Tell us about your idea for reducing UBC Vancouver campus GHG emissions. Which of the following areas does your idea address?	Please describe your idea below. Include as many details as you can (e.g. would your idea apply to all of campus, to specific buildings or departments/programs).	2. Are there any research opportunities associated with your idea?	3. Are there any cost savings to the university associated with your idea?	4. What do you see as the benefits of your idea?	5. What are some of the drawbacks or challenges to your idea?	6. Any other things we should consider regarding your idea? (implementation, risks, challenges, opportunities)
[Individual behaviour (e.g. lab equipment use, windows, heating and hot water use)]	Water bottles and fountains. Each washroom should be provided with a drinking water faucet students could use without a water bottle (but they should also be able to use them to fill up their bottle). A few fountains should be made available outside buildings for visitors. The sale of water bottles or soft drinks should be prohibited on campus. This would considerably reduce the amount of garbage collected and the nuisance of garbage diggers. UBC is making money by promoting waste when schools and other public institutions are moving away from these wasteful practices.	Read the newspapers.	UBC would lose money by being a good citizen but students would save money by adopting good ecological practices.	Vancouver has the best water in the world. We should promote it instead of importing water from far away locations (often just tap water from another city).	The will to change.	There are a few companies that profit from this practice. They won't give up easily.
[Individual behaviour (e.g. lab equipment use, windows, heating and hot water use)]	Put compost bins in the washrooms with paper handtowels so we can reduce trash collected.	No	No	Reduced trash volume.	Making sure people know it's not a trash receptacle.	
[Buildings (e.g. new building design, renovations, maintenance and operations, building commissioning and optimization)]	At least three buildings at UBC; including the Life Sciences Centre building at 2350 Health Sciences Mall, the Pharmaceutical Sciences Building at 2405 Wesbrook Mall, and the Djavad Mowafaghian Centre for Brain Health at 2215 Wesbrook Mall operate high-velocity (Strobic Air) rooftop exhaust fans. These fans operate 24/7 and must consume considerable energy based on the continual roaring "jet engine" noise, which especially noticeable during evenings. The Life Sciences Centre alone operates no less than 28 of the Strobic Air fans. An alternative to the massive energy consumption represented by these fans would be simple columnar stacks operating with low-powered fans, which could achieve the desired dissipation of harmful pollutants without the excessive energy consumption (and disruptive noise).		Yes, less electricity consumed by continually operating exhaust fans.	Less electricity consumed, fewer annoyed neighbours, and reduced health risks associated with continual exposure to noise in excess of 60 dbA.	Cost of decommissioning the Strobic Air fans.	Opportunity to avoid litigation originating from impacted campus neighbours.
[Energy supply (e.g. alternative energy sources)]	UBC is clearly doing wonderful things on many aspects of environmental action, improvement, and sustainability. There is on that is crucially missing: and that is action on noise pollution. This is part of the human environment: particularly in a university, a place of intellectual activity, "a place of mind." Noise also has an impact on other animal populations within our whole ecosystem. Our campus is extremely noisy; part of that is construction, which is obviously a necessity, and part of that is the noise of vehicles, especially those that make beeping nois when reversing. This sound carries: it can be heard from far away and is disruptive to a wide range of core university activities: teaching and learning, reading, writing, thinking, students concentrating while doing tests and exams, concentrating on sound (for example when learning a language or working in linguistics or music).	It is well-known that some sort of warning signal is necessity: for site workers as much as for passers-by. It is also a legal requirement. But to the best of my knowledge, no-one has ever seriously considered alternatives to the beeping; and this beeping (and indeed sounding an even more old-fashioned horn) may be antiquated and redundant now that most passers-by will be listening to music over personal electronic devices. Working on alternatives would be genuinely new, innovative, cutting-edge research with commercial potential everywhere. In a moment of intense frustration during the last academic year, in the middle of a headache, I jotted down some ideas for alternatives. Here is a selection: ---A selection of merry tunes (at least 100 different ones per vehicle per day), such as... ---themes to great horror movies ---themes from other drama: Bond, film noir, action; anything featuring high-speed car chases, oversize vehicles, and big explosions ---EUROVISION!!! 60 years' worth. Plus semi-finals and so on from more recent years. Heck, we could Start A UBC Thing: "A Song For UBC." University income through subscription and gambling. ---the Ride of the Valkyries and other Great Operatic Hits ---full operas, especially those that are rarely perfomed due to their great length; in cooperation with the Music department and Opera programme; perhaps each week of the year could be devoted to a different composer? ---with an interactive app game for naming the work and composer (for movie sound-tracks, the movie and year and one other piece of information) as fast as possible; pay $0.99 for the app, weekly prizes. ---with this as with all the above options, all trucks would have to play the same piece at the same time. That way you could follow the music as you walked around campus. Otherwise there would be cacophony. ---alternatively, trucks could play different parts and be used by musicians as instruments in composition and improvisation around campus The ideal, however, is silence. ---if we must have noise, then all workers in this workplace–students, faculty, staff–should be issued with the same top-notch ear-protectors as construction workers. We are working in the same place, under the same conditions, and our work is if anything more sensitive to noise and affected worse by excessive noise. ---if UBC's Building Services and Department for Strategic Planning and Mastery of the Universe are as concerned as they say they are about Health And Welfare and Risk Assessment/Avoidance, I'm afraid that beeping or other sound is no use against the ugg-shuffling e-zombie hordes. Nor are humans in high-vis yellow: I have seen a crossing-guard caper like a motleyed fool (rather than a more dignified Knight Who Says "Ni") and fail to attract the attention of a downward-gazer. ---The solution: poke other senses, most obviously smell. With nice smells, like coffee and freshly-baked bread. ---add to the student registration contract that they must turn over control to the University of any ear-isolating electronic devices. In a first stage, this should be a condition for using UBC WiFi. Someone un-headphoned can hear a musical reversing truck. For the be-headphoned, the truck music will interrupt their regular programming (or the beeping noise, if the e-zombie's choice of music was particularly awful) and they will also be directed to help the nearest GPS-located person in need of assistance (deaf, with small children, aged, etc.) as part of a de-isolating re-humanising incentive (patentable?). ---or, preferably, silence and eco-friendly quiet electric vehicles; silence for all except for narcissists plugged into their Personal Soundtrack To My Life™: their programming would be turned over to the Official UBC Interruption Channel (music or beeping, depending on how mean we're feeling), without disrupting the peace and quiet of anyone else	The potential for being sued by people who have sustained harm, or are losing earnings (ex. doing research and using expensive equipment that is highly sensitive to noise), due to noise.	A lucrative innovation for the vehicle industry, starting with construction vehicles.	Time, effort, imagination, ignorance, lack of concern for human health and well-being.	The opportunity for financial gain in industry through a unique innovation. Opportunities for further research on a sizeable population of human (and other animal) test-subjects, and (on the academic / pure research front) for longer-term research / data collection and analysis.
[Buildings (e.g. new building design, renovations, maintenance and operations, building commissioning and optimization)]	Observed that between mid-April and end of August, there are not a lot of occupants in most of the buildings on the whole campus. My suggestion is to schedule events and activities so that we maximize the utilization of the individual buildings which will allow the other buildings to be in standby mode. For example, schedule non-lab events/activities in I K Barber Learning Centre to fill up all or most of the classrooms/lecture theatres instead of a few classes in Neville Scarfe, a few in Buchanan and a few more in other buildings. By doing this we can have the mechanical and ventilation systems in IKB operate at their design parameters which is usually based on full occupancy. In this example, we can then shut off or cycle off/on the mechanical/ventilation systems in Neville Scarfe, Buchanan etc.or switch them to standby mode to reduce energy usage. This idea may not be very practical for laboratories.	Probably not.	Yes.	Prolonging the life of mechanical equipment while reducing the energy usage of the buildings. This will also help in reducing the GHG emission.	Due to the different faculties and departmental scheduling software involved, coordination of the scheduling process will be challenging.	The mechanical/ventilation systems are already on the existing UBC BMS (Building Management System) infrastructure. It merely requires some basic programming adjustment to the existing occupancy schedules for the mechanical/ventilation systems in each of the building. So, from the BMS standpoint, there are no hardware changes required to implement this idea. The biggest challenge is in the coordination of the existing inter-departmental scheduling software currently in use which are not totally compatible or integrated.
[Buildings (e.g. new building design, renovations, maintenance and operations, building commissioning and optimization)]	Provide incentives to individual faculty to reduce energy usage. For example, in any building, my idea is that the building user groups be made accountable for the energy they use. An account is set up with the appropriate amount of funds to operate the entire building on an annual basis (fiscal year). An energy usage baseline will be calculated initially based on historical usage for the past 3 years or so. If the energy usage exceeds this baseline, the building user groups will have to pay a penalty or surcharge which is to be determined based on various factors, including weather, extenuating circumstances etc. But if they use less energy than the calculated baseline, the user groups get credits, also based on various factors to be determined.	Probably not. It's possible.	Potentially, yes if the building user groups are motivated enough to participate in this incentive and also see the benefits of contributing to lowering of GHG through reduction in energy usage.	When made accountable, financially, most people will think twice about "wasting" energy if it hits them in the pocket book. This will make users more aware of their action while performing their work. Work culture and people's behaviour will adjust accordingly. Reducing energy usage will impact the GHG emission for the building. E.g. Instead of taking the elevators, using the stairs will reduce energy usage and may be beneficial for the individual (a bit of exercise is always good after the doctor says you're good to go).	Each building will have to have an account set up for this purpose and a central group to monitor, do the accounting magic and track all the required activities associated with this idea. The debits and credits will require some in depth discussion to make it fair and reasonable, instead being a deterrent.	This will involve a shift in work culture and accountability. It requires full cooperation from the building user groups to make it successful.
[Buildings (e.g. new building design, renovations, maintenance and operations, building commissioning and optimization)]	It is likely it has already been thought of and considered, but some of the older on campus residences around UBC have shower-heads that have a very high flow rate. If these were replaced with more efficient shower heads with a lower flow rate hot water, energy, and money could be saved. The cost of replacing these shower heads should be minimal, there is only 1 for every 4 people in some Thunderbird residences for example.	If it hasn't already been done, research the options for low flow rate shower heads, calculate how much water could be saved based on the amount of water used for taking showers in say Thunderbird residence, and compare that with the cost of replacing the shower heads.	Potentially, if the cost of replacing the shower heads is covered by the savings in water costs. It should save money, its just a matter of how long until the break even point is hit.	Savings in hot water (which saves energy) and savings in cost.	It might be difficult to estimate the water savings from the shower heads if there isn't sufficient data on water use from showers already.	
[Buildings (e.g. new building design, renovations, maintenance and operations, building commissioning and optimization)] [Energy supply (e.g. alternative energy sources)]	I work in Brock Hall East, and currently facilities are in the process of removing several large decorative panes of glass from the wall above the main concourse because one of them fell recently. As this is a heavily trafficked area, my idea is to replace the panes of glass with a large projector screen. A high lumen output projector could easily be placed across the room making this screen not only decorative, but informational. It could be used to display engaging visual data regarding the use of energy in the various buildings, or current greenhouse gas emissions being output by the UBC community as a whole. It could easily be linked to a website as well, with additional information and statistics, public service announcements, strategies for reducing carbon footprints, etc. The highly visible public display of the information would increase transparency and accountability by the community. It would also be possible to use gamification strategies to engage the UBC community more directly thought the creation of competitions between various departments to see who can consume the least energy over a period of time. The real time data could be projected onto this screen for the public to see. The versatility of this projection system, would allow for additional data about the current state of the earth's environment to be displayed as well, perhaps showing energy use by country on a giant map. The possibilities are endless. UBC could even allow for artists and researchers to submit ideas for display to further encourage public involvement.	Yes. The impact on energy use across the campus could be measured and correlated with the various visualization techniques to identify which are more effective. If gamification is employed, there is a research opportunity to study the impact of various strategies on energy use across campus as well. If additional grants were procured it would even be possible to buy hardware to measure specific energy use in precise locations, detect greenhouse gas emissions at specific locations, or track car usage -- all of which could lead to further research questions being addressed on a more granular level.	Yes. If the projector system is effective at lower energy use across campus buildings or in dorms it could have a considerable effect on energy related spending. Also, installing a projector screen is likely less expensive than replacing the glass panels that are being removed from Brock Hall, so this would be a savings as well.	The projector system has numerous benefits, the first being its versatility. It would allow for multiple research projects to be conducted throughout the year, could be used for general informational purposes, and would potentially be a good public relations tool to get UBC noticed by the news media. The second benefit is the public visibility of the screen which allows for more interest and involvement from the campus community, and is much more prominent than a web page alone.	One of the drawbacks of the idea is that the system would require people to develop the visualizations. While there may be public interest in developing these visualization and eventual involvement from the research community, the initial launch would require development which would cost money. There would also likely need to be a survey of the types of energy-use data that are currently available on campus to determine its granularity. If additional hardware is required to measure specific building energy use than this would cost additional money.	This idea is low risk because the projection system has so many other uses. If it turned out that there was little interest in using it for the display of energy use visualizations it would still function as an informational screen for enrollment services and UBC public service announcements in general. It could also be used to procure media art from the Vancouver community and would function as a high profile point of interest on the UBC campus.
[Buildings (e.g. new building design, renovations, maintenance and operations, building commissioning and optimization)]	Bullitt Centre at 1501 East Madison at Seattle has 100% electricity sourced from rooftop canopy. Perhaps an example for UBC campus building.					
[UBC-owned vehicles (e.g. vehicle types, procurement, maintenance and management)]	My focus is on our campus forest and greenspace, both of which have a significant impact on local air quality, and, likely, the mental health of students, faculty and staff. Given the extensive and ongoing construction at UBC, with its attendant loss of trees and green space, I would suggest that we regularly monitor our campus forest and green spaces, and where they are lost due to construction, alternative sites are found to 'make up' the balance (we likely should monitor and compensate on a level set through historical archives--a lot has been lost already). Interestingly, Vancouver city council recently had a proposal to monitor and replace the urban forest in the city overall. I don't have the technical expertise to suggest HOW we accomplish what I have suggested (I am a faculty member in the School of Nursing with expertise in ethics), but I know that our colleagues in Forestry, Urban Planning, Engineering etc. do. This could be a collaborative project between various sectors of our campus. PS FYI, I raised similar concerns about the loss of forest canopies and green space in a Vancouver Sun "Letter to the Editor" published on Monday, June 29th, 2015 (p. A14). "Park Space More Vital Now" by Paddy Rodney, West Vancouver.	A few come to mind (I realize some faculties such as Forestry may already be engaged in this kind of research already): 1. Studying local air quality in relation to tree canopy coverage. 2. Studying the mental health effects of ready access to green spaces for people--especially families with young children. 3. Identifying the best ways to measure and track changes in urban forest canopies. 4. Describing a collaborative action approach to improving greenspaces and forest canopies in a university community. Thanks for your attention!	Unknown	Preserved and improved natural environment at UBC	Finding space to 'make up' green spaces/tree coverage in an increasingly over-built campus.	For UBC to be a leader in environmental stewardship, we need to model approaches that are visible, sustainable, and applicable to other contexts. I think that what I have proposed meets these criteria.
[Other (e.g. carbon capture)]	Recycling greenhouse gases by capturing them as soon as they enter, using sensors in all the sectors so that electrical appliances (eg lights, elevators) can stop running when they are not in use, generating awareness about the same	no idea	maybe	Will Reduce air pollution, as well as conserve energy	capturing greenhouse house gases may not be easy	
[Energy supply (e.g. alternative energy sources)]	Replace some of the motor vehicle fleet with bicycles, including cargo bikes. The campus is easily traversed by bicycle, and more campus locations are reachable by bike than car, so why not make our vehicle travel as energy efficient as it can be!	Could see if staff enjoy travelling around campus more by bike, or if they become more physically fit. Could compare the carbon footprint of the fleet before and after. Could see if more UBC bikes on campus spurs more bicycling on campus.	Yes - no gas or electricity needed. Vehicle costs much lower than motor vehicles.	Increased health and safety, decreased air and noise pollution, decreased carbon footprint of UBC.		
[Buildings (e.g. new building design, renovations, maintenance and operations, building commissioning and optimization)]	Someone installed motion-sensitive lighting in various public spaces of the ENGLISH dept in Buchanan Tower in a few years ago. They have NEVER worked. Rooms 597 and 599 always have the lights on, day and night, weekend and weekday, and because they are locked no one can turn them off. Not sure how much we paid people to install these things but it was a waste of money and now wastes energy.		hydro costs.			
[Energy supply (e.g. alternative energy sources)]	Try to consolidate UBC-owned vehicles into one centrally managed, maintained, and purchased group with users following the "car-share" style arrangement. A centrally managed group of vehicles would have possible efficiencies in terms of the following: - Most people could go with a "pay-as-you-use" style. - Arrangements can be made for longer-term users to suit specific projects. - I realize that there may be some special circumstances where departments and research groups may not fit this arrangement.	Yes. - Faculties such as engineering, etc may have technologies to help with the energy use, maintenance, cleaning (eco cleaning?) - Psychology or behaviour can research and improve and optimize scheduling and promoting alternate or reduced use.	- Timely scheduling maintenance to maximize use life, safety and running condition. For example, for small departments with vehicles, do the people managing them who have other job responsibilities do things such as checking maintenance, recalls, general safe condition? I suspect not all. - Larger batch purchases of running supplies such as oil, wiper blades, windshield cleaner, etc may be cheaper. - Possible bulk purchase/leasing advantages. - Advantages for most groups that do not regularly use a vehicle. UBC would maximize the use of the vehicle before it becomes less useful and unreliable due to age. Things like rubber, tires, fluids still age and need to be replaced with time even if mileage is not accumulated.	The main points are maximizing use of purchased or leased vehicles during the time that they are reasonably new and reliable. Often, I see vehicles very old and outdated requiring ongoing maintenance but with very low mileage. When the vehicle use is maximized, any new more efficient models can be brought into the system quicker. - Easier to keep branding -logos, labels and wording kept consistent. - Regular cleaning inside and out keeps the vehicle in presentable condition as well as minimizing wear and tear on surfaces (carpet, seats, paint),	One obstacle would be how to deal with bookings to ensure enough vehicles. Another obvious problem would be the tendency for users to treat items that they do not own in a poor manner. For example see how people treat rental cars and how people leave garbage in classrooms and movie theatres. Some system must be made to check vehicle condition when it is returned.	Maybe if UBC cannot do it ourselves, see if any of the large car-sharing companies want to partner with us.
[Buildings (e.g. new building design, renovations, maintenance and operations, building commissioning and optimization)]	I think a very important aspect of moving forward lies in building design - specifically, the involvement of those who will actually be WORKING in the building. With every new build, there should be the formation of a "building user think tank." I don't know about specifics, but in many of the buildings I've worked in over my 20+ years at UBC I've often felt that the architect/designers have had more input than actual staff/faculty who occupy the buildings. Having the suggestions of those who will occupy and spend large amounts of time in the building will go a long way in making it a more usable space. Many opinions can slow a process down, yes, but there should be the option to be able to see plans, and make comments and suggestions with a sense of ownership. These people, after all, spend a big chunk of their day in an office. Polling people for their hopes and wishes for office space should be at the very start of the design process. A side effect to all of this is also a big positive - people are happier being heard, having some suggestions implemented, and working in a more sustainable and comfortable workplace. That equals a happy employee! Examples energy-draining issues I have come across are: 1) Full-time people (whether staff or faculty) being in internal spaces, away from natural light sources or light sources they cannot control - so many people might bring in extra lighting, in the form of a non-energy efficient/cheap light. I have a co-worker who suffers from migraines and she prefers to have to work with the fluorescent light above her removed. 2) These same people are often in a space where there is no control over the heat/cooling or access to windows. From experience (including now) I've been in places where in the summer people all have cheap fans (read costly in money and energy) at their desks. In the winter, it's space heaters, which are a huge drain on power, and in energy-LEED buildings, counterproductive. I hope these thoughts are helpful.		Absolutely, in energy use!	Energy savings. People being able to work in a more comfortable environment.	None that I know!	
[Buildings (e.g. new building design, renovations, maintenance and operations, building commissioning and optimization)]	Incorporating fitness equipment in the UBC Recreation Center that would transform the mechanical energy generated by its users into electrical energy would be a great way to reduce UBC Vancouver campus GHG emissions. For example, as a student pulls on a rowing machine, an installed generator could transform the student's mechanical energy into electrical energy that could be used to power different parts of the UBC campus. Not only would a unique and alternative energy source be created, but it would promote and advocate for UBC's green initiatives and encourage UBC students to continue to contribute to the well-being of themselves and their natural environment.	Research opportunities could include creating new and efficient fitness equipment to be added to the Recreation Center.	The university would be able to save on energy costs.	Students would be more compelled to use the fitness equipment to better the health of themselves and their planet. Energy costs would be reduced and the extra funds could be set aside to introduce or support other GHG reducing projects. UBC would be recognized as an innovative and an eco-friendly institution that is dedicated to enhancing not only its students' academic achievements, but also their mental and physical health.	It may be difficult to find ways to efficiently transform the mechanical energy into electrical energy.	I think this idea would be a very rewarding project. Thank you for the opportunity to share my input on the climate action plan! (:
[UBC-owned vehicles (e.g. vehicle types, procurement, maintenance and management)]	-Reduce carbon footprint of campus by allowing flex-time work schedule for all employees, thereby reducing car traffic to the campus. (reducing overall carbon footprint on campus, and decreased congestion, leading to less wasted fuel by UBC vehicles) -Bring back employee subsidized transit passes at a significant discount - akin to the student UPASS. If the discount is significant enough, many more employees (staff) would be attracted to use it. Again this would reduce overall traffic to the campus.	n/a	Fuel savings of UBC vehicles. -increased employee time efficiency - less time wasted on campus traffic	-overall carbon footprint reduction to the campus -better for the environment, as more employees use public transit -reduction in fossil dependency - less employees using personal vehicles to commute to UBC everyday, as well as reduced fuel by less trips to UBC due to flex-time schedule available to ALL employees.	-Schedule balancing for departments. -implementation of employee pass will have a minor cost overhead, but the positive affect is far more positive. (a definite selling point of attracting new employees, flex-schedule and employee transit pass)	UBC can attract new potential employees to work with the benefit of flex-time schedule as well as employer subsidized transit passes.
[Buildings (e.g. new building design, renovations, maintenance and operations, building commissioning and optimization)]	UBC does a lot better than the private sector when it comes to this. But a lot of people leave their computers or montiors on/standby when not in the office. I couldn't select more than one option above, but in terms of buildings, there are buildings that are too hot (Brock Hall (1206, especially)) in summer, or too cold (IKB (260)). There's room for improvement there.		Yes. Electricity.	Smaller carbon footprint.	People stuck in their ways not being open to changing.	
[Buildings (e.g. new building design, renovations, maintenance and operations, building commissioning and optimization)]	More green-space on campus reduces heat island effect and the need for air conditioning, and green roofs can greatly increase insulation and reduce energy consumption on buildings while enhancing mental well-being of students and staff. Furthermore, using locally adapted native species in landscaping will reduce the input of fertilizers and care, and prohibiting the use of invasive plants would also greatly enhance our local ecosystem, while helping conserve the biodiversity that supports natural carbon sequestration in the forest. I would also love to see algae bio-reactors scrubbing the carbon dioxide out of any exhaust pipes and used for composting.	Restoration in urban settings, algae-bioreactors, architecture with green roof	energy conservation saves money	energy savings with the added benefit of ecosystem conservation and enhanced mental well-being of campus members, and carbon sequestration.	green roof architecture can have added cost up front, but they last longer and save energy and cost.	
[Individual behaviour (e.g. lab equipment use, windows, heating and hot water use)]	Our idea is as simple as it gets, related to recycling but also to our daily consumption of delicious food on and off campus: CHOPSTICKS. Several student surveys show that the most affordable student-dishes can be found in Asian cuisines. A majority of students eat their dinner on a daily basis with disposable chopsticks, which quickly adds up to approximately 6.000 sticks a day on campus, potentially around 100.000 sticks a day including the lower mainland - but did you know that 90% are actually made out of bamboo, the fastest growing natural material in the world with outstanding properties as strong as steel? As PhD student focusing on developing innovative and sustainable composite materials using this high performance wooden grass, I´d like to recycle chopsticks as raw material for a high end bamboo-based product in its second life cycle. Applied with biodegradable resins, heat and pressure it would allow us to investigate the potential of chopsticks as main source for high end flooring, acoustic wall tiles, high-end furniture panels and many other design products.	This project could be a great research opportunity for a student research team, a potential master or PhD student in Forestry, Engineering or Environmental Sciences and could create awareness about the daily demand of disposable products. The actual material quality of chopsticks are quite surprising at first, which is superior to a lot of materials I´ve worked with for developing bamboo-based panels in the past. Chopsticks are processed for the food sector out of mature, strong and healthy Moso bamboo culms, mainly sourced from China. It would be a waste of high performance material if we would not try to proof further technical product feasibilities. This research could include the review of currently existing recycling programs and actual numbers on the import of chopsticks, product development, manufacturing and product testing, economical feasibility up to a scenario of establishing a Vancouver based spin-off company who produces chopstick-bamboo based products for the local market promoting a cradle to cradle approach.	Improvement of campus product recycling + awareness could lead to cost savings in a long-term vision.	The benefits fit into the society´s perception and motivation to reuse daily waste materials and try to find ways to reach UBC´s long term plan of being a zero-waste and zero-energy campus. It creates a value added second life cycle high performance or visually appealing product that could tell us a great story but also creates profit.	A drawback could be the implementation of a frequent supply of chopsticks, adding another new separate recycling bin of lignocellulose-based waste materials including wood, wood products and bamboo. If this story would not be shared widely on campus and raise the awareness, a price per kilogram could motivate students and the public to keep on collecting chopsticks and return it with cooperating recycling stations where the chopsticks could be easily picked up. Minor product related challenges could also be food or liquid waste product penetrated substances that impact quality and appearance of chopsticks as raw material for a second life product.	Independent on how successful this idea will be evaluated by UBC´s Climate Action Plan 2020 committee, we would greatly appreciate a platform to share this story to widely distribute the potential of chopsticks. Many people say that best ideas were first established in a pub environment - why not seeing the potential of this sustainable product development project idea that has been created during a Sushi date on campus...? Looking forward to hearing back from you, thank you for your time - Felix Böck & Thalia Otamendi
[Buildings (e.g. new building design, renovations, maintenance and operations, building commissioning and optimization)] [Energy supply (e.g. alternative energy sources)]	I think the idea of re-engineering buildings so that they harvest and use rainwater in toilets and to water plants would be an excellent environmental savings. It would cut down on the water used and water needlessly being put into the sanitation system.	Perhaps the idea of restructuring an existing building to harvest and use rainwater (or grey water) would require research, but I believe the work has been done for new builds.	Depending on what the University spends on water. Most likely this is more of an environmental savings.	If UBC did this, it would set a precedent to others that this could be done. It may encourage others to harvest and use rainwater. If rainwater was harvested it would mean that during summer droughts, gardens could still be watered - also a good precedent to set in Vancouver.	This may be costly.	
[Buildings (e.g. new building design, renovations, maintenance and operations, building commissioning and optimization)]	I have two ideas fairly close. - Design building to optimise heat transfers within the building. For instance, the building could have air conducts to transfer the hot air of the highest level back to the bottom. Therefore, the temperature would be more evenly distributed at a low electrical cost form the turbine. - The hvac system could pulse more hot hair at the lower floors and less at the top as the air would go most likely up. (This idea could be optimized if there was a software simulating the heat transfers of the building in order to even, optimise sub sections of a floor (eg. huge hall next to an entrance door vs. end of corridor)	a software with thermal recording capabilities could map the interior of a building to then simulate the thermodynamic of it. - Designing solutions to improve heat flows that architects could use as a rule of thumb.	Yes. The university could recycle the heat from some floors. (e.g. bottom floor of koerner's library or the pace lab which clearly are way too hot.)			Implementation: My first idea could be fairly simple to implement as it would only require to run an insulated air pipe. Of any diameter as it's air. Challenges: The energy loss and use of the turbine may offset the savings from heating less air. The cost of installation may be more expensive than just keeping things as they are. Opportunities: Maybe, one day, reuse the extra heat from one building/building area and send it to another building/building area.
[Buildings (e.g. new building design, renovations, maintenance and operations, building commissioning and optimization)]	As UBC is building a new aquatic facility, UBC has the opportunity to optimize water usage. Elevation Place (a community center in Canmore, AB), uses waste water from the pool inside to supply water for flushing toilets in the facility. This saves a lot of water.	Opportunities arise to: Research the water and cost saving in reusing water from a swimming pool for use in toilets, Research water sanitation opportunities.	There is potential for cost savings, assuming the cost to treat and transport waste pool water is less than the status quo.	With the increasing frequency of droughts, saving water where possible is crucial to being sustainable. It also has the potential for cost savings.	Since the new aquatic facility is already under construction, it may be too late or costly to implement this concept into the design. It may also require additional plumbing into existing infrastructure, which incurs additional cost, time and most dreaded, more construction.	With new buildings being built in the area of the new aquatic facility, even if the water water cannot be used to supply toilets in existing buildings, it could be designed with the capacity to supply toilets in future building projects in the near vicinity of the site.
[Other (e.g. carbon capture)]	Can we please have an evaluation of what has been done so far and at what cost? Can we please have a discussion of the next goal and where it ranks among the many challenges UBC faces in preparing for its second century? Can we please make it clear how the decision-making about this topic takes shape? Who decides? What tests will be applied? What are the factors that could lead to a reconsideration of the 2020 goal?		In the absence of the current projects being costed out it is impossible to make any definitive statements. In the presence of many projects that have been funded with other funds, one needs to ask a broader question about wisdom of investments -- not savings to UBC alone, but savings to the public purse in general.	Accountability Transparency Improved decision-making Informed decision-making in preparation or revision of CAP 2020	It may reveal that UBC used an erroneous model of energy prices and carbon taxes to justify an extremely expensive energy retrofit program It may reveal that we could have met our goals much less expensively through offsets and used the remaining funding towards our core mission. It may publicize the fact that despite the expense of the district heating system, the new housing units use baseboard electric heating -- something Dr Strangway pledged not to do ~ 20 years ago. It may reveal that UBC has spent more money on GHG controls than the Government of BC. This, while we struggle to attract talented young faculty to UBC due to the high cost of housing. The money spent on the GHG savings could have been spent	The risk is that those who have been in charge so far will have to apologize and leave this responsibility to those who have a stronger sense of responsibility to UBC as a whole rather than the narrow terms of GHG mitigation.
[Individual behaviour (e.g. lab equipment use, windows, heating and hot water use)]	UBC is very much an island that is difficult to get to without driving. The bus lines are so overcrowded that students, staff and faculty are routinely unable to take buses to campus. Either they are passed over by full buses, endure great inconvenience by having to roll the dice of being able to get picked up in time, or give up on public transit out of frustration. Practically speaking I think one of, if not *the* most effective things we can do to reduce the GHG footprint of our campus, is to get a sky train line (preferably 2) coming into campus (not just to Alma). Even if we have to partially fund it ourselves. One should connect along the Broadway corridor from the commercial sky train station. The other should connect along 41st out to at least the Canada Line if not over to the Joyce-Collingwood station. This would *greatly* reduce the number of students, faculty, and staff that drive to campus. It would obviously have many other benefits for UBC as well, which would help pay for itself over time. You may think this is a municipal or provincial issue, but I believe that UBC should seriously step up lobbying and advocating for this/these new line(s). UBC should also offer to fund part of the costs associated to encourage this to happen.	Yes, this would greatly increase collaboration by encouraging both those in industry, government, and academia in the surrounding area to make the trek out to UBC. It would also encourage UBC employees to actually come out to UBC to work with their colleagues daily, instead of telecommuting in isolation.	It would have many benefits for UBC, encouraging collaboration, appeal, and ultimately growth, which would help pay for itself over time.	Reduced GHG emissions, convenience, increased interaction with community, industry, and other academic institutions.	Putting in new sky train lines is a huge project with many complications, but it's worth it.	Adequate public transportation to this university (which we currently do not have - ask those who use the 99 to get to campus), is an essential, cornerstone of being a green campus. Although this idea will have many complications and implementation challenges, it needs to get done. I believe a far stronger position from UBC (including funding) could be the difference, where we see these challenges overcome.
[Individual behaviour (e.g. lab equipment use, windows, heating and hot water use)]	To make walking, cycling, and public transit the preferred transportation option for UBC students and employees. This can be done by implementing any number of the following: i) installing more safe bike parking and storage ii) marking out designated bike paths on campus to allow efficient flow between classes iii) providing a place for showering and gear storage (e.g., lockers for a change of clothes and shampoo) iv) increasing personal car parking costs (these must be higher than public transit fees) v) preventing personal vehicles from driving on campus (e.g., only fleet cars and deliveries inside Westbrook Mall, 16th Ave, and NW Marine Drive) vi) leading a call for Skytrain service to UBC vii) keeping the beautiful forests along University and 16th Ave as is viii) providing UBC staff discounts on public transit costs (i.e., reinstating the TransLink deal that was taken away in 2013)	Rapidly depleting fossil fuels and a growing global middle class mean that we have no choice but to change our entrenched dependence on personal vehicles. How we will be able to make this large transition - as smoothly and quickly as possible - is an open question. By implementing the above plan, and documenting its failures and successes, UBC can be at the forefront of this emerging research program.	Yes, reducing the number of personal cars on campus will allow UBC to convert much of the space currently designated for parking to space of research infrastructure, housing, etc. In other words, UBC will be able to make better use of the land they currently own and have already developed, reducing land purchase costs and leaving the forest as a beautiful investment for future generations.	Making walking, cycling, and public transit the preferred transportation option will bring a large number of diverse benefits, such as: cleaner air; less reliance on greenhouse gases; more space for research, pedestrians, and plants and animals; less injuries; increased community atmosphere; healthier people.	Driving personal vehicles is a deeply entrenched ideology, especially in North America. Current infrastructure was built with personal vehicles in mind and powerful multinational corporations with massive lobbies exist to keep the status quo. Confronting these challenges is up to progressive, forward thinking, innovative groups, such as UBC.	This is also a great opportunity to find out why people believe they need to drive their personal cars on a daily basis, and what changes would make them switch to walking, biking, and public transit. A deeper understanding of the car-driving mentality will help us smoothly transition into a sustainable future, both here at UBC and across the world.
[Buildings (e.g. new building design, renovations, maintenance and operations, building commissioning and optimization)]	UBC should convert high use doors on its buildings to revolving doors. Revolving doors would reduce heating costs by preventing wasteful drafts whenever doors are opened. Less wasted heating our cooling can mean significant greenhouse gas savings.	Not really.	Yes, revolving doors would reduce building heating and cooling costs by preventing drafts	Easy to implement, proven technology, low hanging fruit.	Some construction is needed, slight disruptions.	
[Buildings (e.g. new building design, renovations, maintenance and operations, building commissioning and optimization)]	The Point Grill restaurant near Marine Drive Residence has a big silver vent that emits waste gases from their kitchen into the air (vent is located facing building 1 and Global Lounge). The vent not only emits waste gases that smell bad, it also pollutes the environment greatly because these gases sometimes amount to gray smoke. Apart from that they are very unhealthy for students who have to pass by the vent to get to their residence buildings (includes all students living in Building 2, 4, 5, 6 and the Commonsblock). My idea would be to find another area to locate the vent that will not be harmful to students' health (breathing in hazardous and bad-smelling smoke).	-	-	Reduce gas and smoke emissions. Improve students' overall health by reducing the amount of hazardous waste gases in the air.	-	-
[Energy supply (e.g. alternative energy sources)]	The idea that I'll point out is grounded on the concept of the "Energy Internet". Well, we are all familiar with the first Internet, the communication Internet. We have been on it for 25 years most of us. We use the Internet all the time to communicate and send information. The energy Internet is very new. It is now actually being built out in places like Germany, in Denmark and across Europe, so it is no longer just theory. Here is how it works: We are moving toward renewable energy across Europe. There are now millions and millions of buildings, homes, offices, factories, retail stores that have been transformed into micro power plants and they are producing their own green electricity on site, solar panels on the roof, vertical wind on the property, geothermal pumps for energy underneath the ground, bio converters to convert garbage to biomass energy in the kitchens, etc. In Germany alone they have retrofitted one million buildings, made them efficient, put in the insulation and put these new renewable technologies on the building. So now they are setting up storage and an Energy Internet. It is necessary to store these energies. The sun is not always shining. Sometimes the wind blows at night, you want the electricity during the day so they are putting in all sorts of storage technologies like batteries, flywheels, capacitors and hydrogen. They are most bullish on hydrogen as a storage technology to store these energies so that you can use them when you need. And now they are taking the electricity grid of Europe, the whole transmission grid and they are transforming it to an Energy Internet using the same technology we used with the communication Internet. So when millions of buildings are producing just tiny amounts of green electricity, storing it in hydrogen like we stored media in digital, then if some of them don't need some of that green electricity in their homes, offices or factories at a given moment they can actually send their green electricity across that Energy Internet across all Europe just like we create information, store it in digital, and share it online.	The implementation of the Energy Internet opens up many research possibilities, such as public awareness, as well as infrastructure and impact on climate change. There is also the increasingly necessity of enhancing the conversion efficiency of renewable energies.	Carbon-based fossil fuels are now sunsetting, they are becoming prohibitively expensive to be extracted and converted, on the other hand, technologies used to harvest and convert renewable energies are becoming less and less expensive overtime, and that is because most of them follow Moore's law. The technologies to harvest solar and wind are dropping in cost following exponential curves. A solar watt used to cost 76-78 U.S. dollars to be generated (fix cost) in 1978, today it costs less than 36 cents. The cost savings attributed to those technologies are related to the exponential curves. Once the fix cost of collecting and converting distributed energies are covered, its marginal cost is nearly free. The sun is not sending a bill over UBC, the wind is not charging us, the geothermal heat under the ground is not sending an invoice.	The great economic revolutions in history occur when new energy regimes emerge and new communication revolutions emerged to organize them. In the 19th century we had to have steam power printing to come together with coal and steam power and the locomotive. In the 20th century we had to have centralized electricity and the telephone to manage the complexities of an oil, auto and suburban era. So here in the 21st century the distributive collaborative peer-to-peer Internet communication, and that is its signature, is now converging with energies that are distributed, had to be organized collaboratively and scale peer-to-peer. This is power to the people, it is the true democratization of energy. The green Energy Internet will eventually help us to move out completely from the use of fossil fuels, and create opportunities to allow us mitigating climate change.	Renewable energies are distributed, they are found everywhere but they are small amounts. So we have to create critical mass by collaborating across entire continents to organize that energy and then we share them in lateral economies and scale. Today everywhere in the world, the transmission electricity grid is servo mechanical; it is 60 years old. It is not even digitalized. It is designed to be centralized and go in one direction. Where the power is generated, nuclear fossil fuel power, then you send it to the passive consumer at the end of the line. So this old transmission grid was not designed to handle millions of small players generating green electricity on site, solar wind, etc, and sending it back and then controlling the peak and base flows. So there is a great necessity of transforming the entire electricity grid into an Energy Internet in order to have it stablished. Therefore, we will need help from many enterprises and people to lay down this infrastructure.	That actual Energy Internet is now coming online in real-time. It is already out there in places like Denmark and Germany and other places. So, the Energy Internet is really the Internet brought to energy and it is a perfect fit. So, this is the Energy Internet that is going along with the communication Internet to form the beginning of this neural network. And this is already happening in real-time. Germany has committed to be running entirely on renewable energy by 2040. I think that UBC as a world class university could be the one leaping ahead on the implementation of the Energy Internet, and that is because it has a lot to do with the goals of reaching a truly sustainable environment with the democratization of energy.

[Individual behaviour (e.g. lab equipment use, windows, heating and hot water use);] [Other (e.g. carbon capture)]	SYNOPSIS: The norms of "one-hour classtimes" several times per week interact the normative culture of 21st century "wireless culture". The result is urgent lifestyles that accompany heavy commuting and high distraction with very much running around. In short, the lifestyles and workstyles of most university students — and more broadly all of us — is highly fragmented, with high costs on each leg of the three-legged stool. We can transform these urgent and distracted cultural norms with virtually zero infrastructural costs and accomplish large multifaceted gains. We do so by valuing and assessing the apportionment of personal and institutional TIME and ATTENTION. If we do so, and measure the costs, the necessity of deliberating our lifestyles comes to the forefront. In the university (and leading society and enterprise further beyond) we can accomplish these goals simply, deliberately and profoundly. Block Learning (BL) unites pedagogical evaluation (with transformative simplification) of the university timetable: by using distance learning to deliver content and longer, less frequent classtimes to enact inquiry-based learning and higher-order learning outcomes, a revolution via simplification (defragmentation) of individual and institutional lifestyles/workstyles can be accomplished. Fundamentally, this simplification — defragmentation — of individual and institutional lifestyles/workstyles can be readily accomplished. There is no prominent downside besides some probable dissent among faculty, based on casual conversations over many years, I am confident that virtually every undergraduate student (and most faculty) will readily understand the benefits once they understand what is being suggested. Furthermore, a BL UBC transformation will further impact university culture to advance sustainability in many other ways, including: 1) Reduced CO2 emissions, and the insulification of slower, less fragmented and more deliberate lifestyles. Sustainability benefits include large reductions in commuting-related CO2 emissions, and the insulification of slower, less fragmented and more deliberate lifestyles. SUMMARY & CLOSURE: Block Learning (BL) unites three simple changes to the culture and timetable of learning: a) Content-delivery via Distance-Learning, including the reading of books (?); b) Student-centered and inquiry-driven pedagogies where the classroom functions more as an exploratorium for self-prepared students (e.g. Problem based Learning, Community Service Learning, etc.) and c) the bold restructuring of normative class meeting times from the current 2-3 times per week for 50-90 minutes per session, to a 21st century norm of once per week in a 2.5-4 hour blocks. All of these changes are entirely within the control of UBC's sub. If we do so, we can transform the culture and lifestyle of our institution, and thereby contribute to the fabric of good that exists in the world. Effective time management is essential to academic, professional and economic success. This proposal describes how we can creatively address this issue as a learning institution, to gain large system-ability benefits and elevated learning outcomes. This proposal describes the BL pedagogy, outlines some due-diligence research and advocates for strategic engagement and social-marketing of the BL concept at the University of British Columbia. Conceptual Art that inspired this proposal is available for examination at this link: https://medium.com/@fourigrimes/block-learning-60b1f9b04b6d. These artworks substantively enhance clarity of the concept. Block Learning (BL) unites three simple changes to the culture and timetable of learning: a) Content-delivery via Distance-Learning, including the reading of books (?); b) Student-centered and inquiry-driven pedagogies where the classroom is an exploratorium for higher-order learning outcomes (e.g. Problem based Learning, Community Service Learning, etc.) and c) the bold restructuring of normative class meeting times from the current 2-3 times per week for 50-90 minutes per session, to a 21st century norm of once per week in a 2.5-4 hour blocks. The broad range of successes with cohort-based learning in university and professional settings inform the range of possibilities that may be adapted within a BL transformation at UBC. Of course, the emissions reductions from reduced commuting alone would be tangible, predictable and immediate. Far greater synergistic benefits from atop and beyond the three-legged stool may be imagined and are described below. More Detailed Description of Block Learning: Block Learning (BL) unites block-scheduling with transformation of pedagogy, process and learning goals. BL aims to terminate four-block teaching culture and consequent lifestyles, with huge commuting demands and many small blocks of time that are difficult to focus and employ towards great achievements and higher satisfaction. BL unites timetable adjustments of longer meeting times for most classes (e.g. 2.5 hours once per week rather that five 50-minute classes) with a transformation of pedagogy and learning goals towards self-directed, inquiry-based learning and higher-order learning outcomes. Intensive schedules can benefit from longer blocks of deliberate time, for reading books, digesting online resources and thoughtful reflection. Study of books and online resources is sufficient for assembly of factual and survey-level conceptual knowledge of almost any subject. When information transfer is concentrated outside of class, the classroom may be employed to facilitate higher-order learning (e.g. Bloom taxonomy). Once-per-week meeting times of longer duration (2.5-4 hours) permit the engagement of more creative, inquiry-driven pedagogies. By using distance-learning tools to deliver content — while providing students with the temporal framework for lifestyles where they can have days and large parts of some days to engage blocks of time in engaging their university experience — learner-centred pedagogies can prevail in the classroom. To list only a few student-centred, inquiry-driven pedagogies, Problem-Based Learning, Community Service Learning and Flipped Classroom Approaches have been shown to work better inside the dimensions and time blocks being described. Towards the immediate CO2 reduction goals, people that spend less time being distracted and running around experience higher satisfaction and learn better, to lead and contribute to society in more meaningful ways. Contemporary in contrast, it seems that when we are hurried and perpetually running around, annual inequities prevails and we live less deliberate, high footprint lifestyles.	YES! Several research avenues are prominent. A. For starters, a BL university would result in a predictable reduction in vehicle travel to UBC. You have the numbers already: create a scenario for the BL shift, crunch the numbers: How great a reduction in transportation emissions? At a second stage, and looking at individual lifestyles, how do the ecofootprints of individuals and households respond to the freedom provided by defragmenting the harried temporal architecture of 2015 UBC, and compare that to what would/could result inside a different temporal architecture. B. Living metrics developed in the Carl Warnes Science Learning Initiative at UBC. The experience and outcomes for teachers, learners and others could be contrasted for normative (three 50 minute blocks per week or two 1.5 hour blocks per week) versus BL (once per week for 2.5 or 3 hours; 20-minute break in the middle with stretching/jj courses. Earth and Ocean Sciences might be a good place to start; can offer suggestions. More broadly, there is a huge open door to walk in and explore in this pedagogical arena, including assessment of what has already been published. C. The empirical foundations and a very clear rationale for a BL curriculum at UBC could be developed by researching teaching and learning at Colleges and Universities that have implemented BL. Dr. Jonathan Bergmann, who is a prominent advocate for BL, has suggested that he would be willing to come to UBC to help us take one course at a time, full-time for a period of several weeks, have a week of break and then begin with a new course. Yet many of the benefits are here as well. Perhaps also, could UBC perhaps employ serial monogamy BL as the tool and lens for creating the necessary revolution in how we manage our time? D. Using case studies/experiments and other qualitative research approaches as described above, for the next iteration of the BL shift, what are the benefits, in UBC terms, of Flipped Learning and Cohort-based learning (for example) at UBC could inform development and implementation of a BL university. There are global leaders and programs here at UBC in Commerce, Education, Science and Food System approaches as described above. E. For what results do the folks in existing initiatives in Distance Learning, Problem-Based Learning, Flipped Learning and Cohort-based learning (for example) at UBC could inform development and implementation of a BL university. There are global leaders and programs here at UBC in Commerce, Education, Science and Food System approaches as described above. F. For what results do the folks in existing initiatives in Distance Learning, Problem-based Learning, Flipped Learning and Cohort-based learning (for example) at UBC could inform development and implementation of a BL university. There are global leaders and programs here at UBC in Commerce, Education, Science and Food System approaches as described above. G. Perhaps the greatest benefits are in the realm of human health and happiness. Are there UBC potential employers want to find new ways to train and advance/professionalize their employees while remaining in their productive employment? Does BL offer advantages? 1. Professional and Vocational Programs: The gap between UBC and institutions like BCIT and Vancouver Community College (VCC) is significant. Perhaps a BL UBC could more easily accept students from VCC and BCIT programs, because students from VCC and BCIT spend days per week at UBC in tough on-families, working people and just about everyone else. Upon whom and how would the BL shift have an impact? Which demographic and/or cultural groups would be more highly represented and which programs might be affected? It would likely be simpler to transfer into BL programs (and deeper!) the type of learning experiences available at UBC, without any diminishment of research intentionality and international prominence. M. UBC Branding and Marketing: How any other top 50 universities undertaken a deliberate step to link inquiry-based pedagogies with university-wide block scheduling to achieve sustainability targets and/or elevation of satisfaction, student loyalty and/or learning outcomes? Is any other university focusing on TIME and DELIBERATE ATTENTION as our most precious commodity Experts on campus are very clear and strategic in how we brand ourselves, and are well informed on who and how the recruitment pool feels and thinks. How do students and their parents in local-to-international setting respond to a new UBC that consciously and deliberately engineers how time and attention is apportioned and invested? N. Faculty experience: Faculty surveys report open their sometimes haggard, multitasking workstyles and lifestyles. Where are the acute pressure points? Are there any "low hanging fruit" innovations that could be made to improve faculty satisfaction and ease the burdens of the profession? Could BL propel improvement (Yes...)? How do faculty respond to the BL concept and how do they anticipate the impact on their satisfaction and performance in research, teaching and service? In any sector, what do existing data that relate stress to dissatisfaction and reduced performance tell about the fragmentation time blocks and/or deliberate attention that can be linked to the existing temporal culture? Could a BL UBC assist our goals in faculty retention and recruitment? O. Blackwater Pharmacology: More than a few of us will understand that a BL UBC will facilitate personal wellness blocks being placed into our schedules, some may regard that regular yoga or exercise may lead to a future that is free from antidepressants and/or antianxiety medications, is it possible that, over years, these epidemiological changes might even be discernable in the blackwater effluents departing the Point Grey campus? The changing demographics of birth control and other medications has been deduced from measures taken in natural and sewage environments; this is a plausible research hypothesis. One might complement the broader demographics of emotional health and prescription drug medications through normative channels (data from prescribing physicians and pharmacists filling prescriptions for self-identified, UBC students	YES! Potential cost savings are substantial, particularly through reduced commuting, and using the BL model and the inherent concept of deliberately engineering the culture of time, will enhance effort to make UBC a fully year-round university. Infrastructure costs for a BL UBC are virtually zero, and would likely result in operational reductions in all sectors, particularly when the transformation has been made. As mentioned, BL could further enhance a year-round activity at UBC, and eliminate the costly inefficiency of running the university and university buildings during the summertime period. Changes are underway: Resistance also exists: scholars, researchers and staff needs the downtime and quiet of summer. There is a genuine downside here. Yet perhaps this disruption could be a beneficial opportunity to innovate and evaluate. However, when we envision that success we must ask: Our lives are the investment of our attention of time is deeply fragmented. Fragmentation of time means the time in our lives is broken into many small pieces, with much distraction and multitasking between and within this movement! When you use it, think of the map of a fragmented hard ask, with lots of dots and revisions from many different document scattered all over the handbook. What was and is the solution? The solution is DEFRAGMENTATION, of taking all of these little chunks of fragmented data, and deliberately clustering them together into larger more coherent pieces. BL aims to accomplish these goals with our time and deliberate attention. Inside larger and more deliberate parcels of time, something different and better happens. We can think and reflect, we can be more creative and innovative, we can be more deliberate and intentional, we can be more relaxed and happier. We can be more healthy and happy. We can be more productive and creative. We can be more loving. We can be more of what we want to be. Our lives are the investment of our attention of time. Our attention is fragmented into many small pieces, with much distraction and multitasking between and within this movement. A fragmented hard disk — with lots of data from many different document revisions scattered all over the place — is a graphical picture of our everyday lives. What was and is the solution? The solution is DEFRAGMENTATION, of taking all of these little chunks of fragmented data, and deliberately clustering them together into larger more coherent pieces. BL aims to accomplish these goals with our time and deliberate attention. Inside larger and more deliberate parcels of time, something different and better happens. We can think and reflect, we can be more creative and innovative, we can be more deliberate and intentional, we can be more relaxed and happier. We can be more healthy and happy. We can be more productive and creative. We can be more loving. We can be more of what we want to be. Our lives are the investment of our attention of time. Our attention is fragmented into many small pieces, with much distraction and multitasking between and within this movement. Yet a tyranny of the minority also widely occurs, where a few vocal intransigents to serve the best for a majority in need of a champion. I am not the champion. Perhaps you are, and others can be too.	Implementation requires some further development.	In the implementations, I can see no prominent downside. It will not be draconian, yet I think it can only work best if implemented across the curriculum, at the outset of a new academic year. Getting to that, however, is not simplistic, and likely painstaking. The greater issue is the fragmentation of our choices and attention, the distraction that results and accompanies a lifestyle of so much moving around. Think deeply about how fragmented our lifestyles are. Map the typical movements of a sample of typical students, all the places they must be for all these short time periods each day and each week. Our lives and the investment of our attention of time is deeply fragmentated. Fragmentation of time means the time in our lives is broken into many small pieces, with much distraction and multitasking between and within this movement! When you use it, think of the map of a fragmented hard ask, with lots of dots and revisions from many different document scattered all over the handbook. What was and is the solution? The solution is DEFRAGMENTATION, of taking all of these little chunks of fragmented data, and deliberately clustering them together into larger more coherent pieces. BL aims to accomplish these goals with our time and deliberate attention. Inside larger and more deliberate parcels of time, something different and better happens. We can think and reflect, we can be more creative and innovative, we can be more deliberate and intentional, we can be more relaxed and happier. We can be more healthy and happy. We can be more productive and creative. We can be more loving. We can be more of what we want to be. Our lives are the investment of our attention of time. Our attention is fragmented into many small pieces, with much distraction and multitasking between and within this movement. We can see, think of the map of a typical student's footprint. No amount of shorter showers, recycling, or turning off the tap can reduce this footprint to a sustainable level. Our lifestyles are the problem. We need to change our lifestyles. As far as I have discovered it is the most effective form of environmental activism that any single person can get behind.	Going full-veg™ seems like too much to take on for many people, but small steps like "meatless Monday's" can introduce the idea in a way that can certainly "digested" and incorporated into one's lifestyle. Along with the implementation of "meatless Monday's", educational sessions could be provided to teach students about the many benefits of adopting a more plant based diet (environmental, health, and so on) as well as tips and tricks to reduce their footprint. No amount of shorter showers, recycling, or turning off the tap can reduce this footprint to a sustainable level. Our lifestyles are the problem. What type of lifestyle and an opportunity to have any questions or concerns answered.	The greatest challenge with implementing this type of change is that it targets very ingrained ideas about something that is extremely personal to all of us: food. In order to get a beneficial discussion started the topic has to be approached sensitively in order to avoid hindering the message shut out and ignored, which happens far too often before any progress can be made.
[Buildings (e.g. new building design, renovations, maintenance and operations, building commissioning and optimization);] [Individual behaviour (e.g. lab equipment use, windows, heating and hot water use);] [Other (e.g. carbon capture)]	Students should be given the opportunity to design their own buildings. A competition could be held at UBC to design the best buildings, in terms of energy consumption. This initiative could be spearheaded by resident advisers and a suitable prize for the winning team might be to have a building or monument named for their team. I think this project could apply to all of campus. Students would form teams of up to 10 people, or any logical number thereof, and draw out their building plans. A detailed layout of each of the energy saving features (e.g. lights for every section of the building should be put on different circuits, so as to be able to turn of lights in different parts of the building at will) and an estimate of how much energy could be saved. The teams should be asked to work with teachers who must remain strictly neutral. Perhaps after the winning team is compensated, a representative of each of the top competing teams could be allowed to work with administration to come up with a final design that incorporates the best possible features. Student residences are a number of issues, from saving gas to promoting exercise, to a campus-wide competition between the residences to see the least amount of hot water and electricity as possible. Of course, a suitable prize would have to be awarded to the winning team, so as to encourage students to cut down their hot shower time.	There will be many opportunities for the teams to conduct experiments and research. They would need to understand precisely how a building is built, what consumes the most energy or releases the most GHG's, how to combat or put those waste products to good use, and so on and so forth. They would also need to consider the budget, the materials, and how those changes might affect other students and faculty members.	There will be many opportunities for the teams to conduct experiments and research. They would need to understand precisely how a building is built, what consumes the most energy or releases the most GHG's, how to combat or put those waste products to good use, and so on and so forth. They would also need to consider the budget, the materials, and how those changes might affect other students and faculty members.	I believe so. By giving the student body of UBC the chance to put their hard-earned knowledge to use, they would gain experience, while administration would not have to engage outside sources or consultants to do the same research that we could do.	The benefits of UBC adopting a wholesome raw, organic, non-GMO, locally sourced plant-based diet 5-6 days a week with 1-2 days offering meat products are many. Students would be healthier, happier, more energetic, more loving, more kind, more at peace, more in tune with their bodies, greatly reduce their ecological footprint, and so much more. Our bodies are not designed to eat animal products. A wholesome (mostly raw) plant-based diet is the most beneficial diet for us, humans, animals, and the planet!). A wholesome plant based eating regime has been shown to be the healthiest and most compassionate diet that contains the right amounts and ratios of protein and minerals and enzymes so that our bodies can properly digest the food's nutrients. Introducing a wholesome plant-based diet to the Western world will take a monumental effort. Institutions, like UBC, to be the first early adopters that need to utilize their amazing research capacity to drive this paradigm change.	Some of the drawbacks of this idea is that a large chunk of the Western population (ages 35-60) have grown up in a society where animal products are considered mainstream, healthy, and even necessary for proper nourishment. Many people are also very attached to the palatability of our diets. In order to get a beneficial discussion started the topic has to be approached sensitively in order to avoid hindering the message shut out and ignored, which happens far too often before any progress can be made. Students from our planet already and are in their third to last quarters of their life, so they have very little incentive to change their eating habits. So, the main challenge is to override all the past encouragement for the consumption of animal protein and processed and/or enhanced foods that has been engrained in the Western psyche. The Western world has completely disregarded proper nutrition for cheap & convenient, processed and unethically produced food. A wholesome (mostly raw) plant-based diet is the most beneficial diet for us, humans, animals, and the planet!). A wholesome plant based eating regime has been shown to be the healthiest and most compassionate diet that contains the right amounts and ratios of protein and minerals and enzymes so that our bodies can properly digest the food's nutrients. Introducing a wholesome plant-based diet to the Western world will take a monumental effort. Institutions, like UBC, to be the first early adopters that need to utilize their amazing research capacity to drive this paradigm change.	Please, if you have not already, watch the documentary Cowspiracy!. There is no denying that our current ever-increasing demand for animal products is unsustainable. Students from our planet already and are in their third to last quarters of their life, so they have very little incentive to change their eating habits. So, the main challenge is to override all the past encouragement for the consumption of animal protein and processed and/or enhanced foods that has been engrained in the Western psyche. The Western world has completely disregarded proper nutrition for cheap & convenient, processed and unethically produced food. A wholesome (mostly raw) plant-based diet is the most beneficial diet for us, humans, animals, and the planet!). A wholesome plant based eating regime has been shown to be the healthiest and most compassionate diet that contains the right amounts and ratios of protein and minerals and enzymes so that our bodies can properly digest the food's nutrients. Introducing a wholesome plant-based diet to the Western world will take a monumental effort. Institutions, like UBC, to be the first early adopters that need to utilize their amazing research capacity to drive this paradigm change. 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Finally, I'd like to thank the people who have provided the concept with time, energy, and attention. Block Learning is a related concept, while presenting a different angle. Block Learning is a related concept, while presenting a different angle. Block Learning is a related concept, while presenting a different angle. TIME and ATTENTION have value when they are clustered in pieces. As a learning organization, how shall we CHOOSE to invest it? Shall UBC be the first great university to accomplish this necessary transformation? If not here, where? If not now, when? If not us, who?
[Buildings (e.g. new building design, renovations, maintenance and operations, building commissioning and optimization);] [Individual behaviour (e.g. lab equipment use, windows, heating and hot water use);] [Other (e.g. carbon capture)]	Make the issues of reducing greenhouse gases more visual and obvious the students on campus. I haven't seen any postings regarding this initiative even when wandering at dusk days yesterday. If the students can understand the issues then inspiring students to lower each of their own GHG emissions will lead to UBC lowering its institutional emissions. Perhaps the greatest way to make the issues more visual and obvious to the students is to have the rate of change of the GHG at UBC would be to not ask the question "how can we lower our GHG emissions?" but "how can we inspire the students that will be staying the future of our world to consider the environment first of all." By creating incentive programs or new plastter programs both on campus and abroad I believe that the students at UBC can be responsible for something that matters.	Research could be done on the marketing and/or social behaviours associated with how students interpret environmental issues. This could be close guarded with the effects that media has on similar issues resulting in our current interpretation of what has been presented to us.	By gaining attention in this field UBC has the opportunity to gain funding and grants by environmental organizations worldwide which will in turn lead to savings (possibly from the marketing sector of UBC staffing)	Worldwide and local benefits for the environment and community.	Implementation requires some further development.		
[Individual behaviour (e.g. lab equipment use, windows, heating and hot water use);]	My suggestion is to implement a "meatless Monday" policy (making the meat options as dairy and egg free as possible as well) at the residence dining halls.	No.	This depends on the types of meals that the dining halls would choose to provide on these days. Pre-made veg* sandwiches are tasty, but not very healthy. Veg* stir-fry is healthy and tasty – cheaper than meat options since meat itself is quite expensive, but requires more labour. This would not cost the university any more money to implement than the money that is already being spent on food production.	It would be an opportunity to show non-veg* (vegetarian/vegan) students the diversity – and deliciousness – of veg* meat options as well as health care benefits.	Going full veg* seems like too much to take on for many people, but small steps like "meatless Monday's" can introduce the idea in a way that can certainly "digested" and incorporated into one's lifestyle. Along with the implementation of "meatless Monday's", educational sessions could be provided to teach students about the many benefits of adopting a more plant based diet (environmental, health, and so on) as well as tips and tricks to reduce their footprint. No amount of shorter showers, recycling, or turning off the tap can reduce this footprint to a sustainable level. Our lifestyles are the problem. What type of lifestyle and an opportunity to have any questions or concerns answered.	The greatest challenge with implementing this type of change is that it targets very ingrained ideas about something that is extremely personal to all of us: food. In order to get a beneficial discussion started the topic has to be approached sensitively in order to avoid hindering the message shut out and ignored, which happens far too often before any progress can be made.
[Buildings (e.g. new building design, renovations, maintenance and operations, building commissioning and optimization);] [Individual behaviour (e.g. lab equipment use, windows, heating and hot water use);] [Other (e.g. carbon capture)]	SUMMARY & CLOSURE: Block Learning (BL) unites three simple changes to the culture and timetable of learning: a) Content-delivery via Distance-Learning, including the reading of books (?); b) Student-centered and inquiry-driven pedagogies where the classroom functions more as an exploratorium for self-prepared students (e.g. Problem based Learning, Community Service Learning, etc.) and c) the bold restructuring of normative class meeting times from the current 2-3 times per week for 50-90 minutes per session, to a 21st century norm of once per week in a 2.5-4 hour blocks. UBC leads in a sock's blast above, if our only goal was enhanced learning outcomes, implementation I would be worthy for those reasons alone! Furthermore, all of these changes parallel and advance the stated goals of THE 2030, Place and Promise and the OHG 2010 emissions reductions targets. In basketball they call it a slam-dunk. A simple extension of what we already do very well, a simple yet profound shift in the deliberate institutional management of time and deliberate attention to gain multifaceted benefits INCLUDING A LARGE REDUCTION IN GHG EMISSIONS. Conceptual Art that inspired this proposal is available for examination at this link: https://medium.com/@fourigrimes/block-learning-60b1f9b04b6d. Like the dramatic transformation of the UBC Landscape and broader community in recent years, this simple and sensible change promises to vault UBC upward among her peers of innovative global universities. Block Learning transformation aims to decisively address the immense costs of accelerated urgency and distraction (remember the linguistic arithmetic: "Busy"(multitasking) + "Busy" (distracted) = 0)(2X) that characterizes techno-urban wireless culture in the 21st century? Who has the wisdom to seven the medieval bondage of "one-hour" classtime scheduling, and unfy block scheduling with innovative pedagogical evolution? The learning strategies are already validated and moving forward. Which university will accomplish this simple, necessary and society-leading transformation? If not here, where? If not now, when? Note to Reader: Please pause here to refresh for a moment. Perhaps take a deep breath and stretch. You and your health matter and stewarding both serves all of us. Perhaps pause more deeply, stretch and breathe again. I am not suggesting a metaphysical or meditation exercise, but a pause to refresh that leads to integration of concepts and perhaps a thoughtful response. Perhaps pause more deeply, stretch and breathe again. Do the ideas presented in this document resonate with you? Do you understand what you have understand about this proposal. What sociocultural problem is being described? What is the vision and goal of the solution that is being suggested? As summary, the union of block scheduling (most or all three-credit class hours one 2.5-hour class meeting per week) with distance learning and student-centred, "flipped classroom" pedagogies constitutes a new model, here termed BLOCK LEARNING. To the point of this CAP 2020 submission, a BL transformation at UBC will deliver immediate and forecastable reductions in student commuting and GH gas emissions. In other words, slam dunk, with zero infrastructure costs. The range of measurable (and perhaps more profound), yet less-measurable benefits is very broad and will be apparent and appeal to different individuals and groups in different ways. Some will thrill at the prospect of distraction-free, daytime hours at home, where great books may be carefully read and digested. Others will recognize immediate relational and family benefits that accompany the deliberate reductions in seemingly perpetual urgency. Another may resonate in anticipation of transformative collegial engagement inside the BL pedagogy classroom, where students are better rested, more thoroughly prepared with core concepts and more deeply motivated to participate in the learning experience. Others may be inspired by the prospect of more time for exercise, meditation or non-profit sectors, yet all will enhance development of the whole person, alongside a more coherent and highly-valued university experience at the University of British Columbia. Beyond a few skeptics who may be habitually entrenched, can you imagine finding a faculty member who would not readily suggest huge professional and personal benefits to working and serving BL UBC? Might this impact faculty recruitment and retention of our very best? As a reviewer, you may envision immediate adaptations for these practical concepts in your workplace environment. To the point, I suggest it may be nearly impossible to find a person who does not identify the problem as real and personal and relational lives. I additionally have much anecdotal/conversational experience of enthusiastic reception for the potentially transformative solution being described here. I have been developing and sharing the BL concept informally for many years, and I believe that the setting for exploring towards enacting BL is here and now. If enthusiasts curiosity is part of your response at this point, sketching a conceptual picture or a few quick notes may enhance the benefit and satisfaction of investing your attention and life energy thus far. If you would like to review some relevant conceptual figures (see this link: https://medium.com/@fourigrimes/block-learning-60b1f9b04b6d), or to discuss the proposal please send me an email: lgrimes@mos.ubc.ca.	YES! A spectrum of promising research avenues is listed below, items A-D. Arranged in a meaningful sequence, the most promising research is given in red. A. Research on the ecofootprint of students living in the Vancouver area, and how that footprint changes when they are in residence versus when they are living at home (and travel to campus. We have the data to hand: create a scenario for the BL shift and crunch the numbers. How large is the immediate reduction in transportation emissions? Further, does a reduction in commuting frequency accompany an increase in cycling or transit use? B. Map and quantify the pattern of daily and on-campus student movement in the current "hour long classroom" template and compare that to a similar exercise for a BL university. Simple photographs and the pattern and quality of the movement will be informative. C. Perhaps the greatest benefits are in the realm of human health and happiness. Are there UBC potential employers want to find new ways to train and advance/professionalize their employees while remaining in their productive employment? Does BL offer advantages? 1. Professional and Vocational Programs: The gap between UBC and institutions like BCIT and Vancouver Community College (VCC) is significant. Perhaps a BL UBC could more easily accept students from VCC and BCIT programs, because students from VCC and BCIT spend days per week at UBC in tough on-families, working people and just about everyone else. Upon whom and how would the BL shift have an impact? Which demographic and/or cultural groups would be more highly represented and which programs might be affected? It would likely be simpler to transfer into BL programs (and deeper!) the type of learning experiences available at UBC, without any diminishment of research intentionality and international prominence. M. UBC Branding and Marketing: How any other top 50 universities undertaken a deliberate step to link inquiry-based pedagogies with university-wide block scheduling to achieve sustainability targets and/or elevation of satisfaction, student loyalty and/or learning outcomes? Is any other university focusing on TIME and DELIBERATE ATTENTION as our most precious commodity Experts on campus are very clear and strategic in how we brand ourselves, and are well informed on who and how the recruitment pool feels and thinks. How do students and their parents in local-to-international setting respond to a new UBC that consciously and deliberately engineers how time and attention is apportioned and invested? N. Faculty experience: Faculty surveys report open their sometimes haggard, multitasking workstyles and lifestyles. Where are the acute pressure points? Are there any "low hanging fruit" innovations that could be made to improve faculty satisfaction and ease the burdens of the profession? Could BL propel improvement (Yes...)? How do faculty respond to the BL concept and how do they anticipate the impact on their satisfaction and performance in research, teaching and service? In any sector, what do existing data that relate stress to dissatisfaction and reduced performance tell about the fragmentation time blocks and/or deliberate attention that can be linked to the existing temporal culture? Could a BL UBC assist our goals in faculty retention and recruitment? O. Blackwater Pharmacology: More than a few of us will understand that a BL UBC will facilitate personal wellness blocks being placed into our schedules, some may regard that regular yoga or exercise may lead to a future that is free from antidepressants and/or antianxiety medications, is it possible that, over years, these epidemiological changes might even be discernable in the blackwater effluents departing the Point Grey campus? The changing demographics of birth control and other medications has been deduced from measures taken in natural and sewage environments; this is a plausible research hypothesis. One might complement the broader demographics of emotional health and prescription drug medications through normative channels (data from prescribing physicians and pharmacists filling prescriptions for self-identified, UBC students	YES! Summary: a) Emissions Reductions: Less commuting a fewer CO2 emissions; b) Improved Health: Lower Ecofootprint, more healthy students; c) Improved Learning: Better prepared students, more deliberate attention, more deep learning; d) Improved Relationships: Less time spent in transit, more time for family and community; e) Improved Economy: Less time and money spent on transportation, more time and money for other things. Perhaps the greatest benefits are in the realm of human health and happiness. Are there UBC potential employers want to find new ways to train and advance/professionalize their employees while remaining in their productive employment? Does BL offer advantages? 1. Professional and Vocational Programs: The gap between UBC and institutions like BCIT and Vancouver Community College (VCC) is significant. 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One might complement the broader demographics of emotional health and prescription drug medications through normative channels (data from prescribing physicians and pharmacists filling prescriptions for self-identified, UBC students	There are no drawbacks, only upside. I can imagine some dissent towards the concept from a minority of faculty. Furthermore, it is likely that some students will be resistant to the concept because they have developed a habit of cramming for exams. Yet, I believe that the benefits far outweigh the cons. Ultimately, the benefits outweigh the cons because the concept is more than just a change in schedule. It is a change in mindset. Engagement matters, and individuals matter as well as their views. However, it seems unlikely that institutional inertia or heavily opposed for change should overrule prevail. The prominent challenge is successful communication of a necessary, simple and transformative vision. There can be engaged or social learning and participatory action research. Towards those ends, the concept must be developed, branded and effectively delivered to students, faculty and others for their consideration. It seems that the simplicity and sensibility of the BL approach is very plain. I have discussed it rather widely if informally, over years, and I know from experience that students quickly grasp and delight in the prospect of a BL pedagogy. They understand the benefits to their lifestyle and learning. Some of them have jobs, many have other extra-curriculars and families, and they all prefer higher-order learning experiences to the mundane experience of being urgently driven by a "busy" schedule. I "Social Sustainability" As emphasized throughout, the personal and social costs of the stressful busy lifestyle are well-documented. Students are stressed, and with the Fraser research suggesting that "busy" is not the ideal state for learning in 3L, we can assess that. Think deeply about how fragmented our lifestyles are. Map the daily movements of typical students, and follow them to all the places they must be for all of these short time periods each day and each week. Our lives and the investment of our attention of time is deeply FRAGMENTED. Fragmentation of time means the time in our lives is broken into many small pieces, with much distraction and multitasking within and between all this movement! A fragmented hard disk — with lots of data from many different document revisions scattered all over the place — is a graphical picture of our everyday lives. What was and is the solution? The solution is DEFRAGMENTATION, of taking all of these little chunks of fragmented data, and deliberately clustering them together into larger more coherent pieces. BL aims to accomplish these goals with our time and deliberate attention. Inside larger and more deliberate parcels of time, something different and better happens. We can think and reflect, we can be more creative and innovative, we can be more deliberate and intentional, we can be more relaxed and happier. We can be more healthy and happy. We can be more productive and creative. We can be more loving. We can be more of what we want to be. Our lives are the investment of our attention of time. Our attention is fragmented into many small pieces, with much distraction and multitasking between and within this movement. Yet a tyranny of the minority also widely occurs, where a few vocal intransigents to serve the best for a majority in need of a champion. I am not the champion. Perhaps you are, and others can be too.	Please forgive me for the length and redundancy of this proposal. It's all down on paper now, and I want to give this concept a chance to thrive. First I'd like to thank the people who have already provided the concept with time, energy, and attention. Secondly, I'd like to thank the people who have provided the concept with time, energy, and attention. Thirdly, I'd like to thank the people who have provided the concept with time, energy, and attention. Fourthly, I'd like to thank the people who have provided the concept with time, energy, and attention. Finally, I'd like to thank the people who have provided the concept with time, energy, and attention. Block Learning is a related concept, while presenting a different angle. Block Learning is a related concept, while presenting a different angle. Block Learning is a related concept, while presenting a different angle. TIME and ATTENTION have value when they are clustered in pieces. As a learning organization, how shall we CHOOSE to invest it? Shall UBC be the first great university to accomplish this necessary transformation? If not here, where? If not now, when? If not us, who?
[Buildings (e.g. new building design, renovations, maintenance and operations, building commissioning and optimization);] [Individual behaviour (e.g. lab equipment use, windows, heating and hot water use);] [Other (e.g. carbon capture)]	I suggest enabling more personal control over room temperatures in campus buildings and encouraging a culture of cooler temperature rooms. After a cold winter in a very poorly insulated house in France some years ago we adapted and back in Vancouver we are happy with a maximum of 20oC during the day and much lower at night. During the entire 8 months of my son's first year at UBC he had to keep open the window of his Totem Park Residence to lower the temperature of his room to be comfortable! He felt bad about wasting energy but there was no other option to lower the temperature.	YES! A spectrum of promising research avenues is listed below, items A-D. Arranged in a meaningful sequence