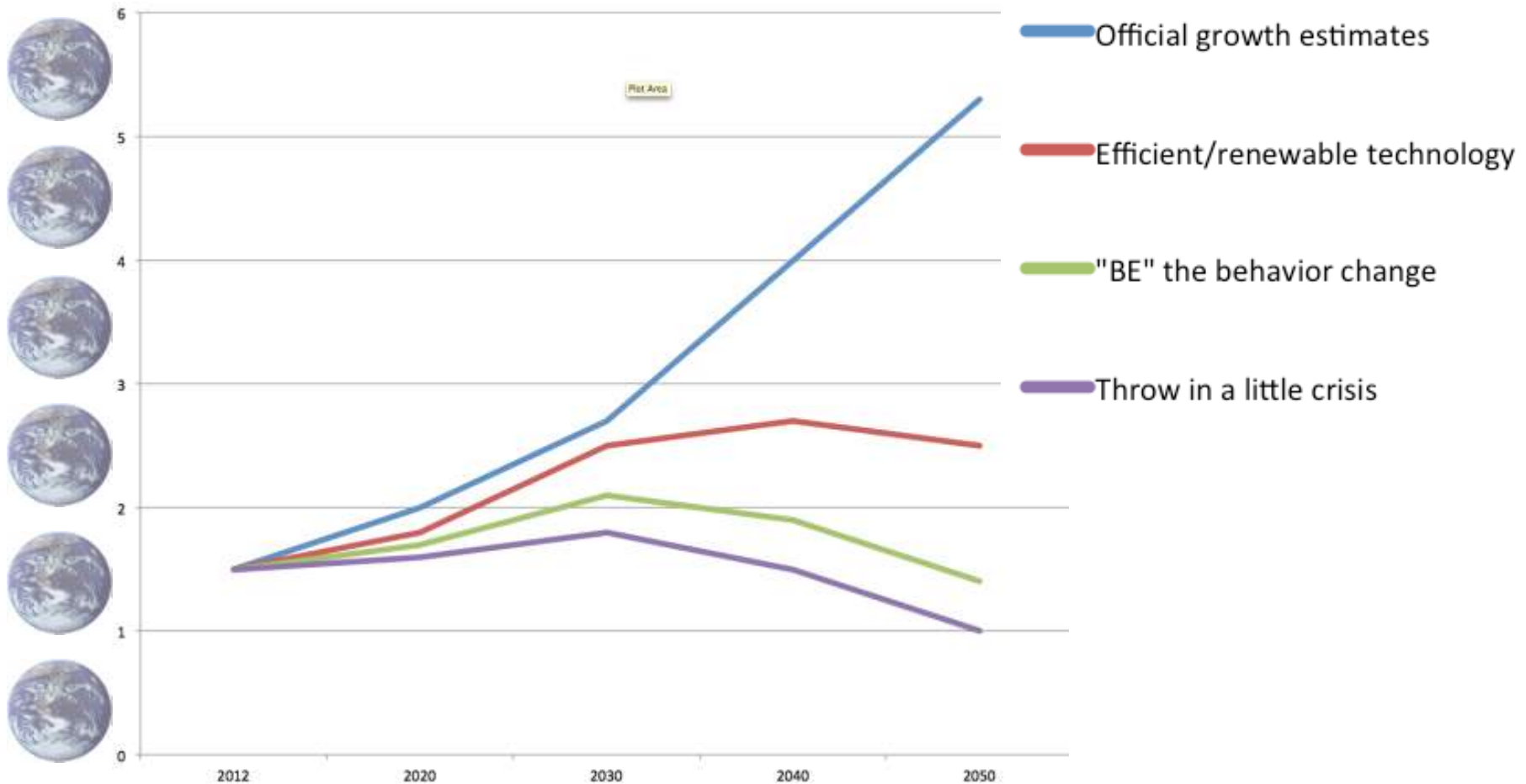
## BUILDING RETROFIT (CRUDE)

	GHGs avoided /unit (mt)	Units	Tons GHG Saved (mt)
General	4	200	800

**800**

1665 tons GHG saved  
= 300 cars off road

Imagine a global economy in 2050 that is 3-4 times larger than today...





[www.bioregional.us/blog/one-planet-lifestyles/](http://www.bioregional.us/blog/one-planet-lifestyles/)



[www.oneplanetcommunities.org](http://www.oneplanetcommunities.org)

