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March 24, 2022

Re. Climate Emergency Action Plan

Dear Mayor Holder, Councillors and City of London Senior Management team,

I am writing to you from the future. As of 2022, our family of four has transitioned to a nearly zero carbon lifestyle. We are living close to the 2050 target levels that the CEAP report suggests. Currently we produce a net of 2 tons of CO_2 equivalent per person (including Scope 3 emissions) and could easily bring that down to net zero by buying carbon credits.

Despite big changes to our lifestyle, I have to tell you that life is good! We are still enjoying most of the amenities and technologies of modern life (except for a car, TV, and dishwasher). More importantly we are enjoying premium co-benefits like super low utilities bills, great health and an amazing community life. Transitioning did not happen overnight though; it took hard work and large investments in this low emissions lifestyle. Can other Londoners do this? Absolutely! Will it be as easy as just adopting some new technologies and not suffer any loss of standard of living? Absolutely not! Correction, our standard of living has gone down (compared to a status quo Canadian family) but quality of life actually increased!

In the attached report I make my observations about the CEAP report and what I think Council should be focusing on the most in order to meet the targets and conceptual goals of the report.

Here are my main recommendations for Council:

- Create walkable communities of high density but low skyline development with mixed land-use
- Facilitate the creation of local, circular (and just!) economies with heavy focus on local food and energy production
- Support locally made appropriate technology and other consumer products
- Encourage holistic and spiritually based decision making

Please see my detailed observations and recommendations attached.

Sincerely,

Dr. Gabor Sass

Dr. Gabor Sass's observations regarding the CEAP report and follow-up recommendations for municipal council.

Observations

1. It's not just about the climate. The problem we face is so much bigger than climate change alone. I really appreciate how the CEAP report acknowledges this on page 1 by underlying that the bigger problem is the connections that we have lost with nature (and frankly with other humans). *Homo sapiens* is lost in its dream focusing only on technological progress reaching for the stars. Unfortunately, that dream is turning into a nightmare as over the past hundred years we have progressively been destroying the life support systems of our planet, pushing back the rest of nature into smaller and smaller pockets, driving many species to the brink of extinction, and also jeopardizing our own continued existence on Earth. The biggest question for humanity in the 21st century is: How does *Homo sapiens* fit into the web of life without destroying the web and itself?

   Translating this question for London, we could ask: How does London and its inhabitants fit into this landscape of southern Ontario under a changing climate? How do we keep on creating an urban life far into the future, without the use of fossil fuels? What will our future relationship be with respect to resource use in general and not just fossil fuels? How will we coax back species from the brink of extinction? While a climate emergency document can't possibly have an answer to all these questions, planning for climate change needs to consider the interacting effects of energy, economy and environment in a lot more holistic version.

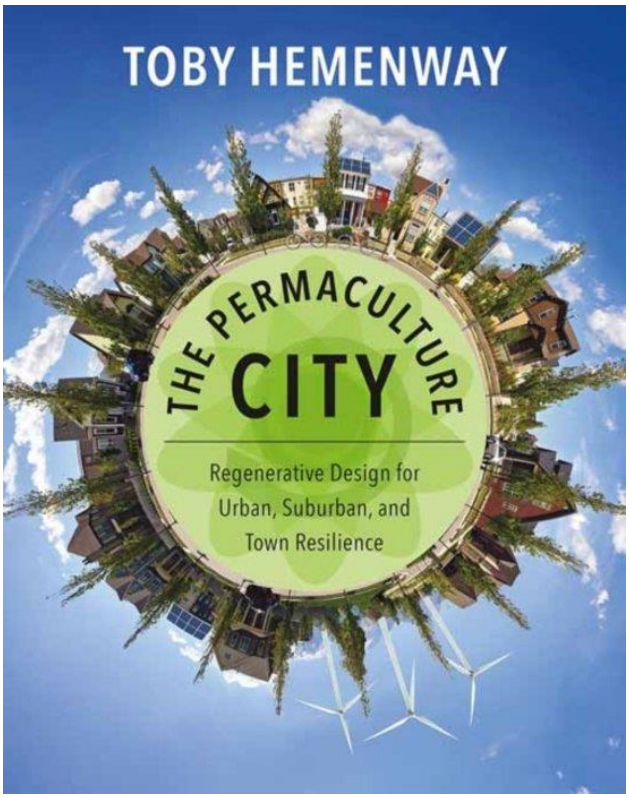


Figure 1: A holistic view of cities in the age of great transformations. This book is highly recommended for every Londoner.

2. Peak fossil fuel. There was no mention in the report of the fact that just as London intends to put the CEAP into action we are beginning our long way down the other side of the global production curve of oil, natural gas and soon enough, coal.

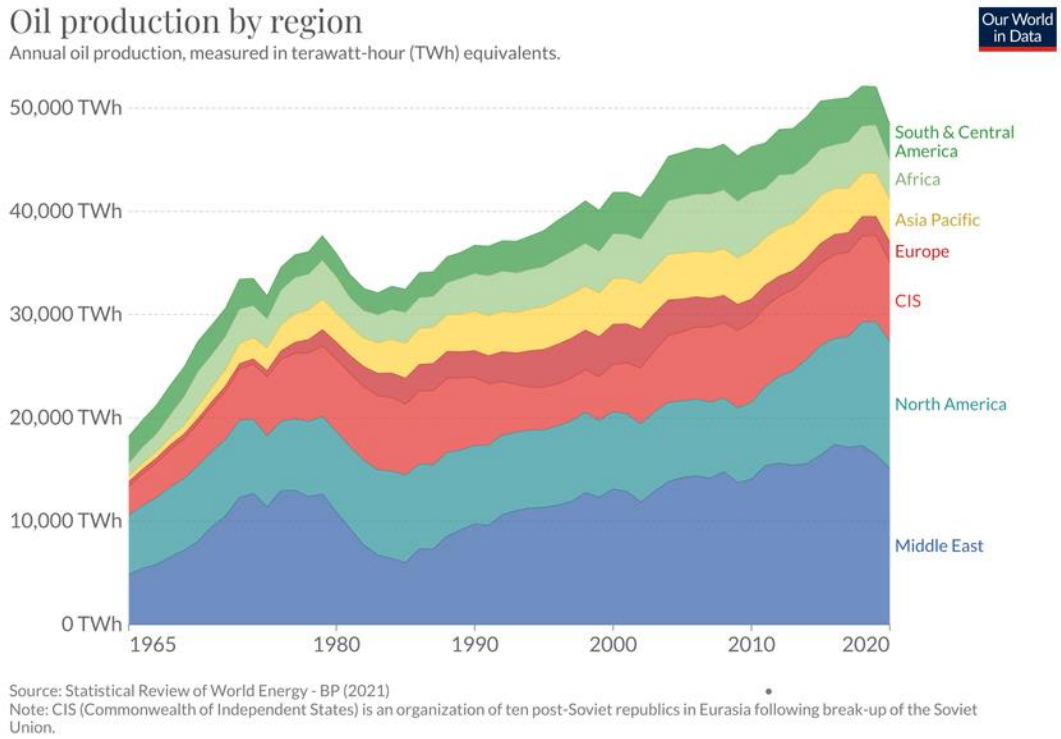


Figure 2: Could 2018 have been the all-time peak of oil production? https://ourworldindata.org/grapher/oil-production-by-region

Depending on how we look at it, peak fossil fuel is a blessing or a threat. In terms of a climate blessing, peak fossil fuels could curtail the worst of the predicted climate calamities since the dwindling supplies of fossil fuels would naturally mean less overall emissions. The climate curse is that there would still be enough supplies of fossil fuels left over to wreck the climate but at the same not provide the energy to build out the renewable energies we envision. At the local level here in London, what this means is that energy supply shocks (first in oil, later natural gas and finally in coal) are just around the corner (with or without other external factors like the war in the Ukraine) with huge spikes in prices and even shortages a daily concern. Therefore, building a climate resilient city with its emphasis on low energy solutions and local, circular economies will also shield us from the worst of the energy and material shortages.

3. Jeavons paradox. There is no mention of this unexpected result of resource use in the report. The paradox is that the more efficient a process becomes in relation to the use of any resource, the overall consumption of that resource increases and not decreases. Jeavons observed this with coal use in England in the 1800's, the more efficient the motors or the pumps became, the more coal ended up being used in the aggregate.

   Translating it to London for the 21st century, the more efficient we become with our resource use of fossil fuels, the more of it we will end up using. So let's say, we all get the EVs and air-sourced heat pumps the report is recommending us to do. What will Londoners experience? Lots of savings because of lower energy use. What will Londoners do with that saved cash? Use it to buy goods and services. And if they are goods and services, coming from far away places (resulting in Scope 3 emissions), the current plan won't even register it, because we are not measuring Scope 3 emissions in the current CEAP. A paradox doesn't have simple solutions. Encouraging people towards purchasing services with minimal emissions could be one strategy. However, the problem goes much deeper. Let's say Londoners follow the report's recommendations to a T and we reach zero carbon, let's even say that we bring our Scope 3 emissions under control and we really reach net zero carbon by 2050. Unless every other city is doing the same as London, all of the emissions that London has saved will be burnt by another city, perhaps in USA, perhaps in China. So, we can only have meaningful action if London becomes part of a global network of cities aiming towards the same goal (it was nice to read that London is part of ICLEI). Clearly, the answer to climate action is more than just becoming more efficient with our resources.

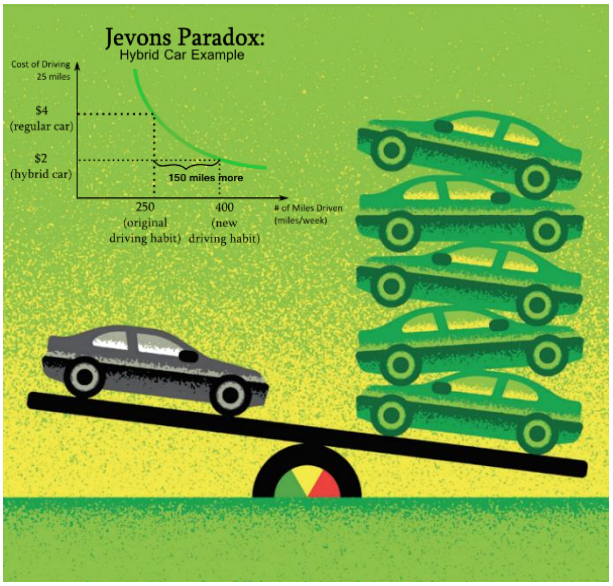
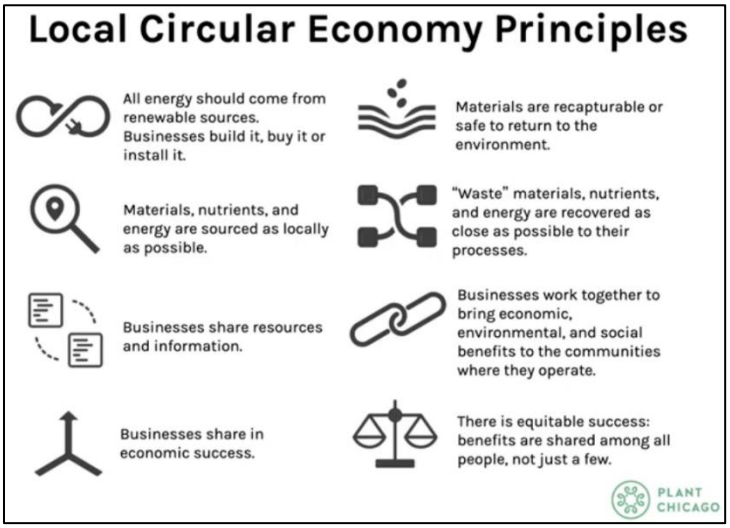
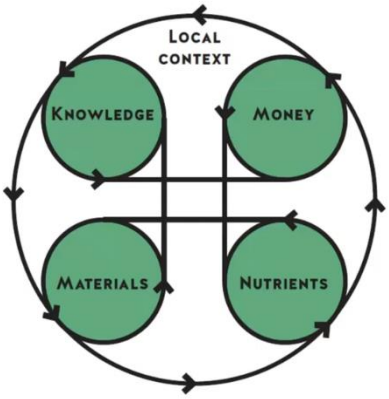


Figure 3. More efficient cars but more of them.

4. Scope 3 emissions. Thankfully, the report does mention Scope 3 emissions and even presents the stark truth that Scope 3 emissions (~8 tons per person) are double Scope 1 emissions (~4 tons per person) which the report is focusing on. Meat consumption, vacations, consumerism, even our ever-growing digital life has huge emission repercussions. For example, the server farms of our emission laden distant 'cloud' (which many people erroneously assume to have little emissions) are literally overheating from their sheer size as many are now put underwater. If Scope 3 emissions are not tackled head on, will our Scope 1 reductions mean any progress? I recognize that Scope 3 emissions are very difficult to track because of the diffuse nature of global supply chains but perhaps that is the problem, our economy has become too global. And the solution is re-localizing production and substantially decreasing consumption. Food and energy, could easily be 75-90% locally/regionally produced. The CEAP report does mention the importance of circular economies which is very good but these economies have to be mostly local and based on appropriate technologies that themselves can be produced and serviced with local talent and facilities. The emphasis needs to re-localized circular (and just!) economies. This will be huge not only for climate emissions, but it will also invigorate local economies and bring jobs back that have been off-shored by the forces of globalization. Furthermore, we will not have to worry as much about wobbly supply chains in our key ingredients of a sustainable life.





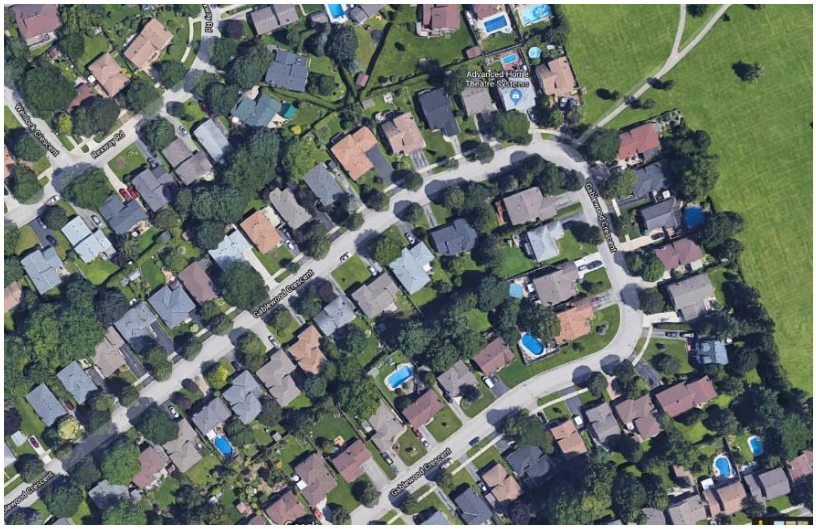
5. Too much technology. The CEAP is based too much on technologies as the way we get out of the 'problem' of climate change. Based on recommendations at the back of the report, the main household level changes sought are the swapping of internal combustion engines for EVs and the swapping of natural gas furnaces for air-source heat pump technologies. Essentially, the report is saying: "Everyone, do the techno swaps, perhaps throw in some composting, the city will install two BRT routes maybe throw in a couple of extra separated bike lanes and we are good to go." What if the money is just not there to buy our new gizmos (because of war, pandemics, stock market crashes)? Plus, have the writers of the report considered that every other CEAP writer around the world is saying pretty much the same things, governments at all levels pushing techno-fixes? The truth is that EVs still require huge amounts of fossil fuels to make, plus they themselves require resources that will have their own constraints (e.g. lithium for batteries). The point is that we will not have the resources for everyone around the world to swap into fancy new EVs. Perhaps there is a similar story for heat pumps. Instead of technological solutions our focus should be on planning walkable communities where most people will not need a car and one where communities can share resources including local energy production as well as food production. I don't get a sense that London is moving towards this type of future. The sad truth is that the London plan is still aiming at 60% low density sprawl development. My point is not against the use of technology, we will always use technology, but city reports like this one should lead residents toward appropriate technologies, like bicycles instead of EV cars. And of course, bicycles only make sense in a denser city.

Figure 4: Three generations of the Sass family riding the Yuba bike. Sustainable living with appropriate technology can be a lot of fun! https://en.wikipedia.org/wiki/Appropriate_technology

6. High-density- but low skyline development with intense mixed use. The CEAP report does mention active transportation and walkable communities but there doesn't seem to be a concrete plan of how we get from here to there. We will not get there if our planning target is still 60% single family homes. And the rest of the 40% is mostly building 40-story monstrosities in the city's core. How can city leadership square that with the goal of creating walkable communities? European cities have a historical legacy of legal ordinances about building too high and fortunately for them, they have kept these laws on the books to a large extent so that most new developments in European cities are less than 6 stories tall and at the same time very little of it is single-family homes. This results in human scale, yet dense developments. Because of the density, it is easy for families to live without cars and it is just as easy to have neighbourhood scale energy systems enjoyed by multiple households (geothermal and PV all become a lot more economical as district systems). Public amenities like squares, parks, areas for urban agriculture can still be incorporated into high density landscapes in many different forms. The high quality of public transit in leading sustainable cities around the world is due in part to the fact that the cities are built at high densities. That should be our standard. Sifton's W5 development is step in the right direction but unfortunately, it is at the edge of the city gobbling up more prime ag land and doesn't seem to be planned with the intent of being integrating it into the rest of the city.

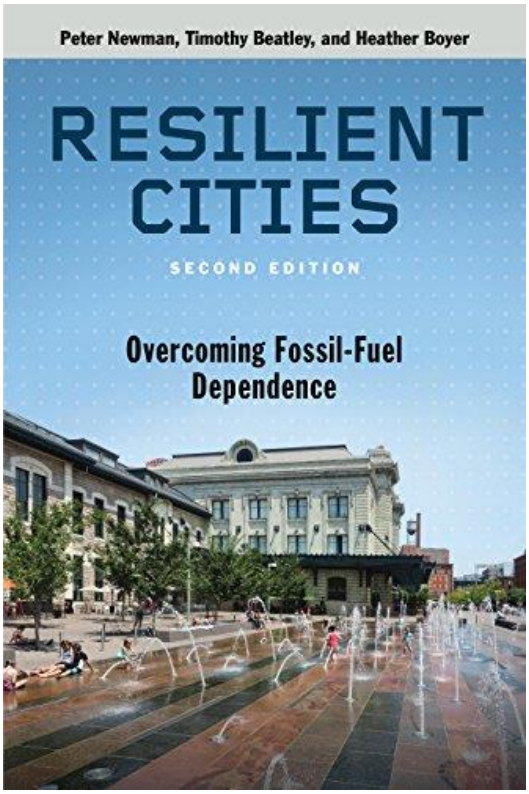
Figure 5. Quartier Vauban in Freiburg, Germany. The gold standard for infill development creating a walkable community.
https://d1trxack2ykyus.cloudfront.net/uploads/2017/10/Vauban..pdf

7. Open space for more than just trees and grass. London is a vast, sprawling city, and it has gobbled up prime agricultural land over its growth and is aiming to do more of the same over the course of the next 30 years. Of course, this needs to be addressed and the London Plan, in concept, tries to tackle this. The silver lining to a sprawling city like ours is the fact that there is so much open space around the city including residential, commercial, and institutional building types. A quick scan of Google Maps reveals how much of our city is open space, mostly in the form of manicured lawns. Collectively, we spend millions of dollars on our lawns and spew thousands of tons of CO_2 into the air to keep them that way.



The opportunity is there to convert these lawns into productive ecosystems. District geothermal installations can be placed underground like in Okotoks, Alberta and the space above used for other purposes. Aboveground, the possibilities are endless. Lawns can be not only converted to pollinator gardens, biodiversity gardens, native meadows and forests but also to edible landscapes consisting of vegetable gardens, food forests, orchards and fruit trees lining boulevards. Urban agriculture food hubs can be the focal point of every neighbourhood in London, bringing together residents of all stripes under the universal common denominator of healthy, fresh food. Urban ecosystems can become productive not just for other species but for humans as well, producing food, fibre and fuel. They could act as carbon storage sites, counteracting our emissions. The open farmland outside of the urban growth boundary but still within city limits could be turned into significant carbon sinks with proper carbon farming techniques, helping reaching London reach its net zero carbon goal so much sooner.

8. Governance for resilience. By-laws and regulations are important tools for governments to provide orderly use of common-pool resources. But during times of emergencies, excess regulations are a hindrance and prevent us from reaching calmer waters. We need less regulations around what we can do in and around our households and around our neighbourhoods. When people are empowered to act, they are the best at figuring out what works and what doesn't. This type of action could come on many forms. For example, CoL is already trying to make it easier to grow food in London by identifying the by-laws that are in the way (for example not being able to sell produce from the end of the driveway). This type of lifting of regulatory barriers should be applied to energy generation (especially if people want to form co-ops for local scale district energy set-ups), small-scale production of goods and services that people would want to conduct on their properties. We will only be able to create walkable communities if mixed use is embraced with respect to all areas of life. When rules and regulations are relaxed, within limits of course, innovation and creativity flow.



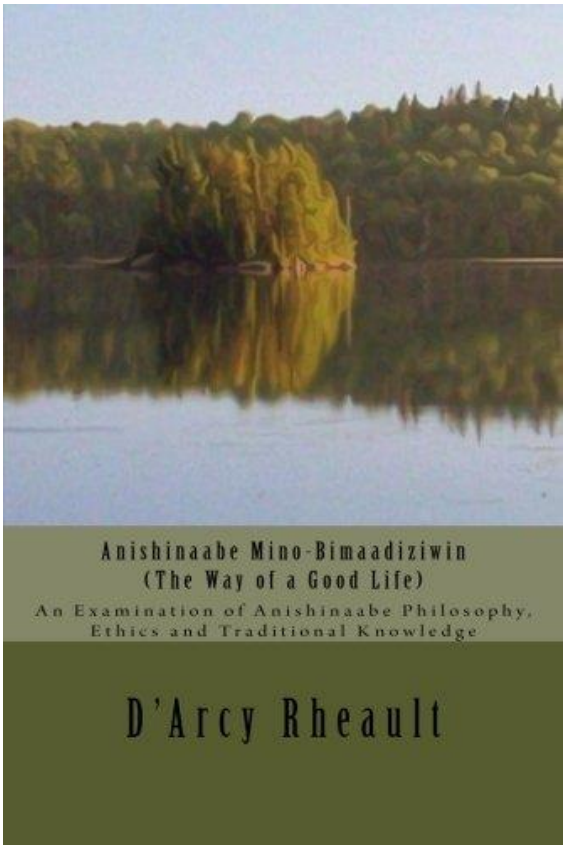
The other aspect of governance that needs to be trialed is networked governance. As opposed to having a central authority, municipal council and staff, that has the responsibility to make decisions about everything, responsibility can be devolved to non-governmental actors like grass-roots groups, non-for-profits, charities and other community actors. For things like environmental action, the outcome can be superior when the decision-making structure is shared between a network of actors. Could community associations, for example, be allowed to co-manage parks with city staff?

9. Walkie-talkie. Real climate action starts at the top. Senior leadership at City Hall, but also in academia, business and other local institutions needs to lead in climate action. Many people in power seem to be surprised that there is not more uptake by the 'average' person in climate action. I think the answer is simple. When residents see that their leaders in academia, politics, finance, and government are just talking about change without implementing it in their own lives, it is not surprising that they just yawn and turn to something else to do. Climate scientists and government officials make stark pronouncements about the future but the following day they get onto airplanes and fly to yet another climate conference. The message seems to be from the top: "We want everybody else to do the changes except for us". If London really wants to get cracking on this plan, the citizenry will be watching for city hall and other civic leaders to be personally invested in climate action like walking, biking and taking transit to work. They'll also be looking for clues that the leaders have themselves invested in the renewable technologies the CEAP report is recommending.

Figure 6: Jane Bigelow, former mayor of London. "I support the cyclists; give them some space and some safety for riding their bikes and doing their chores and going to work,"

I believe that this type of action-oriented leadership will be important at all levels of society and not just for leaders who can be readily identified by the public. We need people to lead within faith communities, neighbourhood groups and families.

10. Spiritual awakening. I am reluctant to bring this up, but I am convinced that without a new heart we will not realize our goal. Spiritual thinking and being doesn't necessarily require people to believe in a transcendental being but it does require us to put our selves into a much larger cosmic dance of particles, forces, species and perhaps other types of beings. Spiritual thinking and being address our deep connection to all of life and in fact all of the universe. Astronomer Carl Sagan said, "The cosmos is within us, we are all made of star-stuff", and he is right, our atoms in our bodies are all coming from the explosion of star that was here before ours formed. And how about our connection to the rest of life? All humans share an ancient grandmother and grandfather and going back further, we are actually connected to all other lifeforms in the tree of life.



Indigenous people around the world always speak of the important connections and reverence towards the rest of life including mother earth, father sky, grandmother moon and grandfather sun but also all of the ancestors that have walked before us. Success of the CEAP depends on Londoners grasping these interconnections and inter-dependencies. Awakening to a spiritual life happens slowly and it begins in our hearts and not our heads, eventually leading to life-long committed environmental action, including the ones the CEAP has dutifully laid out for all Londoners.

Recommendations:

1. Create walkable and mix-use communities with a height limit and minimum density requirement

- Create density but not height. Cap all buildings at 6-story limit to any new development and set minimum density requirements for every part of the city.
- Improve mixed uses in zoning (encourage in-house businesses, end of drive-way store booths, mix light industry with institutional and even residential)
- Allow the construction of tiny homes
- Create a dense network of protected bicycle lanes. Use existing traffic lanes if necessary.
- Bring in mechanisms that allow neighbourhood associations to co-manage (along with the city and other groups) common assets like parks and other right-of-way areas but also to set up district energy systems
- Use 8/80 principles in planning for new development and the reimagination of older neighbourhoods.

2. Build local, circular (and just!) economies

- Focus City of London procurement guidelines towards the local. There are so many amazing local companies making renewable technology and other great carbon emissions minimizing products.
- Relax by-laws about growing food, creating greenhouse structures and other buildings. Allow commercial and institutional zones to install greenhouses, etc.
- Open up people's eyes about the potential of the open space in the city. It could be used for so much good. Trees are great but there are so many other creative ways to use open space including pollinator gardens, food forests, biodiversity gardens, and urban agriculture sites like community gardens, urban farms and food hubs. Open spaces could also be the sites of underground geothermal system and aboveground PV and wind installations.

- Support the creation of community food hubs for every neighbourhood (urban farm/community composting facility/tool sharing/community kitchen/community celebration)
- Create financial incentives for people to renovate and innovate towards climate action (bring in a PACE program).

3. Support appropriate technology

- Instead of air source heat pumps encourage Londoners to install ground sourced heat pumps (individual or district energy systems).
- Instead of EVs, emphasize bicycles and e-bikes.
- Preferred technologies of the CEAP should embody long-term use, low embodied energy and materials.
- Require farmers in London to all use carbon farming techniques

4. Enliven holistic, spiritual decision making and thinking

- Create a 14th council seat for an indigenous leader or elder from the First Nations near London.
- Raise climate education and awareness by focusing on the amazing co-benefits of climate action.
- Help the community to create a School of Sustainability by offering a municipal building for this purpose. SoS could offer courses to Londoners on climate action, resilient and sustainable living.
- Make available resources for people to learn about sustainability at every turn.
- Create nature-based programming for all (8/80) in the city's parks. Use Japanese examples to introduce people to Shinrin Yoku or forest bathing.

Links:

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