

SSP 5.0 Canada

The End of Linear Planning

Global Impacts & Correcting the Errors of the Oil Age.



SSP 5
Winnipeg
2008
General Set

New City Institute &
Vancouver Peak Oil Executive

Balfour + Associates + Strategic Planning

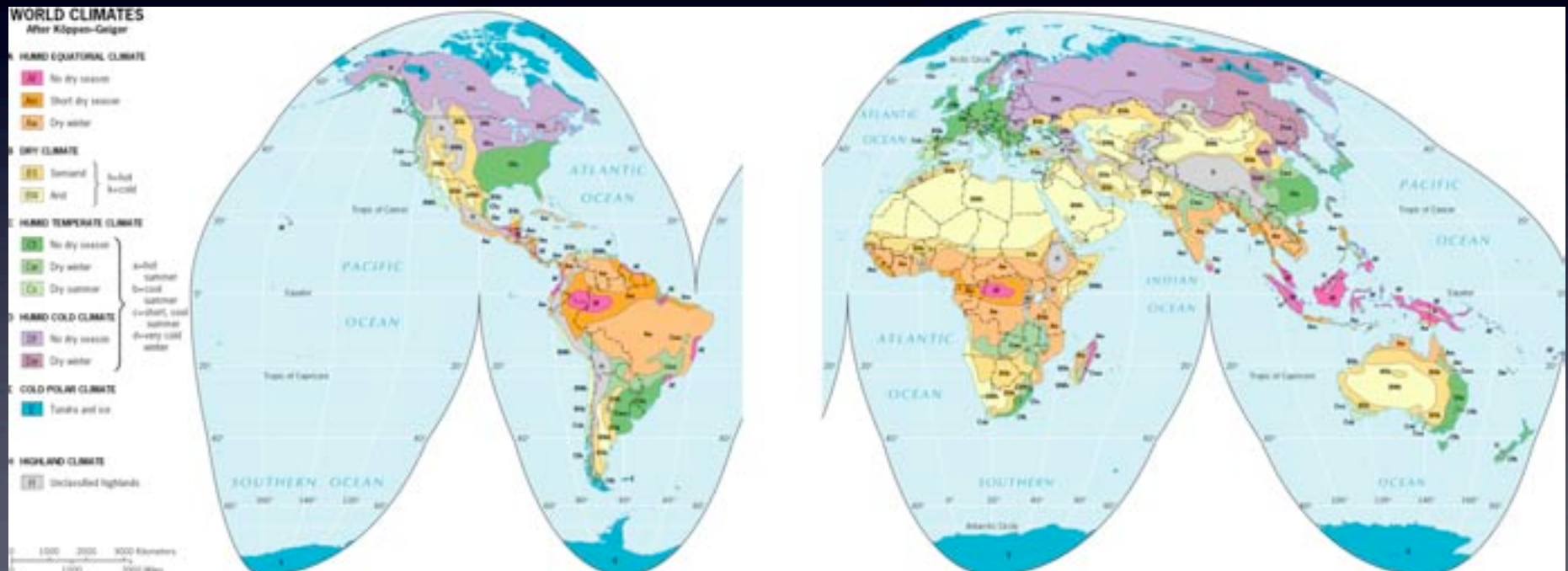


SSP₅ Winnipeg

- The Winnipeg 2008 presentation is using the 2006 session only as jumping off point:
- *Strategic Sustainable Planning: as in we are not doing it yet. We do NOT have a generation to change. We are it. Radical and rapid change to the patterns of our communities will happen. Can we control this to make a better place for all, or do we suffer the consequences of rapid change with no forethought or control? We look at practical policy in A, Strategic Plan in B, and a Vision in C.
- **A. Community Triage** from 2006 only sets the stage in this presentation of 2008. The limitations of urban agriculture leads to recovering the dead zones; the urban edge policies to recover the green fingers to feed the red ones- not idealistic but practical how to make both city and country work while not destroying the latter, micro scale, edge planning and Green Urban Fingers
- **B. BC Triage**; moving to Rail, Farms & the Mountain Communities.
- **C. Canada Scale**: At a larger scale the impact of peak oil and climate change precipitating mass migration means we have to revisit macro planning; using this excuse I am revisiting the Mid Canada Corridor report of 1969 in light of mass urban triage;



World Climate, for now.

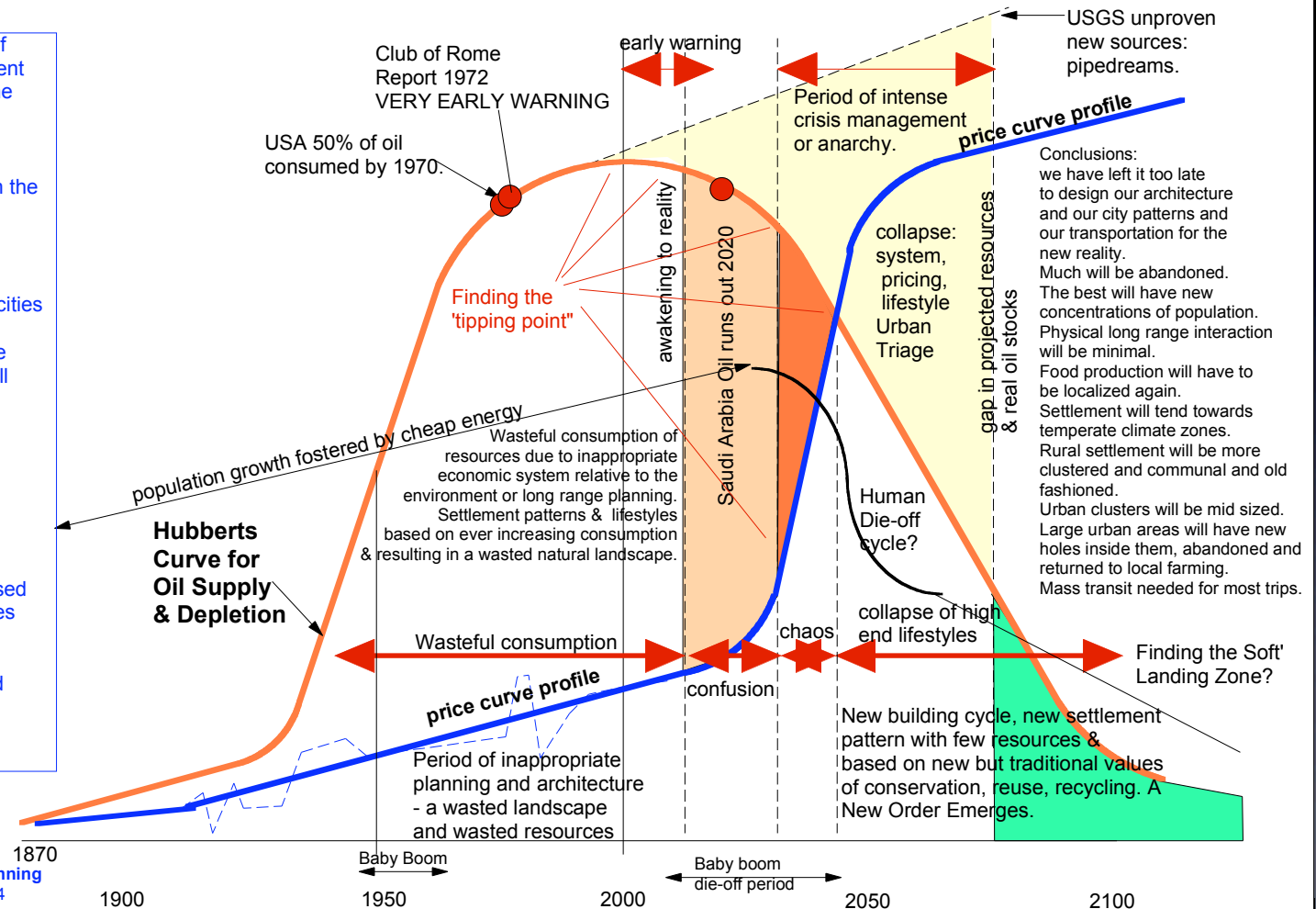


Hubberts Curve & Sociology

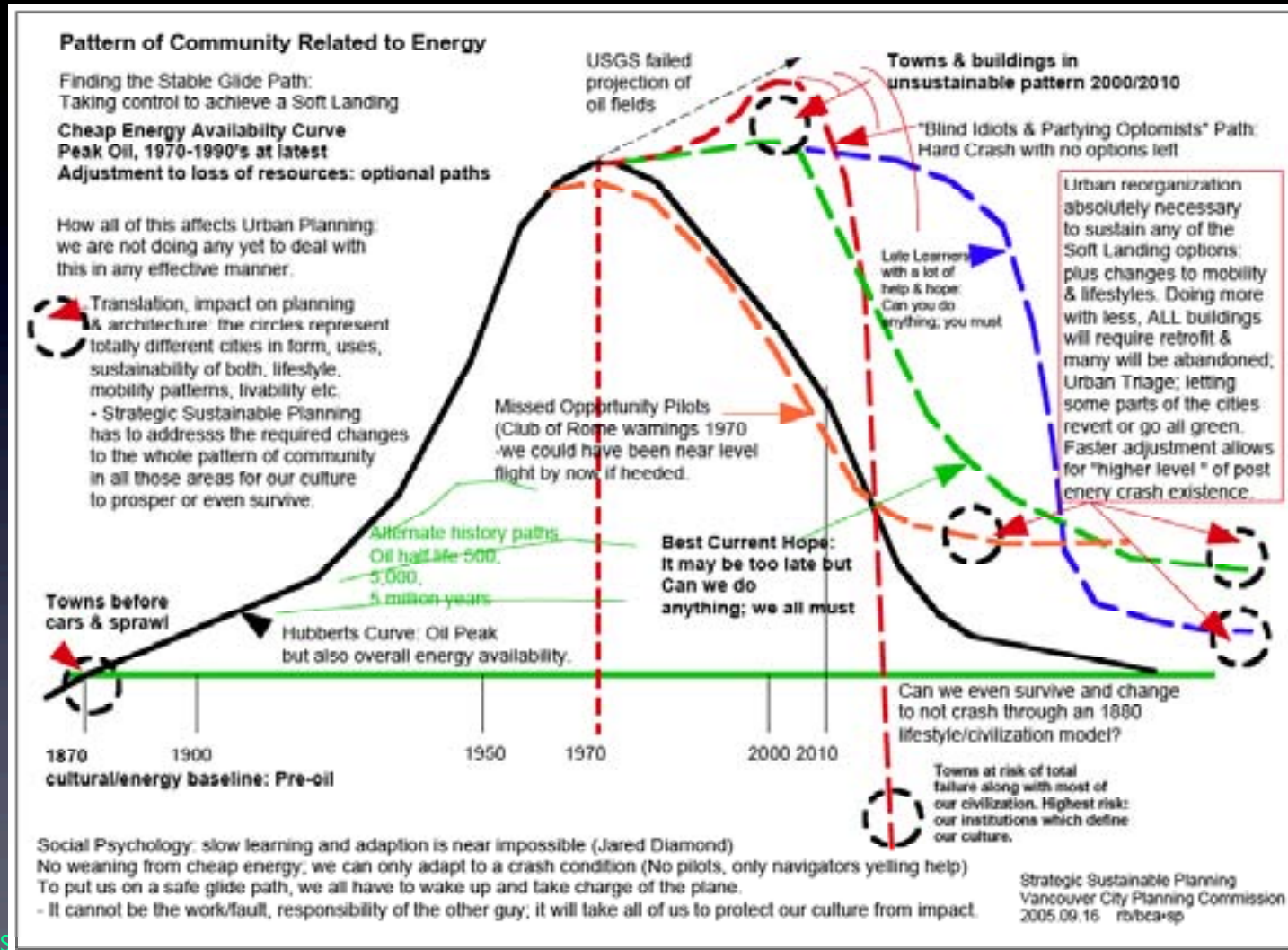
THE DEPLETION OF RESOURCES & THE IMPACT ON PATTERNS OF HUMAN SETTLEMENTS: THE NEED FOR LONG RANGE STRATEGIC SUSTAINABLE PLANNING.

We are neglecting the design of appropriate patterns of settlement & transportation systems for the fast approaching new reality of energy scarcity & resource depletion. We need strategies to deal with the following new realities:

- settlements will tend to be located in temperate climate zones & on higher ground.
- large sections of our existing cities will be abandoned as they are unsustainable. New appropriate concentrations of population will emerge as physical long range interaction becomes minimal.
- food production will return to restricted smaller areas and serving local needs.
- mass transit will be used for inter and intra city movement of people & goods.
- settlements will be compromised of smaller towns, smaller houses & narrower streets.
- localized industry, farming & market return. Proximity to food production, social networks & natural reserves will mark points of new community.



Radical Change: city rescues

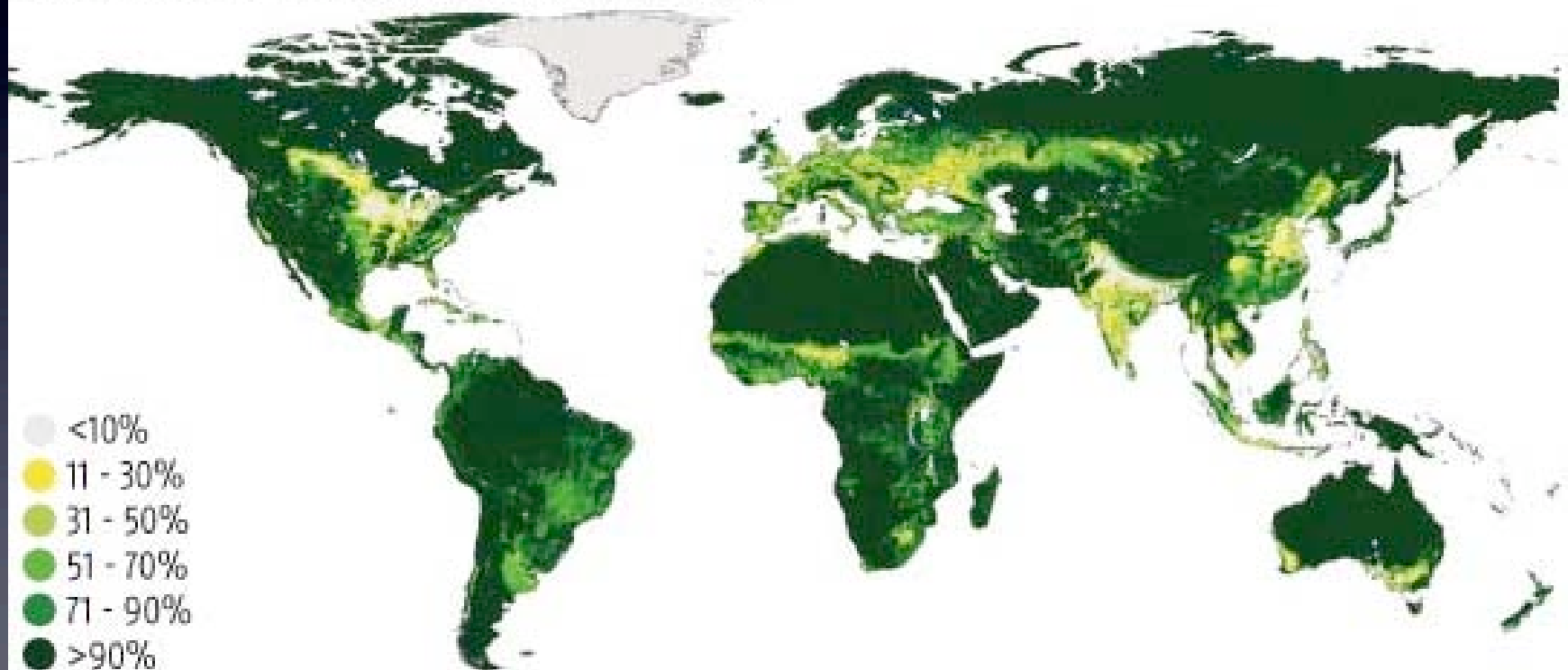


You actually have to do something this time to save yourself, your family & community.

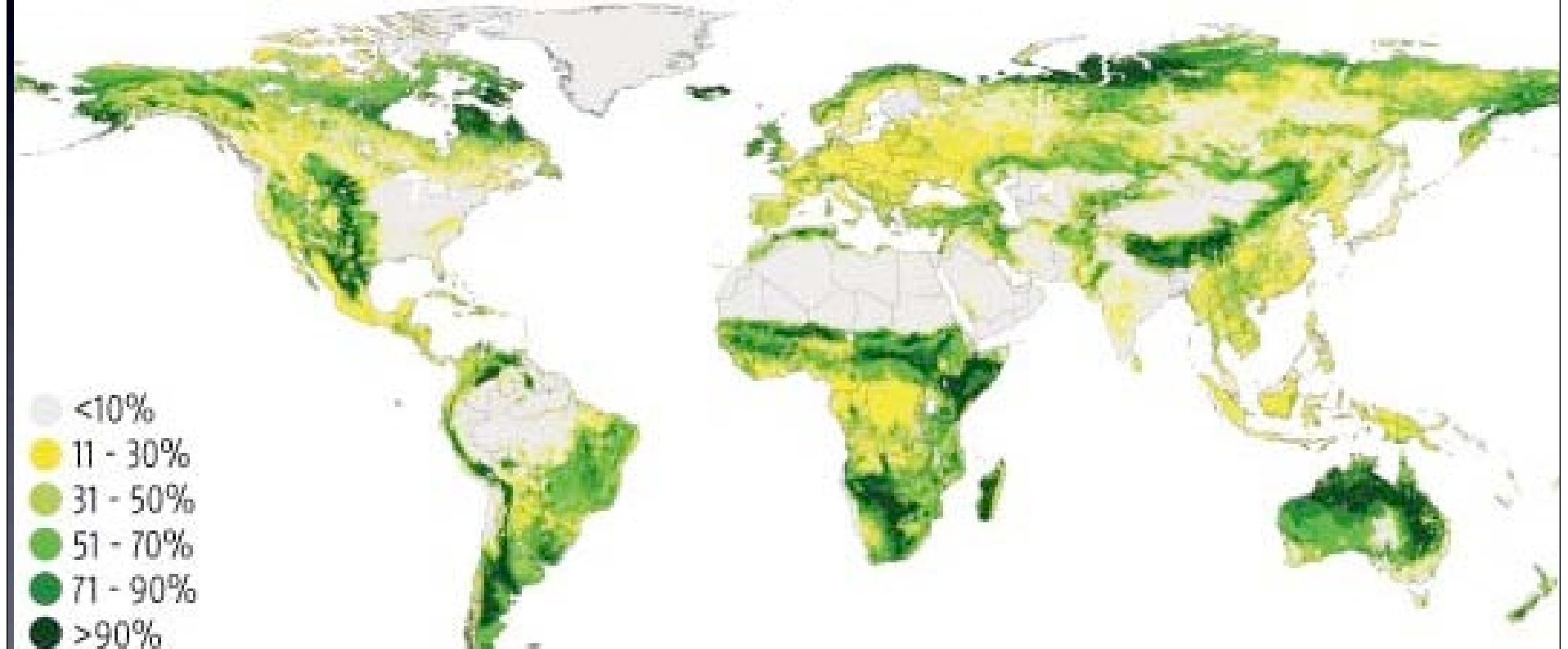
WHERE BIOFUEL CROPS COULD GROW

When all factors are taken into account there is little land left suitable for biofuels

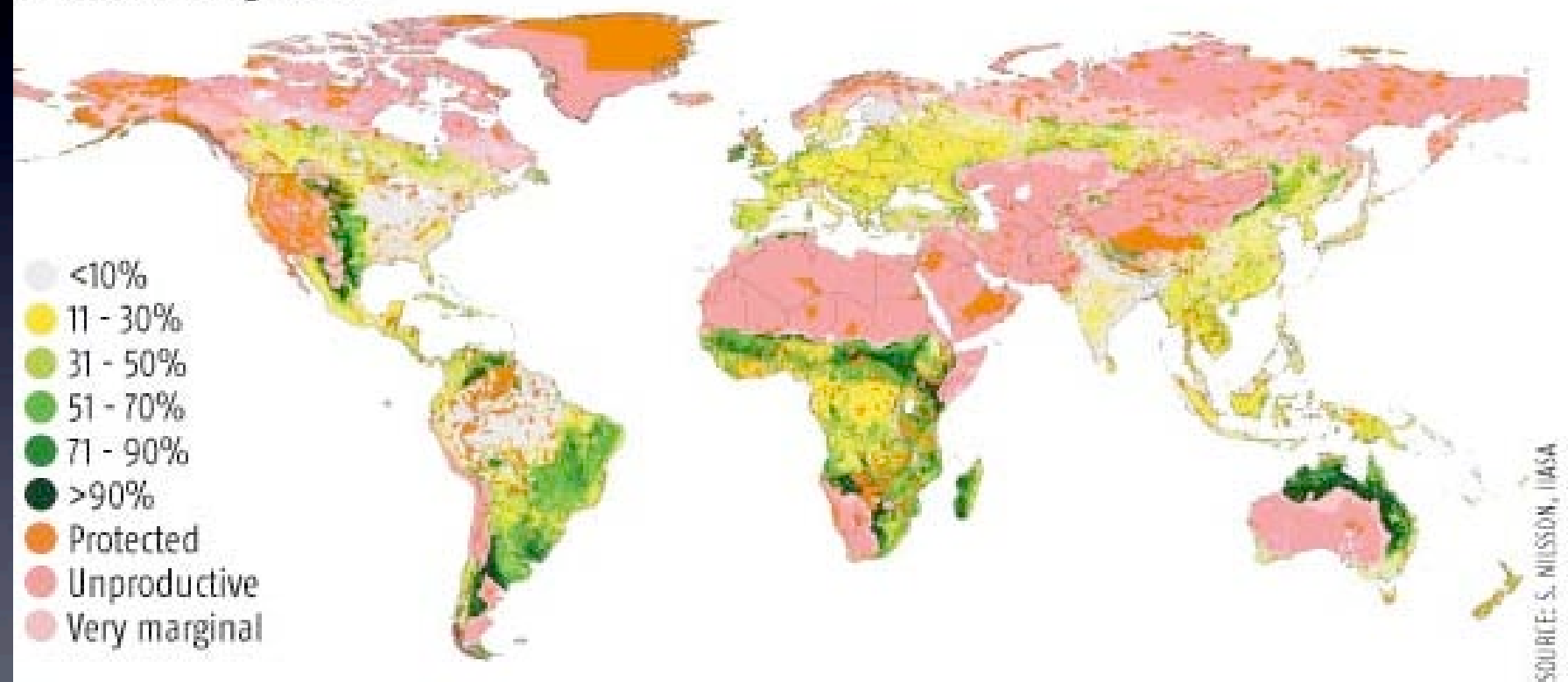
Proportion of land not under cultivation or built-up



...after subtracting forests, deserts and other non-vegetated areas



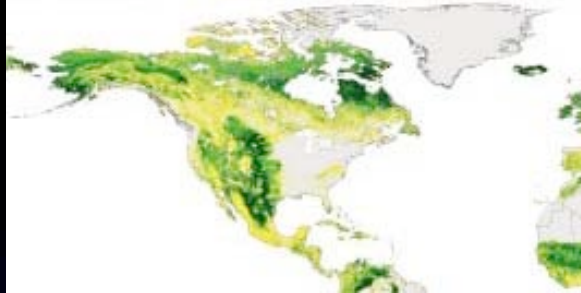
...and then subtracting mountains and areas that are protected, or too marginal or climatically unsuitable for agriculture



Proportion of land not under cultivation or built-up



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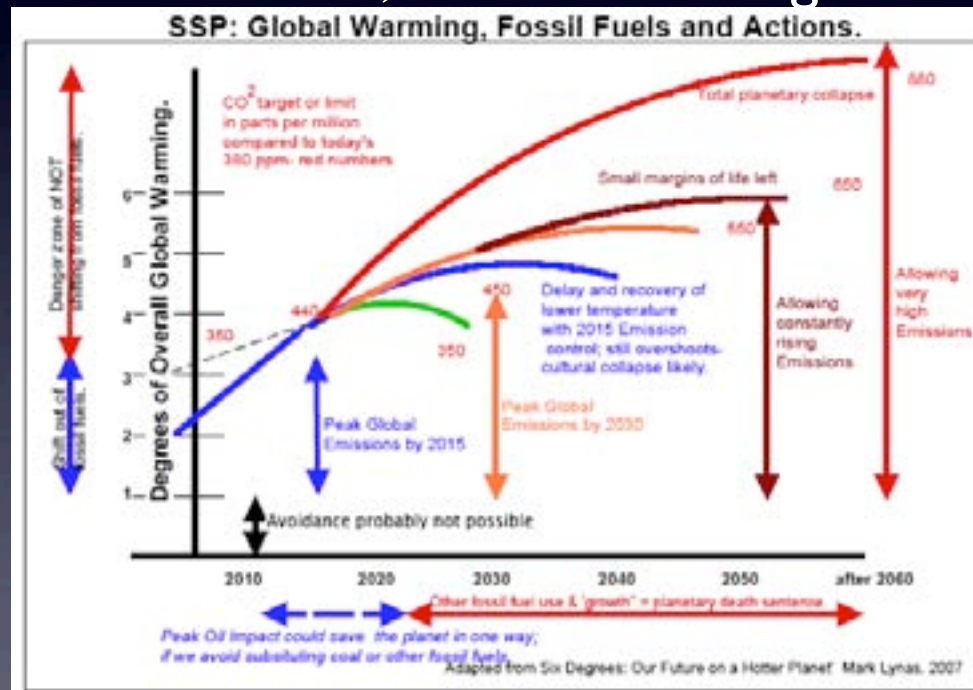
...and then subtracting mountains and areas that are unsuitable for agriculture



...and of course, Global Warming...

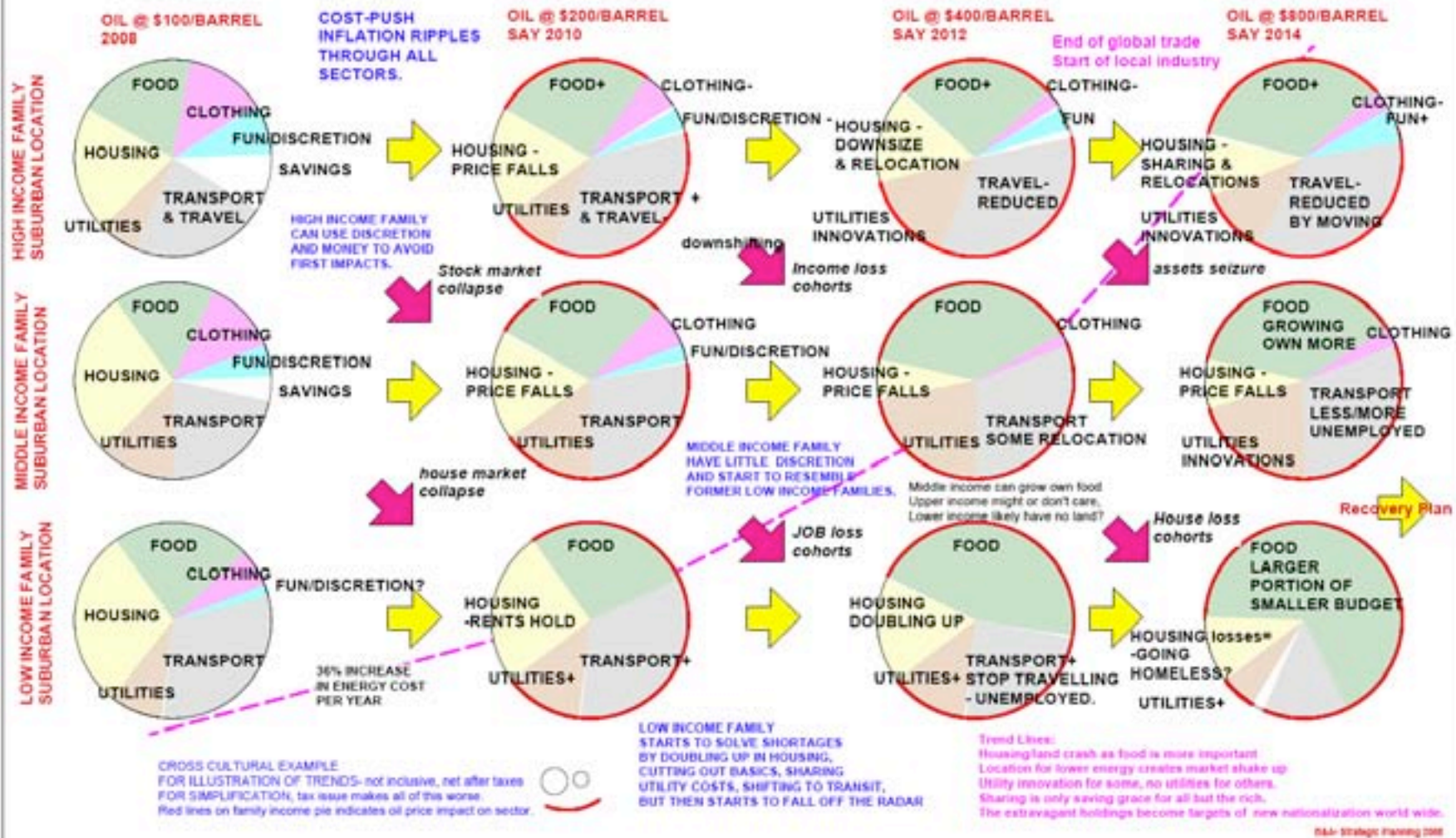


- North America Net Arable Lands?
- -now, and in 2050?



OIL PEAK PRICE ESCALATION DIFFERENTIAL IMPACT ON INCOME, LIFESTYLES AND 'BASICS' OF LIFE.

A sociological perspective on Peak Oil and Family



BSA Strategic Planning 2008

Abstract City: Triage Mapping

Post Oil, Climate Change and Self-sufficiency.

Introducing a finer grain to the pattern of community.

Starting with Green Fingers Triage Concepts

Triage Zones of Post Oil Cities:

- A Oil Age High Rise Cities: culture centres; must compact and relocate to remain viable. Green fingers internally.
- B Inner Ring: Triage Area 2, introduction of urban villages
- C Old City Suburb Ring: Ready to Marbelize!
- D Decay Zones and Strips: Medium or local new industry
- E Industrial Zones viable if small and rail oriented
- F Old Towns, interim suburbs, possible Old Towns again, complete, self sufficient, localized industry at all scales
- G New but now baseless suburbs: Triage Area 3
- H 3rd Tier distant suburbs never to happen; only hope is to seek independent self sufficient economic status. Triage 4
- I Your own definitions... speculation pockets of destruction.
- J Speculation suburbs: Likely full death and collapse
- K Timeless Towns, special places, with independent systems
- L Timeless Towns with restricted suburban footprint/green edges
- M Last Stands of Green Fortresses, Forests and Fields
- N Last Stands of Green: Farms and Fields, Your Food Security
- O Rural Village under controlled growth, farm & rail oriented
- P Old Rail Towns overlooked: the new potential gems
- Q Old Rail Towns limited suburbs: farm integrated.
- R Rail and Farm Pre Oil/post Oil whole communities
- S Hinterlands to protect for Real Sustainable community
- T Environmental Basis NO GO zones
- U Introducing Urban Green Fingers/marbelization
- V Introducing Urban Villages/differentiation/marbelization
- W Nice farms & villages: pocket survival mode.
- X Unknown Special Places
- Y Eco Border Gems
- Z Green Energy Pockets to explore for sustainable community, wind, solar, geothermal....

Ocean Side Cities: Global Climate Change Impacts

Prepare for abandonment of lower 5m new intertidal zone, or with low Sheet Acceleration, up to 60m ocean rise.

Protecting Restoring & Extending the Commons.

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Not as some
ideal, but because
we no longer have
a choice but to do
the right things.

The Green Fingers Mandate



Ag Land Defense

Community Survival in a post oil economy. ...or not?

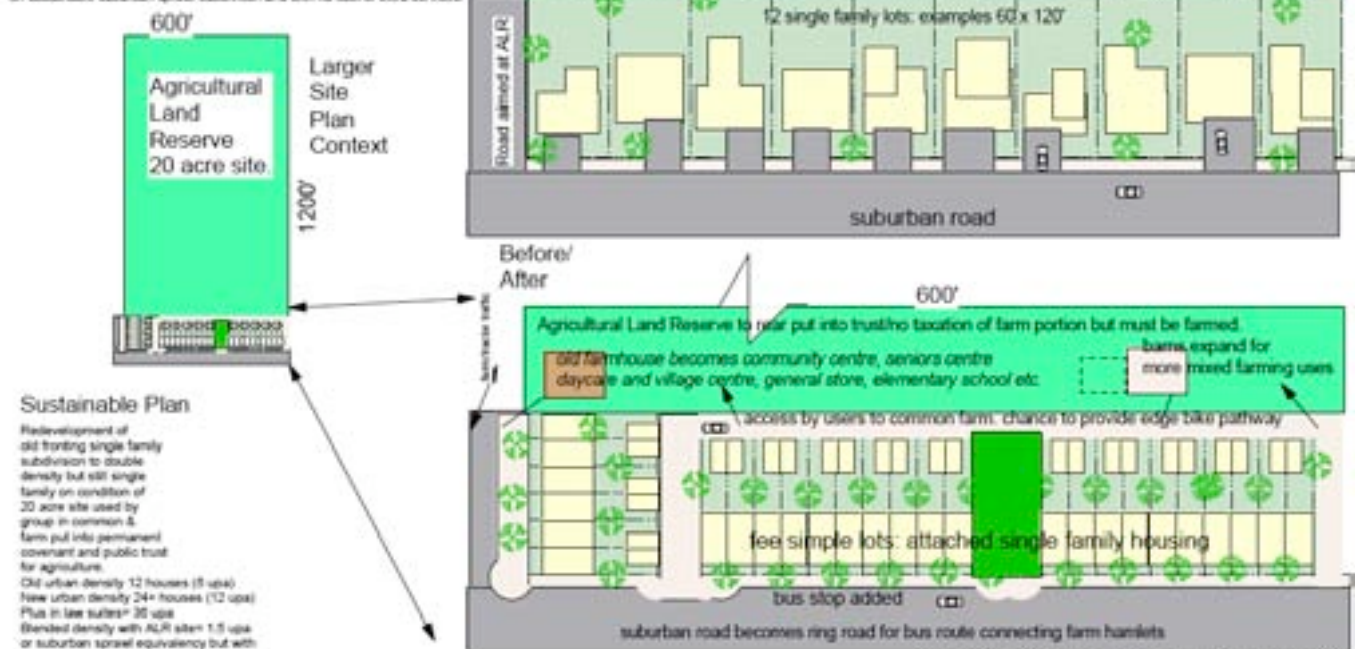
Concept 1.0

Edge of Towns Farmland Conservation and Immediate Use by new young village farmers: Real Sustainable Communities.

Strategy Plan

Before ALR Drawback Options: existing edge protection comprehensive strategy Cooperative Community Action:

1. New owners secure edge housing
 2. New owners secure ownership or dedication of farm
 3. Joint application: new village density tied to ALR site used by co-operative owners but owned by Farmlands Trust and taxation of farmland removed. Trust puts land into land bank
- new young farmers gain farm hamlet with affordable densities
 - town gains sustainable density plus secured farm plus defensible farm edge
 - society gains another layer of farmland protection
 - the total density package is the same as if the farm was carved up for on sustainable suburban sprawl subdivision and with no cost of extra services.



Sustainable Plan

Redevelopment of old fronting single family subdivision to double density but still single family on condition of 20 acre site used by group in common & farm put into permanent covenant and public trust for agriculture.

Old urban density 12 houses (8 up) +
New urban density 24+ houses (12 up) +
Plus in late suites 30 up +
Blended density with ALR sites 1.5 up +
or suburban sprawl equivalency but with preserved farmland, affordable housing density and sustainable urban forms.
Plus farm security guaranteed with ALR link to the urban site.

Concept Evolution: Agricultural Land Use Ad hoc post IMUP
From Nelson Food Sustainability Conference 2007 Policy discussion
For application to BC Min of Agriculture and to Municipal Policy UBCM
Draft for policy options Urban Green Fingers, Unsustainable City Book
Richard R. Balfour 2007.

Principle
Developer to gain urban density protects the farm but still get to use it under the co-operative model.
Farm Hamlet is achieved without infringing on farmland; no impact formula.

New rowhouse lots: 26 lots plus public meadow park, add lanes to rear for car access turn old street stub into meadow plus access to farm now held in commons under new restricted covenant in the name of a public farmland trust.

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Canada 7 SSP Zones

- Pacific Coast & Rockies
- Prairies
- Ontario/The Canadian Shield
- Quebec/ St. Lawrence
- Maritime Changes
- Yukon & the Taiga
- Nunavut - Our Arctic Islands and waterways

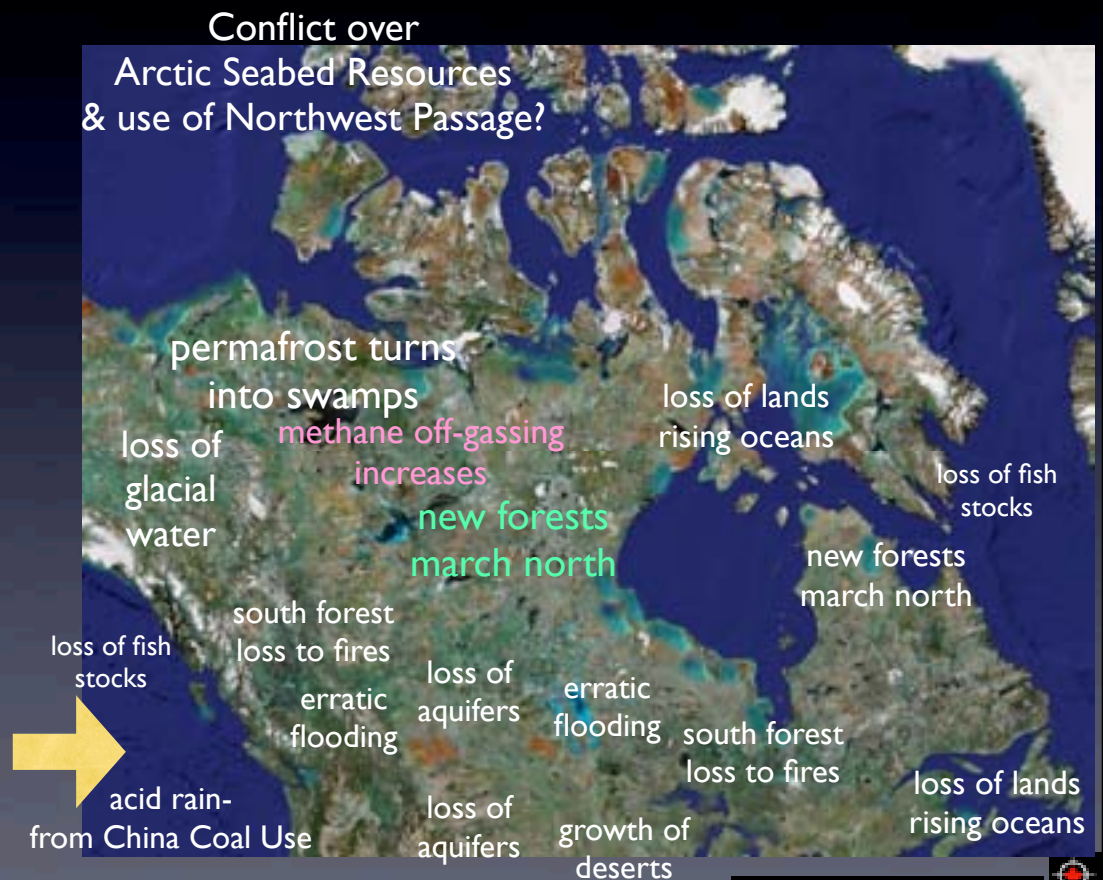


In a world of rapidly triggered tipping points: 2007-20014

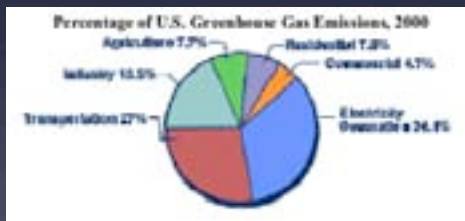


- Overall warming
- Erratic, violent weather
- Growth of deserts
- Loss of Forests
- Rising Oceans
- Dryer rivers & lakes
- loss of ancient aquifers
- Acid rain from China Coal plants growth in effluent.

Climate Change



- Death of suburbia
- Triage in inner cities
- Need for local food
- Refugee in-migration
- new impact on lands
- no energy to rebuild



High Triage
Risk cities.



Toronto
Vancouver
Montreal
Calgary

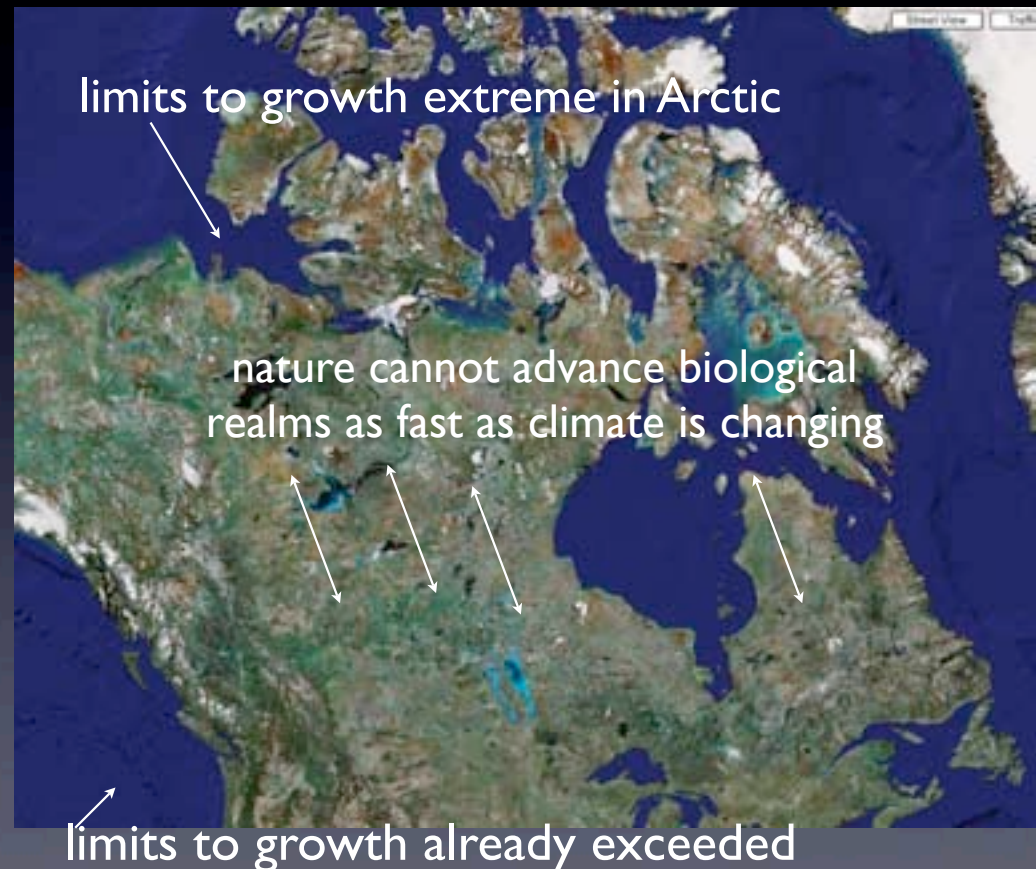
Peak Oil Impacts

What policy for post oil, climate, migration?



Mass Migration

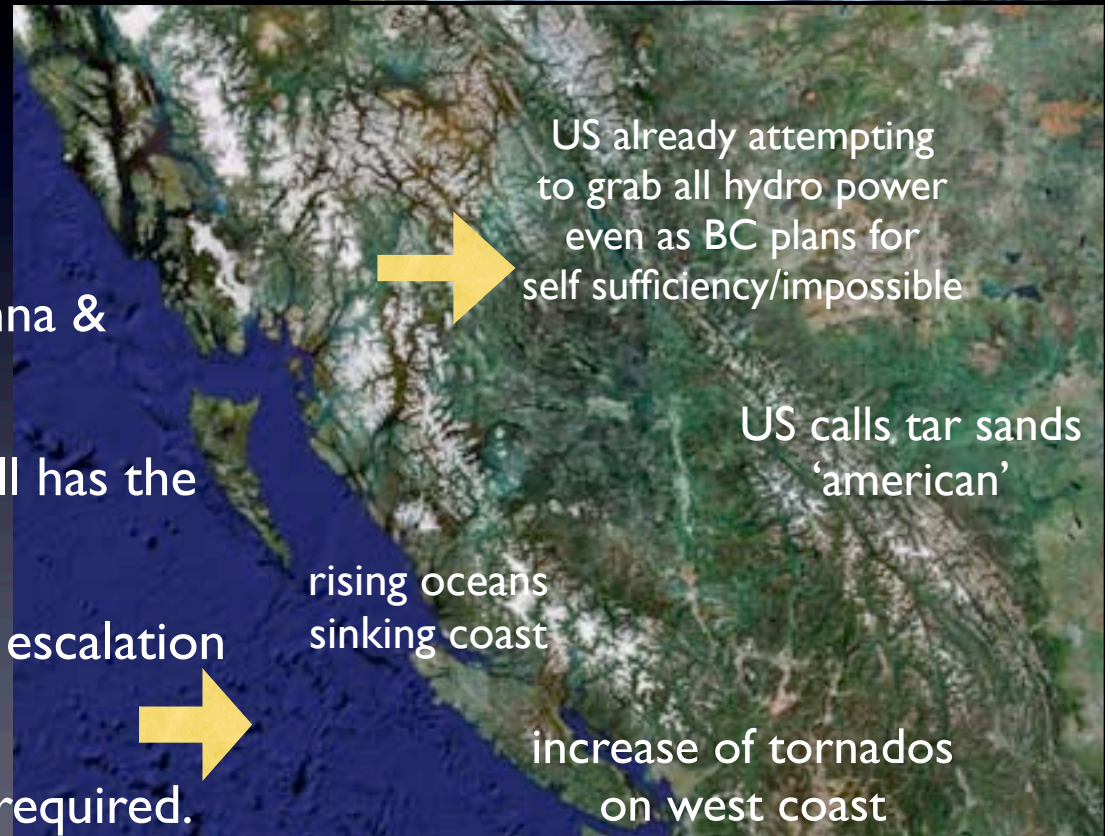
- internal moves to warmer climate zones
- post oil refugees from south
- US migrants from heat & end of oil economy.
- Europe & Asia & US climate refugees looking for land
- re-population of Rust Belts of East Coast



Pacific Coast & Mountains



- More winter rains
- More summer drought/fire
- More spring flooding/soil loss
- More shift from forest to savanna & desert
- Massin-migration as Canada still has the best options
- Acid rain from China Coal use escalation (a new plant per week)
- Shift from road to rail pattern required.



New Adaptive Settlements

- Loss of oil/switch to railway/steam power (wood fuels)
- Downscale of cities/new sustainable towns on rail lines
- New rail lines to access new belts of farm/town/forest pattern
- Settlements seeking good climate/good soils, water access
- Refugees seeking defensible communities/ new towns & villages
- Rudimentary forms of settlement will be the new norm, not luxury
- Generalists, & few specialists will be needed.
- Relocalization of all industry, not globalization will be unavoidable
- So get used to it and plan for adaption





After the Oil Economy:
Back to Rail
& Expand it.



New County Government
Eco Basin Rule



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Role of Railways

- Move from road back to rail: less movement/ only essentials
- Trading for complimentary products by region essential
- Loss of road dependence can be used to control migration easier
- Mountain rail lines: creates string of pearls of valley communities
- Mountain towns: can we adapt to have aerial tramways?
- Prairie new towns: what railway grid can be supported?
- What role of senior governments in the adaptive process?
- Can new air-ship traffic by 2020 replace the failure of current conventional air traffic as we know it in 2007?



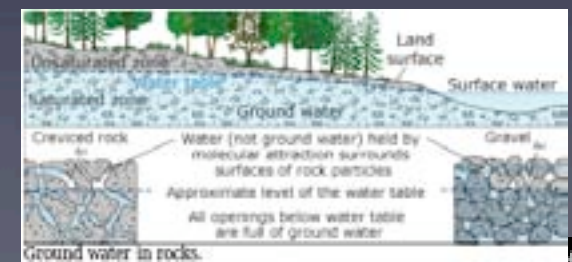
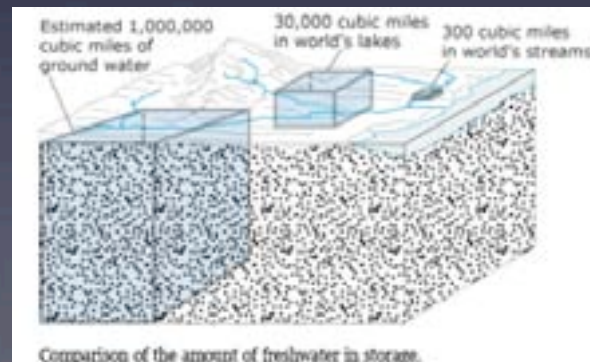
Ancient Aquifers Dying



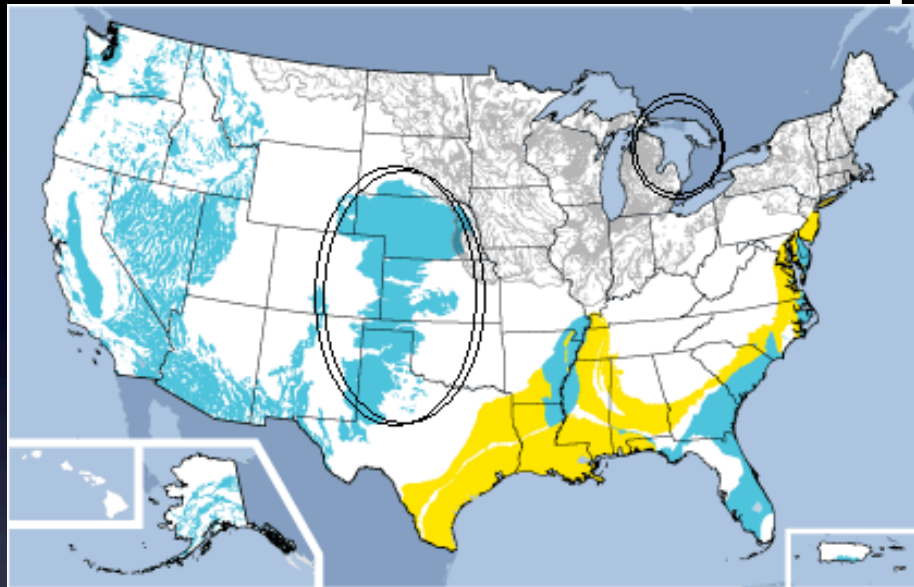
Many aquifers cross international boundaries, making control & protection impossible as each we beggar our neighbour to consume the resource first.



World Losses trigger new migrations....

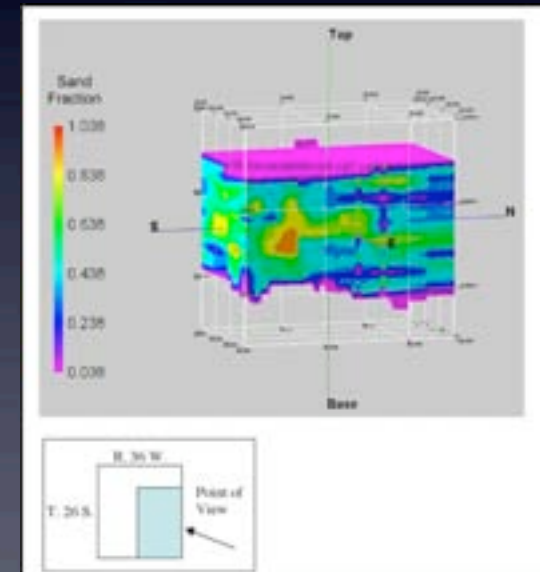
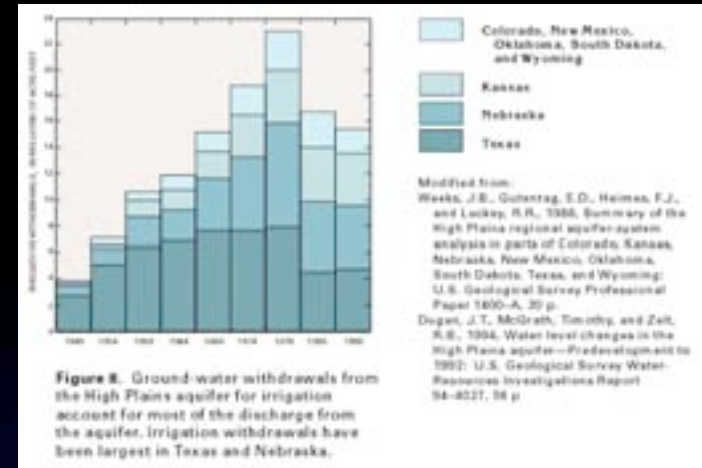
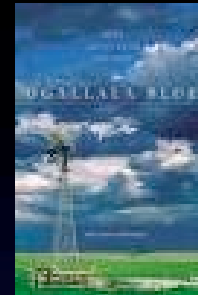


Water Waste Impacts



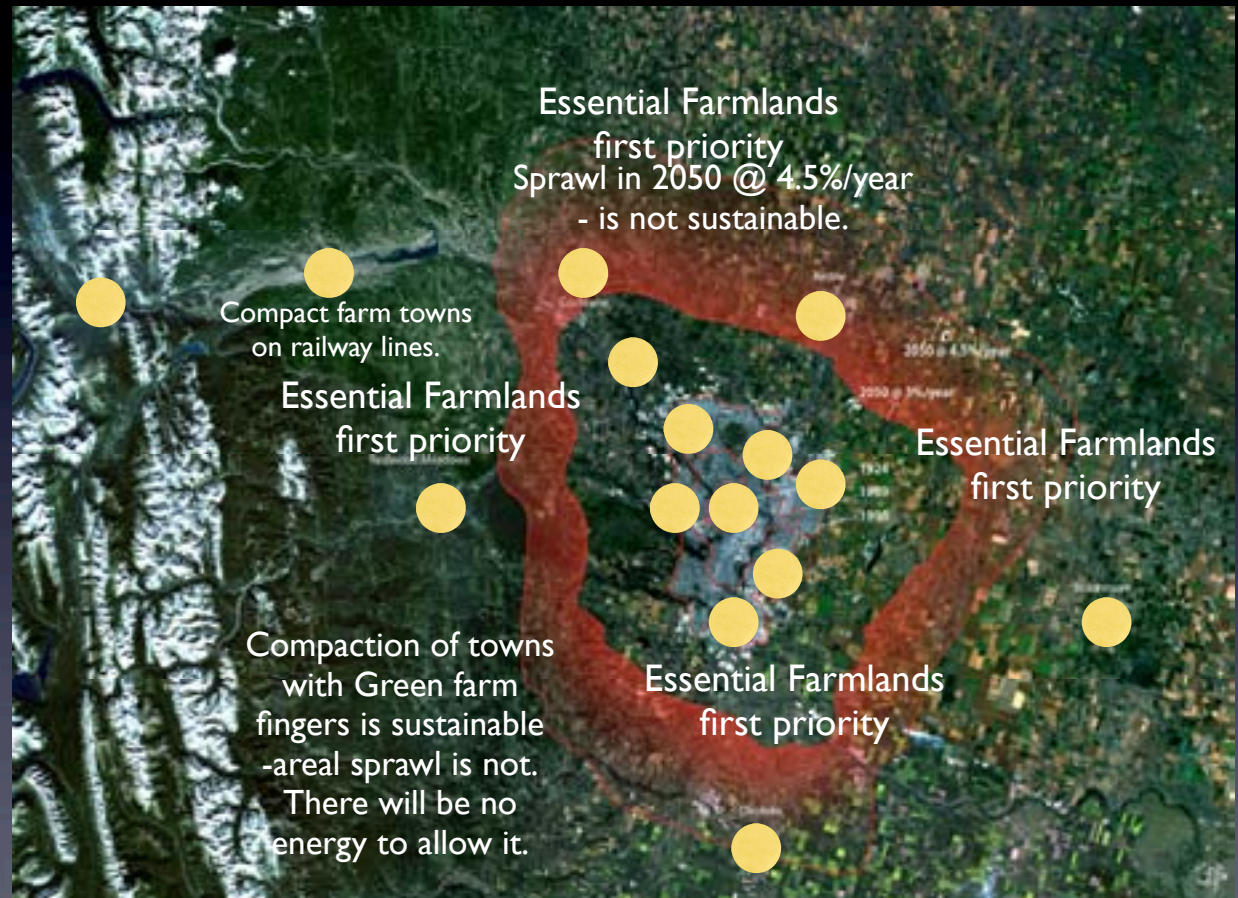
Failure of the Great Ogallala Aquifer

The American Empire not only needs cheap oil, now gone, but also water due to the pattern of massive misuse. The largest ancient aquifers are failing: the soil will soon be baking, the appearance of water abundance on the map of Canada creates a myth; the flow through is small. What silly actions will still flow from the lack of water, before conservation is used?



Growth that cannot happen.

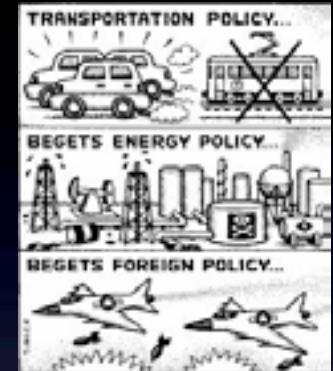
- Calgary example:
- End of water
- End of Natural Gas
- Climate Severity
- Community dysfunctional pattern for the post oil era.
- The Community will have more people, smaller footprint, more farmlands.
- but not more land area



Oil Wars & derivatives on top of climate change!



- Compounding of emergencies increases trigger points & risks multiply.
- Conservation **MUST** come before blind consumption to extinction.



Global warming is just as much a threat to the world dominance of the US ruling class as is losing a war in Iraq - and they know it. Those who invade countries for oil based on lies are the same people who pretend climate change isn't happening. It's the same mindset.

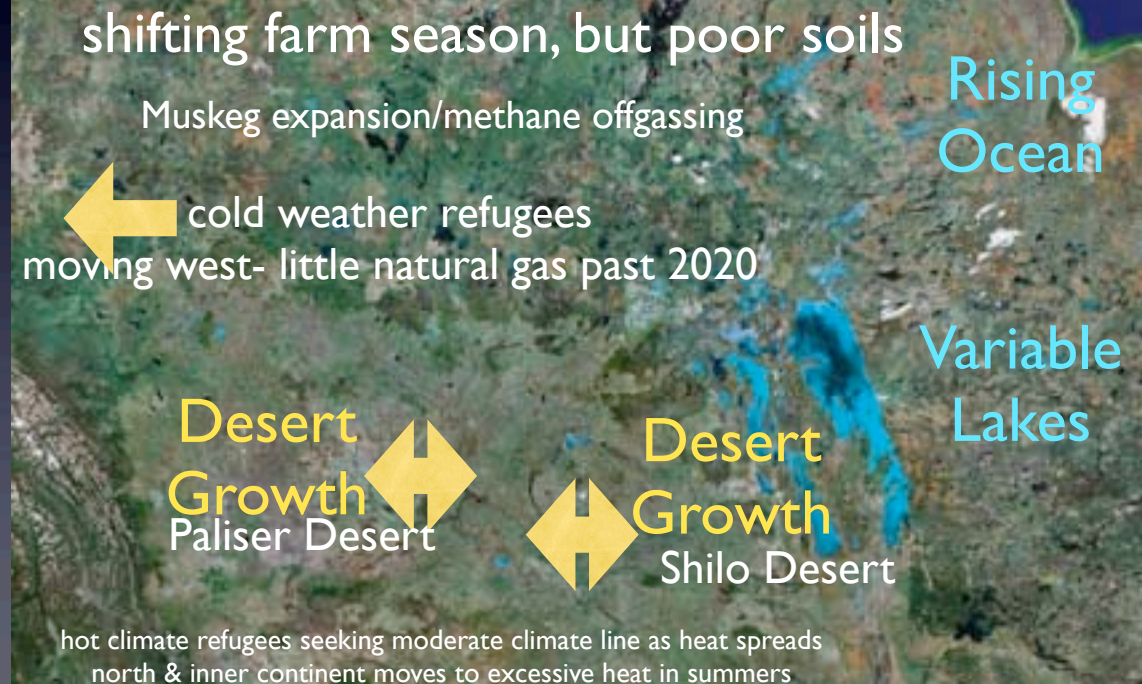
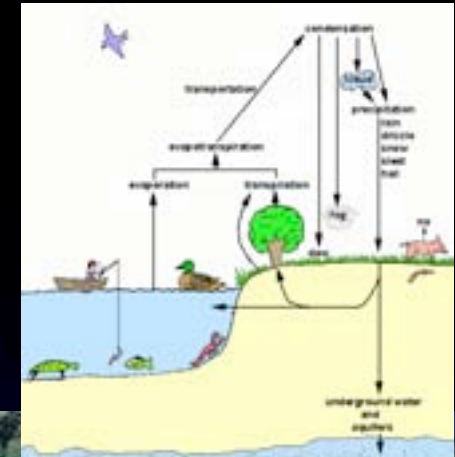


- Growth of deserts
- farmlands shift north
- dry/flood river cycles
- Rising tides: Hudson's Bay
- Decline of oil economy
- Fighting over arable land?
- Need for new railways



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The Prairies



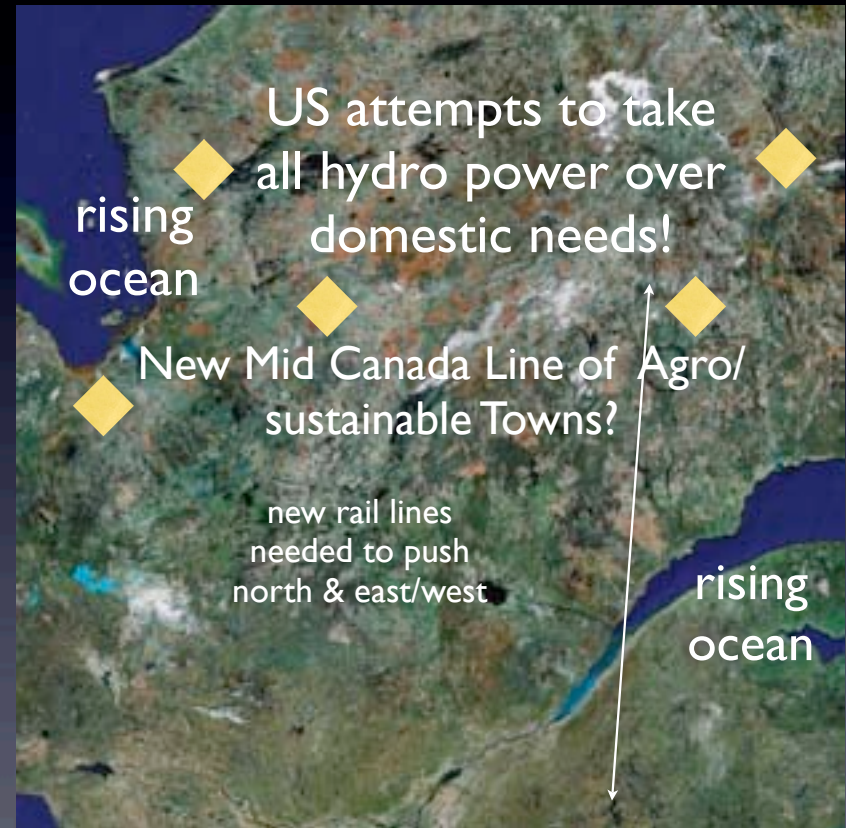
Ontario & The Shield

- Loss of Great Lakes?
- Re-industrializing locally?
- Death of suburbs- Toronto
- Attempts to farm Shield? →
- Erratic flooding/rains vs summer drought & fires. →
- Foreigners seeking land- from US, Europe, Asia.



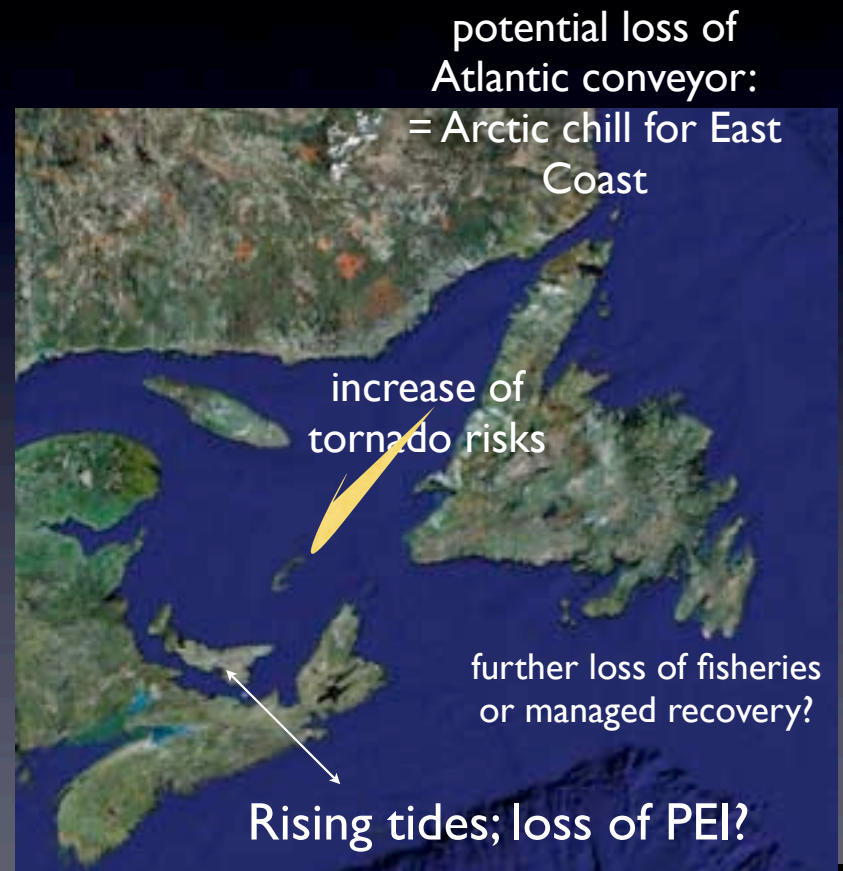
Quebec & St. Lawrence

- Return of Montreal as “The Port”- in new sail & steam age.
- Return to historical farm pattern
- Erratic rains/erratic hydro, issue of control of hydro as energy source
- Need to find expanded farmlands in all areas from growth- what about the protection of nature?
- European & US in-migration pressures from climate change- at which point do we say NO?



Maritimes & Newfoundland

- Otherwise in-migration pressures from US & Europe
- Re-establishment of sailing for transport given few railway options.
- Risk of cold climate if mid Atlantic conveyor collapses.
- Offshore grabs of fisheries, oil, new illegal settlement?



Yukon & the Tiaga

- Tree line moves north
- Growth of bogs
- Release of methanes
- Attempts at new settlement but for poor soils, muskeg, short summer.
- Artificial urbanism & rural villages best options
- Pressures from Alaska growth?



Nunavut & Our Arctic

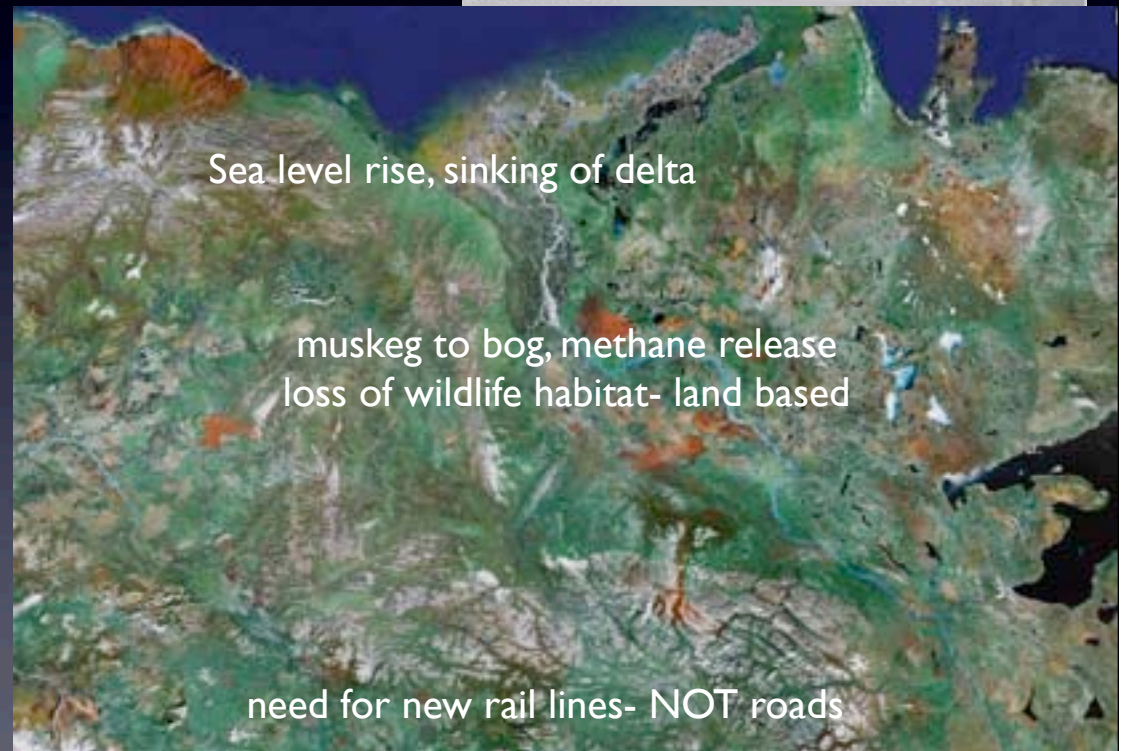
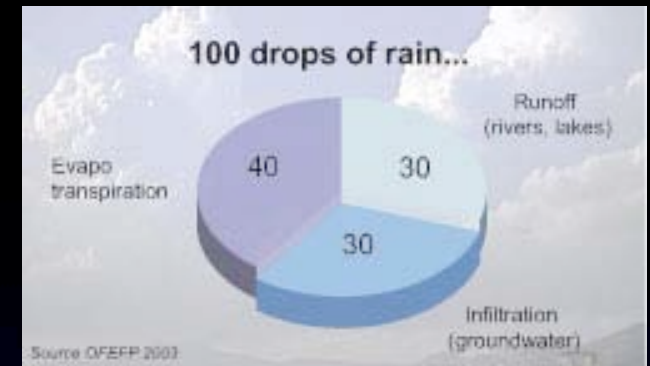
- Protection of islands, Mine the sea-lane.
- Fostering of island settlements with self contained habitats with farming capability (man made?)
- Environmental protection area on world scale (World Park?)



The Mackenzie Delta

FOCAL POINT

- A global warming microcosm: water, soil, energy, land, but fragile.
- Highly attractive area for new settlement?
- New communities will not have high physical contact
- Extremely high rate of geomorphology, new biological realms



Climate Human Impact Summary

- Past stability allowed for growth of human numbers, climate instability will cause a collapse of populations.
- Loss of oil/cheap energy means withdrawal from hostile deserts, cold climates is unavoidable.
- Loss of stable coastal plains & farmlands will push all of us into more marginal farm areas
- Climate extremes will focus growth by factors of ten into the 'best environments', marginalizing the new poor, the presently comfortably- well off.



Peak Oil Summary

- Human habitation built in last hundred years on patterns of land use waste and high energy cost transportation will collapse, putting pressure on cities either traditional or well-designed for post oil operations.
- Immediate green fingers of food production is necessary for any post 2010 settlement; either find the farm space or move the population. There is no option.
- There is no panacea from technological rescue or any surprising new energy find to save you.
- The only recourse is conservation & a new community pattern.



Human Migration Summary

- 4x • Loss of prime habitat will put more pressure on marginal lands.
- 4x • Harshest environments will be abandoned.
- 4x • Oil dependent communities will die if they do not change pattern quickly and radically.
- 4x • The 'best cities in the world' are about to suffer major demand from the combined shift in populations.
- 4x • The demand for other resources is under assault too.
- 1000x • The multiplying effect is in order of magnitude, not linear.



Food Security Questions

- The one dollar lettuce which is 90 cents of transport costs is nearing an end.
- Global shifting of all 'stuff' including food from afar is to end. The port & highway infrastructure is about to become redundant.
- Green farm edges of towns are essential but also new internal green farm fingers and urban industrial downtown farming are not just good ideas but soon essential to community survival.

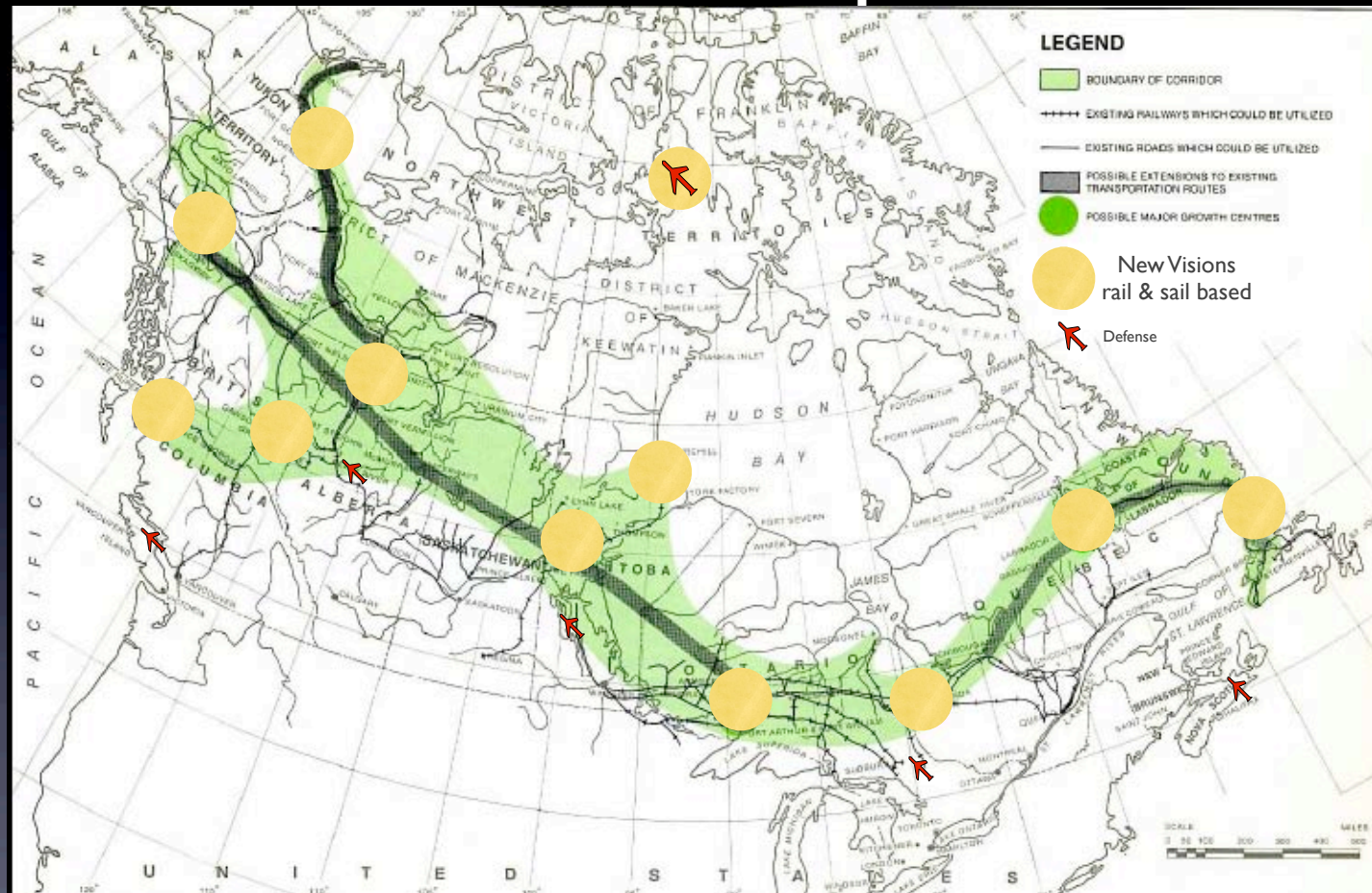


Habitat North

- Unsettled pristine environments need protection from humanity, not emergency settlement and exploitation.
- Fence it, mine the harbours, leave it to nature.



The Mid Canada Development Corridor



Do we take in post oil & climate change refugees, or not?



Nationally: Impacts & Policy

- At least 7 regions of well defined differences in geography and climate, affecting how planning policy needs to adapt to strategic sustainable planning.
- Climate change & loss of rainfall or new erratic surplus of water dramatically affects alternate futures planning.
- The large city size is not sustainable: the need to provide for the Mid Canada Belt now seems a prudent option: the Labrador City/Churchill/Prince Rupert line.



Rural, Urban & Village Policies CANADA

- pro-farm policies
- less taxation
- favour family/village scale
- decentralize farming
- lessen monocultures
- traditional modes/energy
- aid in urban triage
- recover good soils lost
- favour family/village scale
- make urban farming
- aid marbelization/ green fingers
- traditional modes/energy
- new village pattern support/ rail transport
- aid localization moves
- favour family/village scale
- traditional industry!
- maintain communications
- traditional transport



What new patterns for sustainability

- Loss of large unsustainable city centres
- Marbelization in the suburbs- reclaiming from mistakes
- new villages rail oriented and eco-basin managed
- new northern tier of towns/new rail systems
- new energy harvesting
- multiple pathways for maximizing food production
- new industries recycling, reusing, co-operative models.



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Federal/Provincial Policy **Revolution:** **Living with less. A Summary.**

- Compaction of towns is essential, as is newtowns & greenbelts
- Relocalization of food & industry is inescapable- farmland is Essential, not an afterthought.
- Marbelization of human settlement is necessary, for local commons
- We Must Learn to adapt rather than fighting it or each other.
- Food and water are Priority One.
- Reversal of the Hundred Years Mistakes is part of the equation for successful adaptation for sustainability. If it takes too much energy, it is in the wrong place- move fast or perish.

