



ONE PLANET ACTION PLAN

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A MESSAGE FROM BIOREGIONAL

In 2013 Windmill Development Group approached sustainable community experts Bioregional, with the goal to develop the most sustainable community in the world. What followed was a series of community consultations, with the public and targeted stakeholders, who shared their ideas and helped to shape a deeply sustainable community plan. This One Planet Action Plan is the result of that outpouring of energy and enthusiasm, which will guide the creation and life of the Zibi community.

Zibi, which means 'river' in the Algonquin language, is a waterfront area located in the downtown cores of Ottawa and Gatineau overlooking both the Ottawa River and Chaudière Falls. The name of the development was chosen as a public commitment to the Algonquin-Anishinabe people, on whose unceded land the Ottawa Valley, much of Eastern Ontario and Western Quebec is situated.

The vision for Zibi is to create a vibrant, living, working community that is also a landmark attraction for both residents of the National Capital Region and its 7.3 million annual visitors. Located on 37 acres of islands and former islands and immediately adjacent to the downtown core of our nation's capital, the site is of tremendous cultural and historical importance for all three of Canada's founding cultures: First Nations, English, and French. This document has been prepared in collaboration with these three groups, creating a plan with stretching but achievable targets that will set a new high-watermark for Canadian real estate industry in every aspect of environmental and social sustainability.

One Planet Living is the vision of a world in which people enjoy happy, healthy lives within their fair share of the earth's resources, leaving space for wildlife and wilderness. The One Planet Living framework is based on ten easy-to-grasp principles covering areas such as carbon, waste, transport, food and water, providing a clear, practical route map for a better way to live and do business in the 21st century. The international One Planet Living endorsement process for communities is unique in its focus not just on the energy, water and resources saving performance of individual buildings but also on the lifestyles of the people who live in them and the sustainability performance of the businesses that work out of them.

In response to the Equity and Local Economy and Culture and Community principles of the One Planet Living framework, Windmill and Dream Unlimited Corp have begun to work together with the Algonquin-Anishinabe community in ways that will generate lasting and tangible benefits to present and future generations; creating a new model for how private developers engage with First Nations in Canada. This includes the creation by the Algonquin-Anishinabe of an Advisory Council on Integrity. The Committee is made up of individuals who believe in the importance of sustainability, and who wish to ensure the integrity and appropriateness of the Zibi development on issues of First Nations culture, heritage and socio-economics.

This Action Plan is a living document that will grow and evolve over the coming months through additional consultation with stakeholders, and beyond that with the development and the community it creates. It is a roadmap to guide contracts, tender documents, construction, property management, business plans, and community programming. It will specifically inform and be elaborated within additional plans to be developed over the next three years: the site Masterplan; a Construction Action Plan; a Public Engagement Strategy; an Interim Use Plan; a Regional Impact, Green Incubator, and Social Entrepreneurship Plan; an EcoTourism and One Planet Centre Strategy; an Operations & Lifestyles Strategy; and a Monitoring Plan. This is to ensure that the One Planet ethos is considered and met in every aspect of the community. It will also serve as a communications vehicle for sharing our vision with stakeholders and the wider public. Bioregional will review the Zibi project annually for its progress against the sustainability indicators laid down in this document.

Bioregional are excited to launch the Canadian flagship in the One Planet Communities network with such an ambitious and innovative project. We are confident that Zibi sets a new standard for sustainable development in Canada. The goal is to create a national model for reversing climate change while creating a more genuine, inclusive prosperity. We look forward to working further with the forward-thinking developers and the communities of Ottawa, Gatineau, and the Algonquin-Anishinabe to build a national, living example of the future we want – a community that protects and invests in the future generations of all of Canada's founding peoples.



Greg Searle, Founder, Bioregional North America

UNDERSTANDING THE DOCUMENT

DEFINITIONS

What is a Principle?

Principles provide a set of guiding rules that can be used as a basis for design; the guiding rules create a framework according to which urban sustainability concepts can be organized.

What is a Common International Target?

Each of the ten principles has an overarching international goal that establishes a performance standard that is not location specific.

What is a Baseline?

A baseline is either a reference case, representing standard “business as usual” practices, or it is a data set or other confirmed, current measurement against which to compare future performance.

Where known, a local, provincial, or Canadian metric has been used. Where these are unavailable, regional or international data have been used.

What is a Key Performance Indicator?

Key Performance Indicators (KPIs) are those measurements or metrics most critical to gaging progress toward achievement of goals (see below) Key Performance Indicators are the key metric by which the Zibi Community will be evaluated under the One Planet Communities program.

What are Goals?

Goals are broad statements that project a desired condition to be achieved;

Goals relate the principles to the specifics of a given community or situation;

Goals are identified through stakeholder engagement, existing policies, best practices, and sustainability research.

What are Implementation Strategies?

Implementation Strategies are measures or actions taken during design, construction, and operation, while policies are rules or guidelines (such as leasing requirements) crafted to achieve outcomes during operation, and ultimately to meet Key Performance Indicators.

What is CO₂e or CO₂e?

CO₂e is a way to measure the impact of different greenhouse gases. Equivalent carbon dioxide (CO₂e) is how much global warming a given type and amount of greenhouse gas may cause, using the functionally equivalent amount or concentration of carbon dioxide (CO₂) as the reference.

Who is the Leadership Team?

The leadership team consists of the ten champions leading the Zibi project.

Who is the Design Team?

The design team is the collective term for all consultants (ie engineers, architects, interior designers, etc).

What is a Community Intranet?

The Community Intranet is an application designed for residents of Zibi that informs and connects all site users. It can be used to communicate green initiatives and community events as well as advertise local business. It facilitates connectivity for the residents by providing news boards and forums for collaboration and discussion.

What is an EcoConcierge?

An EcoConcierge is a lifestyle management service to help inform people on green living. The service covers all aspects of living, such as travel, food, cleaning, etc.

What is a Community Coordinator?

A Community Coordinator is a management role that schedules and plans community scale events and initiatives.

What is a Resident Association?

The Resident Association is a representative group of inhabitants that speak on behalf of the community’s needs and concerns. It would play a role in determining and planning community initiatives.

ONE PLANET LIVING

ONE PLANET FRAMEWORK

The aim of the One Planet initiative is to create a future where it is easy, attractive, and affordable for people to lead happy and healthy lives using a fair share of the earth's resources – this is One Planet Living. The initiative uses ten guiding principles as a framework to help participating projects examine the sustainability challenges they face and develop appropriate solutions.

One Planet Communities are places where residents are able to live a One Planet Lifestyle. In North America, this means an average reduction in total household consumption of 81% without sacrificing quality of life.

DRIVERS

There are three overarching environmental drivers behind the One Planet initiative:

- Sustainable ecological footprint;
- Sustainable carbon footprint; and
- Sustainable economic development.

The ten One Planet principles and their associated Common International Targets have been crafted to address these drivers.



If everyone on earth lived like the average Canadian, we would need 4 planets to support our lifestyles.

1. Sustainable Ecological Footprint

An ecological footprint is a measurement of consumption of natural resources, in terms of global hectares of land and sea. Humanity's global footprint now exceeds the world's capacity to regenerate resources by about 50%. It now takes the Earth one year and six months to regenerate what we collectively use in a year. If our demands on the planet continue at the same rate, by 2030 we will need the equivalent of two planets to maintain our lifestyles. North Americans currently consume a disproportionate share of resources. If everyone on the planet lived like North Americans, we would need the equivalent of 5 planets.

Achieving a One Planet level of consumption will require changes which vary greatly by country. In the USA the average footprint is 8.0 gha per person (5 planet living) whereas the average Canadian footprint is 4 planets per person. Average national footprints mask significant differences within a country. For example, because of Alberta's reliance on coal and oil compared to Quebec's use of relatively clean hydro power, the footprint of the average Albertan is almost twice that of the average Quebecer.

2. Sustainable Carbon Footprint

In order to avoid runaway climate change, by 2050, global greenhouse gas emissions must be reduced by 50% from what they were measured at in year 1990.

To calculate a holistic carbon footprint, we use a 'consumption-based' methodology. Consumption-based emissions are those that arise throughout the supply chain. These include not only direct emissions caused by fuel and electricity consumption, but also embodied emissions in goods and services which include food, manufactured items, and construction materials.

The One Planet initiative espouses the principles of Contraction and Convergence. Countries with high per capita emissions must reduce emissions much more rapidly than countries that currently have low per capita emissions (Contraction). Per capita emissions from each country will fall to more equitable levels (Convergence).

3. Sustainable Economic Development

Part of the viability of a One Planet community is stable and ethical economics. The communities are set up to facilitate sustainable economic growth by prioritizing local, socially-responsible, and environmentally-friendly business. Our communities choose suppliers with strong environmental track records, reinforcing a green supply chain.

THE 10 ONE PLANET PRINCIPLES

One Planet Communities are underpinned by the following sustainability principles. Each One Planet Community project interprets these principles in a manner appropriate to the local context.

HEALTH & HAPPINESS THE CHALLENGE: We are increasingly spending less time with our families and communities and have decreasing fitness levels, progressively worse health, and increasing rates of asthma. APPROACH: Encourage active, sociable, meaningful lives to promote good health and well-being.

EQUITY & LOCAL ECONOMY THE CHALLENGE: Unemployment, expensive housing, and economic stagnation challenge the economic health of communities. APPROACH: Create locally-driven Bioregional economies that support fair employment, affordable housing, inclusive communities, the sharing economy, and international fair trade.

CULTURE & COMMUNITY THE CHALLENGE: Local cultural heritage is disappearing throughout the world, resulting in a loss of local identity and wisdom. APPROACH: Revive local identity and wisdom and respond to it in community design and operation; support participation in the arts.

LAND USE & WILDLIFE THE CHALLENGE: “Nature deficit disorder” in our population as they lose contact with the natural world; loss of biodiversity in urban areas. APPROACH: Protect and restore biodiversity and natural habitats through appropriate land use and integration of green infrastructure into the built environment.

SUSTAINABLE WATER THE CHALLENGE: Local freshwater supplies are often insufficient due to pollution, disruption of hydrological cycles, and depletion of aquifers. APPROACH: Use water more efficiently in buildings and in the products we buy; reduce the need for irrigation; and reduce water course pollution.

LOCAL & SUSTAINABLE FOOD THE CHALLENGE: Unequal access to healthy, high-quality, safe, and affordable food in some communities; depleted soils and negative impacts from pesticide and herbicide use; high transport impacts. APPROACH: Create better access to low-impact, local, seasonal, and organic diets, reduce food waste, and build community around local food systems.

SUSTAINABLE MATERIALS THE CHALLENGE: Destructive, polluting, resource extraction practices; transportation impacts from shipping and use of non-local materials. APPROACH: Use healthy products with low-embodied energy made from renewable or waste resources. Source locally-harvested and manufactured products to stimulate the local economy.

SUSTAINABLE TRANSPORT THE CHALLENGE: Fossil fuel based transportation contributes to climate change, causes air and noise pollution, and relies on streets that are not safe for children and pedestrians. APPROACH: Reduce CO2 emissions from transport by encouraging low carbon modes of transport, designing bicycle and pedestrian-friendly communities, and reduce the need to travel with adequate supply of local jobs and services.

ZERO WASTE THE CHALLENGE: Waste from discarded products and packaging creates disposal challenges while wasting valuable resources. APPROACH: Reduce waste generation, reuse products and packaging where possible, ultimately sending less waste to landfill.

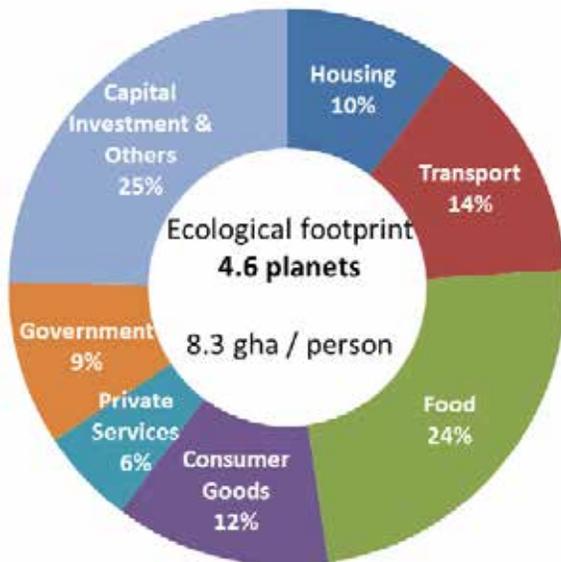
ZERO CARBON THE CHALLENGE: Climate change due to human-induced build up of carbon dioxide (CO2) in the atmosphere from the built environment. APPROACH: Make buildings more energy efficient and deliver energy to buildings using renewable technologies.

ECOLOGICAL FOOTPRINT

BASELINE

The data used is from the EUREAP database of October 2012. This shows that the Ecological Footprint of the average Canadian resident is 8.29 global hectares, or just over 4.5 planet's worth of resources.

	gha / capita	%
Housing	0,84	10%
Transport	1,15	14%
Food	1,96	24%
Consumer Goods	1,04	13%
Private Services	0,46	6%
Government	0,79	10%
Capital Investment & Others	2,05	25%
Total	8,29	100%
Total Planets	4,6	



SCENARIOS

The table below shows the assumptions that were used to generate the 4 scenarios. These are simple assumptions aimed to illustrate:

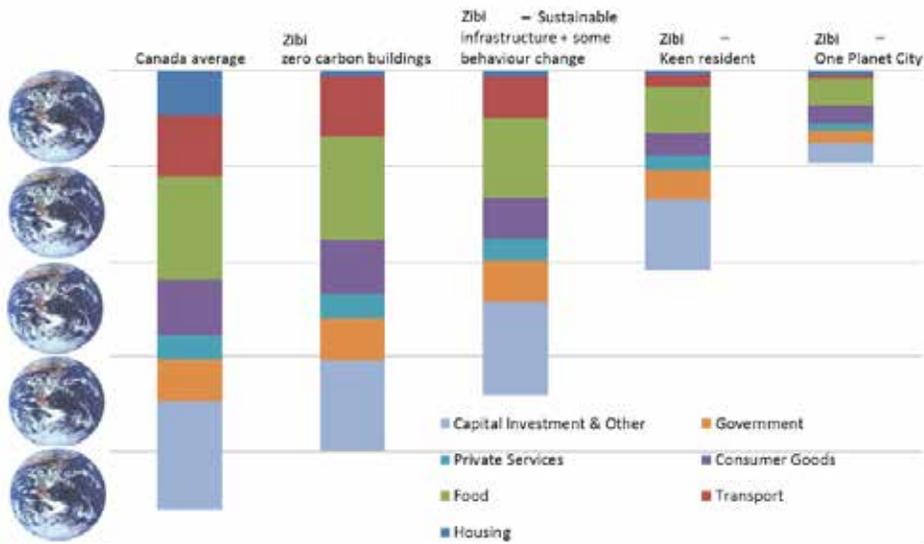
- The role of lifestyles in driving significant ecological footprint reductions
- The breadth and depth of interventions required to make truly sustainable living possible

Category	Item	Zero Carbon Buildings	Sustainable Infrastructure	Keen Resident at Zibi	One Planet City / country
		Scenario 1	Scenario 2	Scenario 3	Scenario 4
Housing	Energy and home	Fuel emissions set to zero.	As for Scenario 1	Mortgage with an ethical bank – reduce 30%	As for Scenario 3
Transport	Personal travel in private car		40% reduction in car emissions (reduced commuting & escort)	100% reduction (electric vehicle)	As for Scenario 3
	Private vehicle ownership		40% reduced (car club)	80% reduction	As for Scenario 3
	Public transport		20% reduction in emissions from increased transit ridership	33% reduction	Zero carbon
	Air travel			80% reduction	As for Scenario 3
Food	Diet		33% meat reduction 10% dairy reduction	80% meat reduction, 50% dairy reduction	As for Scenario 3
	Food waste/ supply chain		10% reduction	30% reduction	60% reduction
Consumer goods	Consumable items		10% reduction, plus further reductions (e.g. for FSC timber)	40% reduction, plus further reductions (e.g. for FSC timber)	50% reduction, plus further reductions (e.g. for FSC timber)
Private services	Private services		10% reduction (sharing economy)	40% (use eco-companies)	70% reduction
Government				30% reduction (healthier)	70% reduction
Capital investment			10% less infrastructure + 10% less construction	30% less infrastructure + specific savings	70% reduction

The table below shows the Ecological Footprint reduction of each of the different scenarios.

	Canada average	Zero Carbon Buildings	Sustainable Infrastructure	Keen Resident at Zibi	One Planet City / country
Housing	0,84	0,10	0,10	0,07	0,07
Transport	1,15	1,14	0,79	0,22	0,07
Food	1,96	1,95	1,50	0,89	0,51
Consumer Goods	1,96	1,03	0,77	0,41	0,34
Private Services	0,46	0,46	0,41	0,28	0,14
Government	0,79	0,79	0,79	0,55	0,24
Capital Investment	2,05	1,71	1,75	1,35	0,39
Total	8,29	7,18	6,12	3,77	1,75
Number of planets	4,6	4,0 – 13% reduction	3,4 – 26% reduction	2,1 – 55% reduction	1,0– 80% reduction

The diagram below shows graphically the potential Ecological Footprint saving of the different scenarios.



*Data and Source available upon request

DEVELOPMENT OVERVIEW

THE PROJECT

The redevelopment of the Chaudière area represents one of the largest urban redevelopment opportunities in The National Capital Region. The site had been reserved for industrial uses until 2007, however this land's prominence in the downtown core of Ottawa and Gatineau calls for a carefully orchestrated redevelopment of the site. To this end, Windmill is proposing the development of a world-class, sustainability showpiece.

The Site is unique in many ways; it consists of both Chaudière and Albert Islands, and land in the City of Gatineau all situated on the Ottawa river. The lands are within the downtown core of both cities and provide an opportunity to extend the urban fabric into the Site and out to the banks of the river. The redeveloped lands will feature a mix of uses in a compact form integrating existing heritage resources where possible and emphasizing sustainable and active transportation through a network of shared streets that prioritize pedestrians and cyclists over automobiles.

The site is one of the largest underutilized areas of central urban land in the region. It is optimally located to situate a complete urban community that can enhance existing local offerings. The site is within walking distance of the Ottawa and Gatineau downtown core's and its employment base, offering opportunities to connect employment to the site and provide services to office workers and tourists.



THE RIVER

The Ottawa River is the most defining attribute of the site. The Chaudière Falls serves as a sacred space for the First Nations Community. Subsequently, the pulp and paper industry thrived at this site because of the river; and its use as a transportation corridor made it very important for European settlers. It defines the site's assets while it also presents some important constraints.

Functionally, the river is an asset, as the year-round flow of cool to very cold water may be leveraged for cooling in a district energy system. Shoreline restoration will link the site's ecology with aquatic ecology; it may even be used for recreation by canoe or other light watercraft.

SITE FEATURES

- Existing dams and hydroelectric power stations in Ontario & Quebec are active industrial facilities. This creates potential opportunities for the development to link into this green power source, but also necessitates careful planning for their continued use.
- Excellent waterfront views from residences, offices, businesses, and public spaces create great value, but working around these waterways also poses challenges to connectivity and infrastructure.
- The site is co-located with significant cultural resources. The Canadian War Museum sits to the south, the Canadian Museum of History to the east, the National Archives and Supreme Court of Canada to the southeast, and Parliament Hill nearby.
- Recreational opportunities abound, with the Gatineau Park within a short bike ride, the river adjacent, and parks surrounding the site.
- Zibi affords wonderful views of natural and cultural landmarks: the river, falls, city skylines, and the Parliament Buildings.

TRANSPORTATION

- High-quality multi-use paths in both Ottawa and Gatineau link the site to extensive path networks throughout the region.
- The site is close to existing and future Rapibus terminal (STO Quebec) & OC Transpo stations, including the planned Confederation Line Light Rail Transit station at LeBreton Flats.
- The site is close to major highways and rail links in the region, which connect the region to Montreal & Toronto, part of the Windsor – Quebec City corridor.

EXISTING BUILDINGS

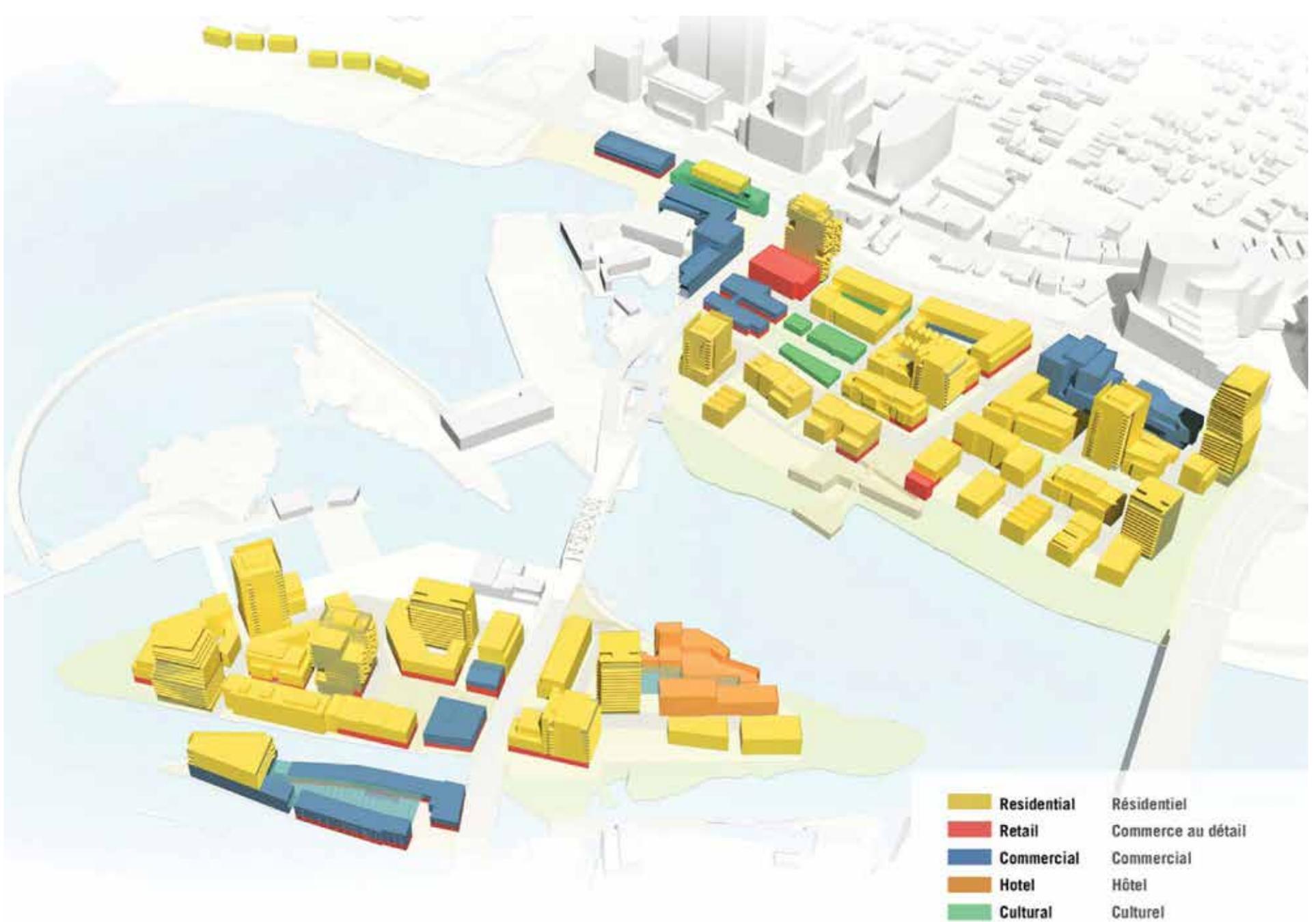
- The significant inventory of industrial buildings provides an opportunity to showcase adaptive reuse of heritage properties and cultural landscapes, while maintaining and enhancing their heritage value.
- These buildings could be re-purposed for a wide variety of uses: for arts and cultural uses, a community center, library, retail, office, and residential uses. They can also provide space for a wide range of interim uses and events to animate the site in the early stages: artist studios, pop-up galleries, special events.

BARRIERS

While the site's natural and cultural attributes offer many assets and opportunities, there are also barriers to overcome in planning and building Zibi:

- The site is physically divided, both by the Booth/Eddy Street Bridge and by the Ottawa River, creating challenges for infrastructure and other physical linkages.
- The Booth/Eddy Street Bridge corridor can be congested and noisy. It has very poor pedestrian and bike connectivity – cramped and unsafe, with multiple owners (Ottawa, Gatineau, PWGSC). It is also one of only two interprovincial truck crossing routes.
- The site is contaminated and must be aggressively remediated by removing soils off-site.
- Multiple jurisdictions have approval authority on different sections of the redevelopment.
- Site design must balance the needs of future residents and workers with those of tourists and visitors, to become both a renowned destination and a coveted local community.
- Mist from the falls may create icy conditions in winter on parts of the site, and fast-flowing water poses safety risks.
- Water rights on the site date back centuries and are not easily transferred.
- On-site infrastructure is limited and aging.

MASTER PLANNING



MASTER PLANNING - CONT



METRICS

Zibi will feature a mix of residential, retail, commercial, and recreational spaces. The goal is to create a complete community - a community in which it is an easy walk to all of one's daily needs. Upon completion, it is our intention that a resident could live for a month within a 1 km radius, every resident will be within 500m of a place of employment, and there will be a balance between the number of jobs on site and number of residents on site. To ensure a diverse community there will be a full mix of housing types/tenure (low-rise/high-rise, free-hold, affordable/market, condo, rental, owned, etc).

Specifically, the project consist of approximately 13 acres in Ottawa and 24 acres in Gatineau. The resulting built environment can be broken down into 60% residential, 20% retail, and 20% commercial. Within the complex, approximately 7 of the buildings will be re-purposed heritage buildings. Once completed, the development will have re-introduced the public to the beautiful waterfront available to the region that had long been cut off by industry.



ZIBI ONE PLANET ACTION PLAN - SUMMARY

METHODOLOGY

This One Planet Action Plan has ten chapters – one for each of the ten Principles of One Planet living. It was collaboratively authored through three phases, and will be used in a long-term engagement to guide the development through its construction:

- On December 11, 2013, Windmill held a major public consultation for the development, collecting ideas and enthusiasm from 900 attendees.
- Windmill and Bioregional have hosted dozens of smaller consultations with interested parties, including youth and First Nations groups, listening to their ideas and seeking support and input.
- Champions were carefully chosen for each of the ten Principles. These individuals each brought unique expertise to the challenge of creating the most ambitious sustainability plan ever conceived for a Canadian neighbourhood development. Each champion began with the comments and ideas gathered at the public consultation, tailoring them to Zibi while building from the national and international precedents established by other One Planet Action Plans.

This Action Plan will serve as a kind of “DNA” as first the Master Plan, and then contracts, construction and tender documents, business plans, and property management plans are developed for the project. The One Planet Action Plan will be used by the developer to inform development, construction, and operations to ensure that the One Planet Community ethos is met. Throughout this process, this document will also be used to express the vision to a wider stakeholder audience.



THE TEN CHAMPIONS

HEALTH & HAPPINESS: Greg Searle – President, Bioregional North America & Derek Howe, Partner at Windmill Development Group

EQUITY & LOCAL ECONOMY: Steve Dulmage – Associate at BuildGreen Solutions / Windmill Development Group

CULTURE & COMMUNITY: Alex Speigel – Partner at Windmill Development Group

LAND USE & WILDLIFE: Chris Ellingwood – Niblett Environmental

SUSTAINABLE WATER: Jonathan Westeinde – Founder and Managing Partner at Windmill Development Group

LOCAL & SUSTAINABLE FOOD: Rodney Wilts – Partner at Windmill Development Group

SUSTAINABLE MATERIALS: Stephen Savell – Development Manager, Windmill Development Group & Scott Demark, Partner at Windmill Development Group

SUSTAINABLE TRANSPORT: Dennis Dornan – Master Planner, Perkins + Will

ZERO WASTE: Jeff Westeinde – Executive Chairman at Windmill Development Group

ZERO CARBON: Trevor Butler – President, Archineers

ZIBI 10 POINTS GOAL SUMMARY

HEALTH & HAPPINESS

The creation of community green spaces and play areas will provide ample infrastructure for everyone to lead active lifestyles within the community. Coordinated community gatherings and initiatives will give residents the opportunity to be active in shaping and participating in their community.

EQUITY & LOCAL ECONOMY

A community for all, Zibi will incorporate a range of housing opportunities to ensure a diverse mix of owners and renters. The development includes commercial and retail spaces that are preferentially allocated to local and socially responsible business, creating jobs and giving opportunity to small, ethically run enterprises.

CULTURE & COMMUNITY

The redevelopment of the area will give citizens the opportunity to access a site of great cultural relevance. The redevelopment, through signage, architecture, and art will educate the public on the rich history of the site. Designing visual and physical connectivity to neighbouring attractions and landmarks will integrate the site into the existing destination networks.

LAND USE & WILDLIFE

Starting with the remediation of this former industrial site, Windmill intends to restore the area as a biologically diverse ecosystem. By carefully designing landscapes and greenroofs to provide micro-habitats for indigenous species, biodiversity will increase by 400%.

SUSTAINABLE WATER

As a whole, the development will consume less than half the regional average of 163L of water per person per day by drastically reducing the use of potable water. This is to be achieved through the use of super efficient appliances and a purple pipe system that uses non-potable water for toilets and landscaping. The complex's landscaping will provide stormwater remediation to prevent run-off pollution.

LOCAL & SUSTAINABLE FOOD

Zibi will serve as a model for integrating agriculture into the urban landscape. Easy access to seasonal, local, and sustainably produced food will help residents enjoy healthier, fresher diets and support local farms and vendors, while reducing the carbon footprint of their diets by 60% as compared to a conventional one.

SUSTAINABLE MATERIALS

When considering the materials comprising the development, a life-cycle analysis approach will be implemented. This approach takes into consideration the environmental impacts of all materials over their respective lifetimes. New technologies and innovative construction solutions will minimize the environmental impact of assembly.

SUSTAINABLE TRANSPORT:

The approach to sustainable transport is double faceted: reduce the need for energy reliant transportation by giving priority to bikes and pedestrians and, when energy reliant transport is needed, provide infrastructure for efficient and low-impact alternatives such as ride-share and electric vehicle charging stations. This will result in a 90% reduction in transport-related emissions as compared to the regional average.

ZERO WASTE:

Community management will provide the information and the access to alternatives to allow residents to reduce their use of high waste consumer products. With the implementation of a "swap system", which will allow items to be re-used, and by creating proper recycling and organic waste collection infrastructure, only 2% of waste will go to landfills.

ZERO CARBON:

Windmill's objective is to create a zero carbon community during operations. In addition to sustainable materials and sustainable transport, this will be achieved by creating a district energy system whose aim is to eliminate 100% of the community's reliance for building operations on GHG emitting energy sources by 2020.

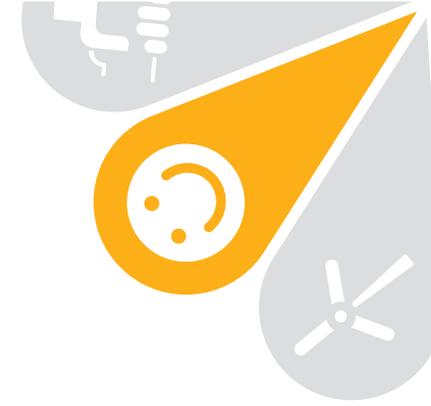
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COMMON INTERNATIONAL TARGETS

The One Planet vision is to create a future where it is easy, attractive, and affordable for people to lead happy and healthy lives using a fair share of the earth's resources.

HEALTH AND HAPPINESS

CHAMPIONED BY GREG SEARLE & DEREK HOWE



GOALS AND KEY PERFORMANCE INDICATORS 1.1

1.1.1 GOALS

- HH1 Increase perceived Happiness.
- HH2 Increase community involvement opportunities allowing 70% of residents to describe themselves as active participants in the community.
- HH3 Facilitate life-long learning and creative expression for residents.
- HH4 Increased health & fitness participation.

1.1.2 BASELINES FOR KEY PERFORMANCE INDICATORS

- 63.6% of Ottawa & Gatineau residents perceived their health as very good or excellent and 72.3% perceived their mental health as very good or excellent - both above the Canadian average of 59.9% and 72.2% respectively.
- 60.4% of Ottawa residents rate themselves as moderately active or active (compared to 53.8% nationally).
- 49% of Ottawa & Gatineau residents are overweight or obese, vs. 52.3% of Canadians.
- The region's average walkscore is 54.

1.1.3 KEY PERFORMANCE INDICATORS

- Self-reported Happiness.
- Walkscore

Monitor:

- Annual walkscore update
- Aim to run a neighbourhood happiness index campaign with a post secondary partner once a critical population is established

1.2 IMPLEMENTATION

1.2.1 DESIGN

Goals	Design strategies	Who is responsible
HH2	Design spaces where neighbours will “bump into” each other (e.g. along commuting routes, at food co-ops).	Design Team
HH1,2	Install an attractive sharing center at a central hub where residents can give away unwanted items (books, vegetables, etc.) and where children can set up a lemonade stand/ puppet theatre/store.	Design Team
HH3,4	Create play areas that flow from indoors to outdoors and vice versa. Can be incorporated into some of the buildings, e.g. a bouldering/climbing wall.	Design Team
HH3	Create a safe place where children can access water features.	Design Team
HH3	Incorporate rooftop patios and gardens into building designs.	Design Team
HH2	Design social gathering places in or around common spaces such as the mailbox area, which will be intended to meet the needs of each specific block of 100-200 residents. Incorporate shared office space to facilitate coworking among residents.	Design Team
HH3	Create a space for artistic expression/promotion of the arts.	Design Team

1.2.2 CONSTRUCTION

HH4	Environmental Management Plan for the site must take construction workers needs and safety into consideration during the construction phase, and ensure adequate facilities.	Leadership/ construction team
HH4	Use sustainable materials to reduce worker exposure to toxic, potentially carcinogenic substances during construction.	Leadership/ construction team
HH4	Workers to have access to healthy food.	Leadership/ construction team

1.2.3 COMMUNITY LIFE

Goals	Design strategies	Who is responsible
HH1,2	Establish an early social club for incoming residents to help plan improvements and develop social capital before move-in.	EcoConcierge
HH1,2	Develop or provide access to courses for residents in leadership roles (e.g. ombudsman, activities coordinator, facilitator).	Design Team
HH1,2	Develop community website (the “Community Intranet”) with social calendar, local info wiki, community group email, and newsletter hosting.	Leadership Team / EcoConcierge
HH2	Learning center for community classes, workshops, book clubs, repair center, etc. Investigate sharing space with local school.	Strategic partners / EcoConcierge
HH2	Establish methods for recognizing community volunteers and publicizing their efforts throughout the community.	Community Coordinator
HH3,4	Encourage physical and spiritual fitness classes/studios (e.g. yoga, tai-chi, meditation).	Leadership Team / EcoConcierge
HH4	Ensure that sports/exercise areas are well maintained and well-advertised, and provide information/examples of ways to fit exercise into one’s daily or weekly routine.	Wellness Coordinator Early Residents Assn.
HH4	Encourage the use of green cleaning products and furnishings by residents.	EcoConcierge, Individual residents

1.2.4 MANAGEMENT

HH4	Ensure a robust space exists with water and heating to shelter residents (especially those residing in heritage buildings) in the event of a major earthquake or other disaster.	Design Team / Leadership Team / Property Manager
ALL	Establish a retailer’s association with a mandate to embed the goals of this One Planet Action Plan into procurement and operations.	Leadership Team

02

COMMON INTERNATIONAL TARGETS

The One Planet vision is one where thriving, diverse, and resilient local economies support fair employment, inclusive communities, and international fair trade.

EQUITY AND LOCAL ECONOMY

CHAMPIONED BY STEVE DULMAGE

GOALS AND KEY PERFORMANCE INDICATORS 2.1

2.1.1 GOALS

- ELE1 A mixed, integrated, socioeconomic community with a variety of housing units available for prospective renters / buyers within all socioeconomic levels. 7% of housing to be designated affordable housing.
- ELE2 20% of residents are able to spend part of their time working from home or in a local disability-friendly office sharing facilities in the community.
- ELE3 Give precedence to smaller, local, and ethically run businesses that have fair and inclusive hiring policies. At least 75% of retail space leased to non-franchised tenants.
- ELE4 By 2020, 70% of residents will be participating in local or Fair Trade programs or purchasing local or Fair Trade products to some extent. At least 20% of the value of all food items sold on-site coming from local, organic, or fair trade sources (other than only coffee or chocolate).
- ELE5 A community that provides opportunities for all its members to democratically participate in governing/managing Zibi.
- ELE6 Create a financially viable and socially responsible tourist destination.
- ELE7 Create economic opportunities for First Nations & youth.

2.1.2 BASELINES FOR KEY PERFORMANCE INDICATORS

- In 2011 in Canada, 1.6 million households, or 12.1%, lived (either as owners or renters) in condominiums. Of these households, 1.2 million were owners while 461,215 were renters.
- In 2011 nearly 15% of Canadians (4.8 million) were living in poverty.
- About 41% of those living in low-income neighbourhoods belonged to a visible minority.
- In 2011, the average individual income in Canada was \$38,700, while the median was \$27,600.
- In 2011, the average individual income for a full time worker in Ottawa was \$57,967 (2nd among large Canadian cities), while the national median was \$47,868.
- Aboriginal unemployment rate for the working-age population was 13%; approximately twice the rate for other Canadians of the same age, and relatively unchanged since 2006.
- There are more than 9,000 households on Ottawa's affordable housing waiting list.

2.1.3 KEY PERFORMANCE INDICATORS

- Percentage of affordable housing
- Percentage of First Nations jobs

Monitor:

- The integration of low income housing
- Number of low income inhabitants
- Usage rate of office sharing facilities
- The ownership and ethical policies of businesses
- Track service exchanges through the community Intranet.
- Biennial survey to evaluate peoples consumer decisions regarding ethical purchasing decisions.

2.2 IMPLEMENTATION

2.2.1 DESIGN

Goals	Design strategies	Who is responsible
ELE1	Partner with affordable housing providers in Ottawa and jointly apply for funding for affordable housing.	Leadership Team, Design Team
ELE1	Provide a wide diversity of housing types, ensuring homes are available to a wide range of income groups, offering cooperative social housing to eco-studios up to luxury penthouses.	Leadership Team, Design Team
ELE1	Lifetime user standards adopted for select units to allow for homes to be easily adapted as people age. [Implement durable building plan in accordance with the 'Guideline on Durability in Buildings', CSA S478 -95 (R2001)].	Design Team
ELE1	Ensure rental and freehold affordable housing is distributed throughout the development as opposed to segregated.	Leadership Team, Design Team
ELE1	Developer utilizes green loans to offset the incremental improvements in energy efficiency, which are then paid back from the condominium corporation through the utility company.	Leadership Team
ELE3	At least one establishment on-site using a cooperative business model.	Leadership Team
ELE3,4	A variety of organic and local produce is available for purchase on site all year round through partnerships with local farmers.	Leadership Team, EcoConcierge, Bioregional
ELE3,4	Coordinate bulk purchasing of some fair trade / organic items such as coffee, chocolate, sugar, and other staples that cannot be grown locally.	Community Coordinator, Bioregional

2.2.2 CONSTRUCTION

ELE3	Prioritize a local workforce for construction, minimum 90%.	Leadership/ construction team
ELE7	Facilitate employment opportunities for First Nations by working with the Algonquin Nation to create an inventory of skilled personnel; Engage training providers to create training programs; Implement a mandatory hiring quota for all service providers on site to engage qualified Algonquin personnel.	Leadership/ construction team
ELE7	Provide co-op and job shadowing opportunities for youth; Ensure Site Personnel are available to share their experiences and capabilities with youth at school or community meetings/ presentations; Deliver LEED training and facilitate LEED accreditation for interested youth.	Leadership/ construction team

2.2.3 COMMUNITY LIFE

Goals	Design strategies	Who is responsible
ELE3	Use Community Intranet to facilitate a 'time bank' or barter system where people exchange services and learning between one another.	Leadership Team/ EcoConcierge/ Bioregional
ELE3,4	Preparation of fair trade/equity component of resident's manual/Intranet. Launch a 'think local' program to encourage people to spend locally; research local and regional products available for promotion.	EcoConcierge Bioregional
ELE7	Create at least one partnership with a local post-secondary institution to provide educational opportunities related to sustainability and / or community development.	Leadership Team
ELE5	Encourage democratic participation in governing Zibi.	Residents Assoc.
ELE5	Annual general meetings open to all community members and neighbours.	Community Coordinator
ELE5	Comments box at a relevant location, and on-line through Intranet for community members and neighbours to voice concerns, ideas, etc. To be collated by Community Coordinator and directed to respective decision-making bodies.	Residents' Association/ Community Coordinator
ELE3	Target minimum of 5 First Nations businesses/retailers to locate on the site	Leadership Team

2.2.4 MANAGEMENT

ELE7	Encourage creation of local paid "apprenticeship" jobs.	Leadership Team
ELE3,4	Fair trade retailers will be encouraged to open within Zibi.	Leadership Team
ELE3,4	Develop commercial tenant guidelines, including suggested practices for human resources practices and local hiring priorities; code of conduct to ensure product and service suppliers abide by basic working and environmental standards; optimizing green interior fit-up and operation and maintenance strategies.	Leadership Team, EcoConcierge, Bioregional
ELE5	Develop residential tenant guidelines with suggested practices to support sustainable approaches to residential décor, fit-ups, and participation in community decision-making.	Leadership Team, EcoConcierge, Bioregional
ELE6	Partner with Ontario Ministry of Tourism to analyze Zibi under the Premiere-ranked Tourism Destination Framework and the Outaouais Region Tourism Development Program (ORTDP) to help make the site a prime tourist destination.	Leadership Team

03

COMMON INTERNATIONAL TARGETS

The One Planet vision is one where a culture of sustainability, community, and a sense of place has been nurtured. Endorsed communities build on local cultural heritage to foster social capital and connectedness.

CULTURE AND COMMUNITY

CHAMPIONED BY ALEX SPEIGEL



GOALS AND KEY PERFORMANCE INDICATORS 3.1

3.1.1 GOALS

- CC1 Create a strong cultural identity that reflects the history of the site throughout the development.
- CC2 Adapt and re-use at least three existing heritage buildings.
- CC3 Maintain affordability for the arts.
- CC4 Create connectivity with the surrounding community of Gatineau and (future) Lebreton Flats.
- CC5 Engage with First Nations to determine appropriate strategies for recognition of Algonquin history and culture on the site.

3.1.2 BASELINES FOR KEY PERFORMANCE INDICATORS

- Ottawa-Gatineau residents are less likely than the national average to report that they feel a sense of belonging in their community (58% for Ottawa-Gatineau vs. 65% for all of Canada).
- Proportion of Aboriginal residents is also lower in this region than nationally (2.5% vs 4.3%), though the immigrant population is consistent with national averages (19% in Ottawa-Gatineau, 20% nationwide), as is the population of visible minorities (19% in both cases).
- Statistics Canada reports that nation-wide in 2010, 46% of Canadians volunteered their time. In Ontario, 48% of residents volunteered an average of 164 hours each. In Quebec, 37% of residents volunteered an average of 128 hours in 2010.

3.1.3 KEY PERFORMANCE INDICATORS

- Number of repurposed heritage assets on site
- Know your neighbour rate

Monitor:

- Annual recognition (including articles and awards) for historic preservation.
- Public feedback on comprehensiveness of historical significance of site.
- The number of festivals and visitors attracted.
- The number of artist studios and resident artists in the area.
- The number of people that enjoy the cultural, cycling, and walking route.
- The traffic from the surrounding communities.
- The “know-your-neighbour” rate for the community (via survey).

3.2 IMPLEMENTATION

3.2.1 DESIGN

Goals	Design strategies	Who is responsible
CC1,4	Provide public access to celebrate the river with active and passive public places and improve connections to the surrounding communities.	Leadership Team
CC1	Maintain key views; provide new views to natural and cultural heritage features.	Leadership Team
CC1	Create a full video and photo archive of the site as is.	Leadership Team
CC2	Retain existing buildings where feasible. Animate through adaptive re-use.	Leadership Team
CC3	Investigate partnerships with groups that support artists and the arts, including affordable housing options for artists.	Leadership Team
CC1	Provide historical interpretation features and public art that celebrate this site's heritage.	Leadership Team
CC5	Work with Algonquin people to develop public art and signage recognizing and celebrating presence on Algonquin traditional territory.	Leadership Team
CC1,4	Work with municipalities to provide a Community Centre.	Leadership Team
CC4	Foster integration with surrounding community through physical connectivity and route continuity.	Leadership Team/ Municipalities
CC4	Create connections to other important Algonquin sites in the area by working with our neighbours and the Algonquin Nation to provide strong connections through the new development to the existing capital pathway network particularly to Pimisi Station and the Chaudiere Falls.	Leadership Team
CC1	Design and build a community center for residents to hold events and for congregation.	Leadership Team/ Municipalities

3.2.3 COMMUNITY LIFE

CC1	Seek partners to provide a walk through historical experience of the site using demolition salvage. The entire site operates in a way that tells the rich history of the site.	Leadership Team/ Governments/ Community Partners
CC2	Program interim uses in existing buildings and sites to animate the area in early stages of development.	Leadership Team
CC1	Provide programming for local community members as well as visitors and tourists.	Leadership Team
CC1	Develop a cultural master plan and provide ongoing programming such as Nuit Blanche, Harvest Noir, children's events.	Leadership Team/ Municipalities
CC1	Identify a Heritage Route as a Gateway to Gatineau, to provide a Cultural Loop (from Ottawa to Montcalm District).	Leadership Team/ Municipalities
CC5	Publicly commit Windmill's support to the creation of an Algonquin led First Nations Spiritual Center on Victoria Island.	Leadership Team/ Governments/ Community Partners

3.2.4 MANAGEMENT

Goals	Design strategies	Who is responsible
CC1	Develop a Sustainability Charter which makes reference to the One Planet Action Plan (and in this case, particularly around the implementation of the Culture & Community principle) to be included in all Contracts and sub-contracts, leases, and other documents administered by the Property Management Team (s).	Property manager & Residents' Association
CC1	Make extensive use of the Community Intranet as well as physical bulletin board, to plan and communicate events and use of facilities on-site.	Property manager/ EcoConcierge

04

COMMON INTERNATIONAL TARGETS

The One Planet vision is of communities that contribute to an overall increase in biodiversity and biological productivity, as well as supporting beautiful landscapes.

LAND USE AND WILDLIFE

CHAMPIONED BY CHRIS ELINGWOOD

GOALS AND KEY PERFORMANCE INDICATORS 4.1

4.1.1 GOALS

- LW1 Improve environmentally damaged areas and maximize the benefit to natural ecosystems within the development.
- LW2 Reintroduce native vegetation, increase biodiversity by 400% among plants and animals.
- LW3 Manage light pollution.
- LW4 Foster love of nature through education and increasing opportunities to interact with the natural world.

4.1.2 BASELINES FOR KEY PERFORMANCE INDICATORS

Create a wildlife inventory of plants and animals on site to establish biodiversity baseline for:

- Indigenous and invasive species
- Habitats

4.1.3 KEY PERFORMANCE INDICATORS

- Biodiversity on-site
- Percentage remediated

Monitor:

Use the wildlife management plan to evaluate:

- The status of the ecosystems
- The success of the micro-habitats
- The success of native vegetation

Monitor light pollution.

4.2 IMPLEMENTATION

4.2.1 DESIGN

Goals	Design strategies	Who is responsible
LW1	Start intensive rehabilitation projects; develop a native tree nursery for on-site restoration purposes.	Ecologist, Partnered academic institution, Groundskeeper
LW1,2	Design Landscape with native species to maximize habitat development, including naturalized stormwater collection facilities and allow opportunities for public viewing and interpretation.	Design Team, Wildlife Biologist
LW1	Use roofs & surface water for habitats & urban agriculture.	Design Team
LW1,2	Implement wildlife enhancement plan (e.g. build bird boxes, bat houses, native bee homes, strategic drainage areas for amphibians, protect tree trunks from machinery, etc.).	Partnered Academic Institution, Ecologist
LW1	Plan plantings to ensure continuous blooms throughout growing season that provide continuous, diverse food supply to bees.	Design Team, Groundskeeper
LW1	Plan for wildlife interpretation and education. Explore linking this to local pathways.	Design Team
LW2	Work with Algonquin Community to determine culturally significant flora.	Design Team
LW2	Create a strategic plan for the management of the trees on site (tree policy, tree registry, planting, & maintenance program). If pruning and felling of trees is needed, return biomass to on-site ecosystem.	Ecologist/Arborist
LW2	Plant grassed areas with a mixture of wildflowers, clover, and native grasses, that do not need to be mowed.	Design Team, Groundskeeper
LW1	Shade open, paved areas with deciduous trees to reduce summer heat island effect but allow sun in winter.	Design/Construction Team
LW2	Develop media kit and plan to educate community about project goals/events/best practice.	PR Consultant
LW3	Implement policy to meet or exceed LEED lighting criteria for light pollution reduction.	Design Team
LW4	Provide multiple opportunities for residents and visitors to access the Ottawa River.	

4.2.2 CONSTRUCTION

Goals	Design strategies	Who is responsible
LW1	Implement action plan to educate construction workers on spills and hazardous waste and protecting existing trees earmarked for retention.	Arborist, Construction Team
LW5	Save and reuse materials harvested from site work, e.g. wood chips, topsoil, nurse logs, snags.	Design/Construction Team
LW1	Avoid clearing during nesting season; control noise and dust.	Construction Team
LW5	Create action plan and educate contractor staff regarding spilled or leaking hazardous material.	Ecologist, Groundskeeper

4.2.3 COMMUNITY LIFE

LW3	Provide updated wildlife inventory and sightings on Community Intranet.	Groundskeeper, EcoConcierge
LW1-3	Promote lifelong learning with nature through participatory activities, living labs on site, and active environmental education programs targeted at all ages. Educate residents regarding lifestyle behaviour that impact wildlife.	Groundskeeper, EcoConcierge
LW1-3	Use the community intranet to post wildlife-related projects that need volunteer groups.	Groundskeeper, Comm. Coordinator
LW1	Provide interpretive signage on plants, habitats, nesting strategies, etc.	Design Team
LW1	Provide guidelines and interpretation about domestic pets and protection and awareness of wildlife.	EcoConcierge
LW2	Encourage local vendors to grow some of their own produce in planters and window boxes as edible decoration.	EcoConcierge
LW2	Coordinate harvest and community gardening resources as well as regular trips to Gatineau Park.	EcoConcierge

4.2.4 MANAGEMENT

LW1,2	Adopt an ecological charter that specifies policies on: native plants and habitats; use of pesticides, herbicides and fertilizers; pruning, weeding and replanting; outdoor activities.	EcoConcierge, Property Manager
LW2	Develop guidelines encouraging and promoting the management of edible vegetation.	Comm. Coordinator Groundskeeper
LW1	Invite angling and bird watching organizations to sponsor activities or help with the planning phase of this Principle.	Groundskeeper, EcoConcierge

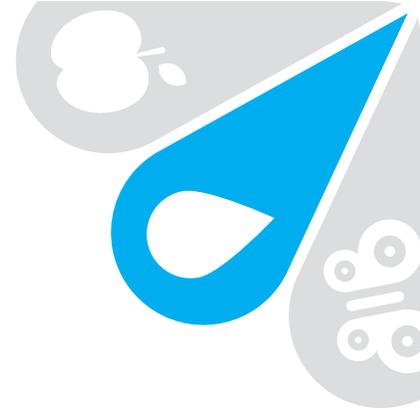
05

COMMON INTERNATIONAL TARGETS

The One Planet vision is that we use water much more efficiently in buildings and in the products we buy, manage water in such a way as to support healthy land-use, avoid local flooding, and avoid pollution to watercourses.

SUSTAINABLE WATER

CHAMPIONED BY SCOTT DEMARK



GOALS AND KEY PERFORMANCE INDICATORS 5.1

5.1.1 GOALS

- SW1 Cut residential potable water use to 150L/person/day through 2020, and 125L/person/day thereafter.
- SW2 Eliminate potable water use in landscaping.
- SW3 By 2020, all new buildings will utilize non-potable water for sewage conveyance.
- SW4 Achieve near-zero export of pollutants via storm- water outflow.

5.1.2 BASELINES FOR KEY PERFORMANCE INDICATORS

- Ontario households currently use 271 L/ day / person*. Quebec households currently use 386 L/ person/day.
- Roughly 35% of that will be used for showers or baths, 30% for flushing toilets, 20% for laundry, 10% for kitchen and drinking, and 5% for cleaning.
- Water use during the growing season can be as much as 50% higher than water use through the colder months.

5.1.3 KEY PERFORMANCE INDICATORS

- Potable water consumption
- Stormwater quality

Monitor:

- Interior potable water use by building
- % of surface area that is pervious

*Ontario, 2009 data, 2011 report, Environment Canada

5.2 IMPLEMENTATION

5.2.1 DESIGN

Goals	Design strategies	Who is responsible
SW1	Develop interior design standards to meet or exceed a 35% reduction in potable water use per fixture.	Design Team
SW1	Develop an adaptive management plan for water that provides feedback to the community and various mechanisms to continuously improve water management.	Design Team
SW1	Incorporate water metering in a meaningful way to ensure occupants have consumption visibility	
SW2	Incorporate design elements that would utilize non-potable water such as ponds, wetlands, and other landscape features.	Design Team
SW2	Develop landscape design to minimize the need for exterior irrigation by using a combination of natural and/or drought-tolerant vegetation, small irrigated areas, and weather-based irrigation systems. Develop civil infrastructure to ensure remaining irrigation is met with non-potable water.	Design Team
SW3	Actively engage the municipality on the financials and perceived risk of operating a non-potable water distribution system (“purple pipe”) for irrigation and sewage conveyance.	Windmill
SW4	Utilize green infrastructure design methods such as green rooftops, porous pavements for low-traffic areas, minimization of impervious surfaces, narrower streets, rain harvesting, extensive tree canopies over impervious pavements to intercept rainfall, and other strategies. Compute effective impervious surface pre and post development.	Design Team
SW4	Implement best practice engineering methods to ensure discharge water exceeds all provincial standards for pollutants and suspended solids. Begin monitoring program of discharge during construction.	Design Team
SW4	Create a series of stormwater retention and treatment facilities such as reed beds and settling ponds that treat stormwater, and also act as a community amenity.	Design Team

5.2.2 CONSTRUCTION

SW4	Minimize runoff during construction phases using state-of-art erosion control to reduce pollution.	Contractor
SW4	Stabilize areas prone to, or at risk of, erosion.	Contractor

5.2.3 COMMUNITY LIFE

Goals	Design strategies	Who is responsible
SW1	Develop a social network to allow residents to compare the water savings of buildings.	Leadership Team/ EcoConcierge
SW2	Commission public art inspired by water and utilizing water in engineering as a visible part of the community.	Leadership Team
SW4	Create an eco-cleaning guide for businesses and residents.	Leadership Team/ EcoConcierge

5.2.4 MANAGEMENT

SW1	Ensure replacement plumbing fixtures in buildings achieve the same or higher reductions in flow levels as initially designed.	Property manager
SW2	Promote drought-tolerant plants for use as landscaping throughout the community.	EcoConcierge
SW2,3	Establish guides and standards for property owners to manage water naturally and effectively across their property including incorporating strategies for pervious surfaces and raingardens, rainwater capture and storage, and greywater reuse, among others.	Property manager
SW4	Engage residents and businesses in using non-toxic personal hygiene and household cleaning products, avoiding pesticides and using compost rather than fertilizer to reduce pollutants entering the river.	EcoConcierge
SW4	Engage residents and businesses to promote proper disposal of hazardous wastes to avoid hazardous pollutants from entering the river.	EcoConcierge
SW4	Sustain community-level adaptive management through website development and maintenance and community workshops.	EcoConcierge

06

COMMON INTERNATIONAL TARGETS

The One Planet vision is one where access to local, seasonal, and organic produce is widely available. The Vision includes consumption of foods high in vegetable protein and low in animal protein.

LOCAL AND SUSTAINABLE FOOD

CHAMPIONED BY RODNEY WILTS



GOALS AND KEY PERFORMANCE INDICATORS 6.1

6.1.1 GOALS

- LSF1 Provide every household with access to a dedicated garden space. Demonstrate participation in on-site food production, gardening, and farm partnerships.
- LSF2 Increase access to local and organic foods produced by local farmers and producers.

Percent increase in organic food consumed as part of diet:
2016: 50%
2020: 75%

Percent increase in seasonal, local food consumed as part of diet:
2016: 50%
2020: 70%
- LSF3 Decrease overall vehicle miles traveled and carbon impact of food consumed by residents by 50%.
- LSF4 Reduction in intake of high-carbon foods (eg. cheese, red meat, and butter) to 1/3 of Canadian Average.
2012: 90% of Canadian Average
2016: 50% of Canadian Average
2020: 30% of Canadian Average
- LSF5 Reduce food waste.

6.1.2 BASELINES FOR KEY PERFORMANCE INDICATORS

Create survey to establish baselines for:

- % organic food consumed
- % of local food that is consumed
- % of residents participating in local CSA
- % of diet comprised of carbon-intensive foods such as red meat and cheese
- Participation in home gardening and community gardens

The IDRC estimates that it takes about 1.6 hectares of land to feed each Canadian .

Canadian meat and poultry consumption averaged 38kg per person (boneless) in 2004-6 and 9.8 kg of fish and seafood per person.

Organic food represents less than 1% of Canada's retail food sales.

The average food item in North America travels between 2,500 and 4,000 kilometers, about 25% farther than in 1980.

The processed food industry accounted for \$78 B in 2006, which is about 25% of Canada's total food industry.

6.1.3 KEY PERFORMANCE INDICATORS

- Number of people actively gardening on-site
- % of food sold on-site from sustainable sources

Monitor:

- Amount of food produced on site
- % of local and/or organic produce being purchased on-site through survey
- Carbon footprint of food purchased on-site
- Food waste by weight

6.2 IMPLEMENTATION

6.2.1 DESIGN

Goals	Design strategies	Who is responsible
LSF1	Provide functional and aesthetically pleasing space for on-site food growing throughout the site design.	Design Team
LSF1	Design edible landscaping throughout the site.	Design Team
LSF1	Create space on rooftop for bee keeping.	Design Team
LSF2	Design for a community kitchen in a prominent location.	Design Team
LSF2	Seek out on-site sustainable food related events.	Leadership Team
LSF2	Aim to attract rooftop/urban farm partner.	Leadership Team
LSF2,3	Enter into discussions with local restaurateurs and grocery store operators with aim to attracting them to the development.	Leadership Team
LSF2,3	Enter into discussions with Farmers' Market in Hull to determine whether four season, covered farmers' market could be incorporated on site.	Leadership Team

6.2.2 CONSTRUCTION

LSF2	Provide local, seasonal, and organic food to construction personnel on site.	Contractor
LSF2,4	Host events on-site to celebrate sustainable food.	Leadership Team
LSF2	In areas not under construction, have a rotating container-based community garden plot.	Leadership Team/ Contractor

6.2.3 COMMUNITY LIFE

Goals	Design strategies	Who is responsible
LSF1	Create a gardening program to engage and educate residents in gardening.	Leadership Team / EcoConcierge
LSF2,3	Create partnership with local Community Shared Agriculture to deliver fresh produce to residents.	Leadership Team / EcoConcierge
LSF5	Encourage community canning and food preservation efforts in the community center by scheduling events and educational opportunities.	EcoConcierge / Key Partners
LSF2,3	Explore opportunities for bulk purchasing and delivery of local foods from the region (within 100 miles).	EcoConcierge / Key Partners
LSF1,2	Create opportunities for residents to participate in Urban Farm partnership.	Leadership Team / EcoConcierge
LSF5	Educate residents and school users about carbon intensity of certain foods, benefits of local foods, portion size, food storage, and food waste reduction. Include in green lifestyles package.	Leadership Team / EcoConcierge
LSF2,3	Community mapping of sustainable food resources - growers, processors, suppliers, and servers.	Leadership Team / EcoConcierge
LSF2	Provide link to Savour Ottawa/local and sustainable restaurants, organic food stores, and other sustainable food partners.	Leadership Team / EcoConcierge
LSF4	Create a recipe sharing website for residents.	Leadership Team / EcoConcierge

6.2.4 MANAGEMENT

LSF1	Develop a management plan for edible landscaping, including harvesting.	Leadership Team / Property Manager / Comm. Coordinator
LSF4	Find operations partner for community kitchen.	Property Manager
LSF2	Ensure EcoConcierge service is well-equipped to promote local and sustainable food.	Leadership Team

07

COMMON INTERNATIONAL TARGETS

The One Planet vision is one where all goods and materials used – for construction or consumer goods – are made from renewable or waste resources with low embodied energy and, wherever possible, sourced locally.

SUSTAINABLE MATERIALS

CHAMPIONED BY STEVE SAVELL & SCOTT DEMARK



GOALS AND KEY PERFORMANCE INDICATORS 7.1

7.1.1 GOALS

- SM1 Optimize the re-use and repurposing of existing structures. Excluding the area of the primary mill buildings, retain and repurpose 50% of existing building floor area.
- SM2 Target 90% of all demolition materials (excluding hazardous materials) on site to be either re-purposed for other uses or recycled, with at least 5% by volume re-used in the development.
- SM2 Target 90% diversion rate from landfill for construction waste.
- SM3 Use low embodied energy materials and reduce the embodied carbon of the project by choosing locally sourced and locally manufactured material products wherever possible.
- SM4 Use a minimum of 50% FSC wood products by volume in all buildings, with an emphasis on local supply chain.
- SM5 Meet or exceed established LEED standards for indoor air quality through material selections that minimize pollutants.
- SM6 Optimize the use and lifespan of consumer goods in the community.

7.1.2 BASELINES FOR KEY PERFORMANCE INDICATORS

Determining baselines for the use of sustainable materials continues to evolve as more thorough evaluations of existing buildings on the site are completed. Therefore, it is difficult to establish numerical objectives for baselines related to the partial or full demolition of existing buildings.

However, the following item measurements from the LEED certification process will inform the baseline targets for the project.

- Re-use 55% of exteriors of existing retained structures, by surface area.
- Re-use 50% of interior (non-structural) elements of existing retained structures by surface area.
- Re-purpose 80% of onsite or recycle of demolition material by weight or volume.
- Use of salvaged materials accounts for 5% by cost.
- Local manufacture of building materials or products accounts for 20% by weight originating within 800 km (2400 if shipped by sea or rail) of site.
- Recycled content of construction materials accounts for 10% of total construction materials by cost.
- Wood originating from FSC (Forest Stewardship Council) approved sources accounts for 50% of all new wood products by cost.

7.1.3 KEY PERFORMANCE INDICATORS

- Construction waste diversion
- % of materials used in construction from local or environmentally preferred sources

Monitor:

- Total floor area of industrial buildings re-purposed vs. demolished.
- Record material re-use, and specifically up-cycling of materials.
- The embodied energy of material used.
- Waste diversion for demolition and construction.
- Amount of FSC wood used.
- VOC's and other contaminants and irritant content of materials

7.2 IMPLEMENTATION

7.2.1 DESIGN

Goals	Design strategies	Who is responsible
SM3	Leverage scale of development to reduce price of local, sustainable materials, and create a supply chain of manufacturers/distributors.	Design Team, Contractor and Factory
SM4,5	Create 'Red List' of materials that will not be used in the project, using Living Building Challenge Red List as reference point.	Design Team
SM3	Implement various methods to incorporate living materials into the community (e.g. willow stakes for erosion control, deciduous trees for seasonal shade, green walls, etc.).	Design Team
SM3	Investigate use of PHAROS or similar disclosure tool for materials selection decision-making, especially with respect to partners, contractors, etc.	Design Team
SM1,2	Develop performance specifications for contractors for waste diversion.	Design Team
SM1	Create a re-use and deconstruction plan.	Design Team
SM1	Develop strategy to educate partners, contractors, trades, subs, etc., on material selection as per above outline or PHAROS protocols.	Materials/Waste Manager, Bioregional
SM3	Investigate using ash borer wood in construction to capture carbon embodied in wood, and prevent methane emissions from allowing the wood to rot.	Design Team
SM1	Consider materials' ability to sequester carbon, e.g. using wood in mid- to high-rise construction as a sequestration strategy.	Design Team
SM3	Consider adding clear "honesty windows" to various buildings that allow residents and visitors see the construction materials underneath.	Design Team
SM5	Develop performance specifications for material choices that limit indoor pollutants and ensure air quality testing is done prior to occupancy.	Design Team

7.2.3 COMMUNITY LIFE

Goals	Design strategies	Who is responsible
SM3	Incorporate sustainable materials education into broader community education programs for consideration when residents renovate.	Residents Association, EcoConcierge
SM1, 2, 6	Create a Sharing Shed where residents can borrow tools and recreational equipment, and donate gently used goods. Consider connecting to a "free shop" where people can pick up and keep used books, clothing, kids toys, etc.	Residents' Association, EcoConcierge
SM2	Create consumer awareness campaigns to encourage people to change their consumptive patterns and behaviour. Consider using "story of stuff" and "think local" as anchors, while profiling local products and services.	Residents' Association, EcoConcierge

7.2.4 MANAGEMENT

SM1,2	Integrate materials standards into community through the use of governance documents to mandate sustainable materials for all future building and renovation projects.	Leadership Team
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Note: Cross Laminated Timber (CLT) is not currently readily available in FSC wood. We view this as an important technology that we are interested in exploring. If it becomes readily available we would expect our percentage of FSC wood to increase.

08

COMMON INTERNATIONAL TARGETS

The One Planet vision is one where the need to commute has been reduced, and low and zero carbon modes of transport are provided. Communities create a green transport plan that results in carbon emissions consistent with the overarching greenhouse gas emissions reduction target.

SUSTAINABLE TRANSPORT

CHAMPIONED BY DENNIS DORNAN



GOALS AND KEY PERFORMANCE INDICATORS 8.1

8.1.1 GOALS

- ST1 CO2 emissions resulting from residential transportation within site are reduced by >90%; Occupants reduce their CO2 emissions from transport per year to 1 tonne by 2020.
- ST2 The proportion of household expenses for transportation will be reduced.
- ST3 Travel distances for goods and services will be minimized to a 5 minute walking distance.

8.1.2 BASELINE FOR KEY PERFORMANCE INDICATORS

- Car ownership is 1.3 vehicles per household based on CMHC figures for Ottawa Centre. This is slightly less than the provincial average of 1.45 vehicles per household (NRCAN 2009 vehicle survey), which is consistent with an urban population that relies less on cars for basic mobility than a rural population.
- In Ottawa, transportation plays a greater role, contributing approximately 40% of our total GHG emissions. Emissions are heavily dominated by CO2 from fuel consumption for personal transportation.
- In Quebec transportation accounts for 38% of the greenhouse gases produced. Emissions are heavily dominated by CO2 from fuel consumption for personal transportation.
- The City of Ottawa estimates that residents' weekday personal transport emitted an average 3.6 tonnes of GHG emissions per person in 2011. They plan to reduce emissions by 14% to 3.1 tonnes per person in 2031. However, according to modeling estimates from CMHC, the average person in the inner core emits about 2.6 tonnes for commuting.

8.1.3 KEY PERFORMANCE INDICATORS

- Walkscore
- Jobs/Housing ratio

Monitor:

- Through voluntary survey, monitor CO2 emissions related to travel
- Number of people using alternatives to single occupant vehicles
- Number of walking amenities
- Average travel distance
- Number of cars on site

8.2 IMPLEMENTATION

8.2.1 DESIGN

Goals	Design strategies	Who is responsible
ST1	Design for active transportation, easy pedestrian and cyclist access, and routes through site and to points of interest.	Design Team
ST1	Create shared spaces for walking, biking, rollerblading, etc., and for active winter mobility activities such as skiing and skating.	Design Team
ST2	Sell parking spaces separately from housing units, and reserved parking for car-share dispersed throughout the site.	Transportation/ Leadership Team
ST1,3	Use best practices to create pedestrian-friendly neighbourhoods.	Design Team
ST1	Design living spaces and co-working spaces to facilitate teleworking from the community.	Design Team
ST1	Reduce space required for roads.	Design Team
ST1	Create flexible paved surfaces so that circulation roads can serve as multi-purpose spaces.	Design Team
ST3	Link the site to existing pathway connections.	Leadership Team
ST1	Work with the City of Ottawa to improve the quality and safety of the Booth St/Eddy St /Bridge environment and redesign it for all modes of transportation.	Leadership Team Residents' Association
ST1,2	Ensure car sharing spaces are located in areas of convenient access to the majority of residents.	Design Team,
ST1	Install electric charging stations at parking spaces.	Design Team,
ST1,2,3	Ensure community amenities are centrally located for easy access and to facilitate teleworking.	Design Team, Electrical Consultant
ST1	Provide a conveniently located on-site taxi stand.	Design Team
ST3	Provide a centralized parcel/delivery drop off with safe and convenient collection facilities.	Design Team
ST2	Potential for location of transit stops with protected waiting areas and connectivity to 'warm cut' routes for internal pedestrian circulation during winter months.	Design Team
ST1	Bike share program installed on-site	Leadership Team
ST1	Work to promote easy links to LRT and STO main hubs	Leadership Team

8.2.2 CONSTRUCTION

Goals	Design strategies	Who is responsible
ST1	Encourage in Request For Proposal of work that constructors run company vehicles on bio diesel.	Construction Team
ST1	Encourage active/public transport among construction crews.	Leadership Team, Construction Team
ST1	Provide on-site secure storage for individual construction crew tools, bicycles, equipment, and construction materials to reduce need to commute by vehicle.	Leadership Team

8.2.3 COMMUNITY LIFE

Goals	Design strategies	Who is responsible
ST1,2	Create a partnership to create a strong car share program with the most convenient parking spaces dedicated for disability access and car sharing. Provide a fleet of low-carbon or electric vehicles.	Leadership Team
ST1,3	Facilitate coordinated delivery of grocery orders to a central package drop-off location.	EcoConcierge
ST3	Look for shared parking opportunities with Place du Portage and The War Museum to reduce overall parking supply.	Design Team,
ST1	Explore water-based forms of transportation during summer months.	Design Team
ST1,2	Assign parking priority by desirability, with car-sharing spaces, electric, hybrid/low-emitting, given highest priority by listed order. Ensure priority parking also for disabled, elderly, and maternity parking.	Design Team, EcoConcierge
ST1,2	Encourage residents to join car-sharing, e.g. by allowing residents a test ride.	Sales Team, EcoConcierge
ST1,2	Create a “welcome pack” including materials laying out potential financial and environmental savings from alternative transportation and assistance in using alternative transportation to take advantage of the “moment of change” when residents move in.	EcoConcierge
ST1,2	Develop or promote Smartphone apps for car and ride sharing, and walking club; post trips in private or sharing vehicle, commuter challenges, etc.	EcoConcierge
ST1,3	Provide on-site wagons for moving goods.	Leadership Team
ST1	Investigate bringing in companies that facilitate renting out of personal cars (similar to Air BNB, but for your car).	Leadership Team/ EcoConcierge
ST1,2 3	Links to public transportation schedules and real-time info, car-sharing, and shared ride bulletin on intranet.	
ST1,2	Work with OC Transpo to install new bus stops at key locations in and around the site and increase service.	EcoConcierge
ST1,3	Find a local bike shop and repair center for the community, with an “emergency ride and repair” service to community.	Leadership Team
ST1	Invite partnership with a new startup, RightBike, or other community service provider to organize conventional community cycle-sharing. Also include provisions for cargo bike sharing, such that one cargo bicycle is allocated to every 50 households to facilitate fossil fuel-free shopping.	Leadership Team

8.2.4 MANAGEMENT

Goals	Design Strategies	Who's Responsible?
ST1	Support residents who are reducing vehicle use by continuous investigation of new technologies and trip reduction strategies.	Leadership Team, Property Management Team, Concierge
ST1	Move towards electric and low-carbon property management vehicles.	Leadership Team
ST1	Partner with VRTUCAR, Communauto or equivalent company to market, operate and maintain on-site car-sharing.	Leadership Team, Property Management Team
ST1	Reduce parking ratios each phase of development: include no more than .75 parking spaces per dwelling unit in phase 1 and aim to reduce to .5 spaces per dwelling in future phases.	Leadership Team

09

COMMON INTERNATIONAL TARGETS

The One Planet vision is of a future where resources are used efficiently, very little waste is generated, and ultimately zero waste is sent to landfill.

ZERO WASTE

CHAMPIONED BY JEFF WESTEINDE



GOALS AND KEY PERFORMANCE INDICATORS 9.1

9.1.1 GOALS

- ZW1 Minimize waste generation so that only 2% of waste can end up in a landfill.
- ZW2 Divert organic and recyclable waste
Reduce total waste produced by weight (including recyclables and organics):
Baseline (2014) 6.9 kg/person/week
2016 6.2 kg/person/week
2020 Less than 5.6 kg/person/week
- ZW3 Pursue local and regional by-product synergy opportunities. Emphasize a waste-to-product philosophy.

9.1.2 Baseline for Key Performance Indicators

- (as of 2010) Ottawa households generate an average of 360kg/person/year including recyclables and organics.
- With business and recreation added, that figure becomes one tonne/person/year.
- Canadians produced 12.9 million tonnes of household waste in 2008, 34% of which was diverted from landfill to composting or recycling facilities. Canadian landfill waste decreased by 4% from 2006 to 2008. National recycling participation rates as of 2011 are 97%.

9.1.3 KEY PERFORMANCE INDICATORS

- Waste to landfill per person
- Diversion rates

Monitor:

- The weight of waste collected during construction phase
- The weight of waste collected from residents
- Use of waste management facilities

9.2 IMPLEMENTATION

9.2.1 DESIGN

Goals	Design strategies	Who is responsible
ZW1	Employ construction waste reduction techniques when designing buildings.	Design Team
ZW3	Design homes to easily change with needs of residents (e.g. adult children, reduced mobility, new children) to reduce renovation waste.	Design Team
ZW1	Favour LED lighting over CFL bulbs. If CFLs are used, source CFLs with the lowest mercury content available.	Design Team
ZW1,2	Integrate comprehensive waste collection bins (e.g. garbage, paper, cans/plastics, organics) into kitchen design.	Design Team
ZW1,2	Intersperse community compost bins through the community in close proximity to residents, food vendors, and gardening areas.	Design Team
ZW1	Offer water filtration systems to reduce use of plastic water bottles.	Design Team
ZW1,2	Establish a central collection point for materials that are not picked up by municipal waste, potentially including batteries, light bulbs, etc. Explore combining this space with a sharing booth for items like paint, books, etc.	Design Team
ZW1	As much as possible, require that infrastructure is built from reused, recycled, or sustainably sourced materials.	Design Team
ZW1	Develop and implement a robust waste education plan – This plan will support a zero-waste culture by providing easily accessible information on how to reduce waste, sort recyclables, and dispose of hazardous wastes, and by creating a process to provide on-going metrics on the community's diversion rates.	Design Team
ZW2	Explore opportunities for on-site collection of organics for composting and biofuel production.	Leadership Team

9.2.2 CONSTRUCTION

ZW1	Create and communicate a construction waste management plan, including metric measurement, performance indicators, and worker engagement.	Construction Team
ZW1	Re-use grade and fill materials on-site for construction/ landscaping, or dispose of appropriately on-site.	Construction Team

9.2.3 COMMUNITY LIFE

Goals	Design strategies	Who is responsible
ZW1,3	Create space in community center to share infrequently-used items.	Design Team, Residents' Assoc., EcoConcierge
ZW1,2	Provide pet waste disposal bins along paths.	Design Team
ZW1	Use social media techniques to dissuade littering and bin contamination.	Residents' Assoc., EcoConcierge
ZW1,2	Create notices for changes in municipal waste collection dates and materials.	Residents' Assoc., EcoConcierge
ZW1	Display waste reduction feedback.	Residents' Assoc., EcoConcierge
ZW1,3	Encourage residents to join Ottawa Freecycle.	Residents' Assoc., EcoConcierge
ZW1	Partner with on-site businesses to help reduce waste.	Residents' Assoc., EcoConcierge
ZW1	Integrate packaging reduction strategies and agreements into Green Leasing agreements.	BIA or equivalent, Residents' Assoc., EcoConcierge
ZW1	Create a culture of zero waste - Provide incentives for waste reduction and disincentives for waste generation. Align other amenities of the site with waste separation and diversion to integrate it into the neighbourhood lifestyle	BIA or equivalent, Residents' Assoc., EcoConcierge

9.2.4 MANAGEMENT

ZW1	Ensure property managers have the required tools to encourage waste reduction by their tenants (e.g. guide to waste on the site, special considerations for moving day, and sample green commitments for lease agreements).	Residents' Assoc., EcoConcierge
ZW1,2	Include waste reduction goals, targets, and strategies into all lease and rental agreements.	Residents' Assoc., EcoConcierge
ZW1	Create green procurement policy for community centre, including avoiding disposable items.	Residents' Assoc., EcoConcierge
ZW2	Cleaning company must use exclusively non-toxic, green cleaning products, and adhere to community recycling/ composting practices.	Residents' Assoc., EcoConcierge

10

ZERO CARBON CHAMPIONED BY TREVOR BUTLER

COMMON INTERNATIONAL TARGETS

The One Planet vision is one in which all buildings will be energy efficient and run completely on renewable power.



GOALS AND KEY PERFORMANCE INDICATORS 10.1

10.1.1 GOALS

ZC1 Meet 100% of building energy needs with renewable power generation by 2020;

	Percent Reduction From CDN National Average (Savings)	Tonnes of CO2 Equivalent Greenhouse Gases Emitted Per Person / Per Year in Buildings Over Entire Project
Baseline	0%	2.26
2015	80%	0.45
2017	90%	0.23
2019	95%	0.11
2020	100%	0.0

ZC2 Exceed the most stringent of Ottawa's building code by 30%, reducing the overall electricity demand requirements.

10.1.2 Baseline for Key Performance Indicators

- Each of the buildings at Zibi will be designed to exceed baselines for energy efficiency measured against City of Ottawa building codes.
- In 2013 the average Ontario household used 30 GJ of electricity. In 2013 the average Quebec household used 60 GJ of electricity.
- Each year, Canada's buildings emit 2.3 tonnes of CO2e per capita.

10.1.3 KEY PERFORMANCE INDICATORS

- CO2 emissions from operating
- CO2 emissions from resident travel

Monitor:

- CO2 Emissions
- Price of energy
- Embodied energy of materials
- Monitor energy demand

10.2 IMPLEMENTATION

10.2.1 DESIGN

Goals	Design strategies	Who is responsible
ZC1	Design a District Energy system that uses renewable energy sources to power the community.	Design Team
ZC1	Work with Kruger tissue factory to design a heat capture system to reduce the community's heating load. In the summer, use their water intake to cool buildings while pre-heating their water for industrial processes.	Design Team
ZC2	Orient and locate buildings to optimize passive heating and cooling, and solar generation where applicable.	Design Team
ZC2	Design all buildings to have ultra-efficient envelopes.	Design Team
ZC2	Design to include other low-energy cooling mechanisms such as ceiling fans, blinds, shades, and solar chimneys.	Design Team
ZC2	Make use of new technologies and techniques to reduce plug loads, appliance loads, and energy for lighting.	Design Team
ZC2	Make use of innovative technology for adaptive blinds and thermostat controls (e.g. nest thermostats) to maximize lighting and heating/cooling efficiency.	Design Team
ZC2	Reduced energy consumption for residential laundry needs – ultra-efficient washer/dryer units and line-drying in private space.	Design Team
ZC2	Monitor and display real-time energy consumption of each residential and non-residential unit.	Design Team
ZC2	Consider reflective coatings on all roofs not suitable for green roofs.	Design Team
ZC2	Provide charging stations in parking garages to charge electric cars.	Design Team

10.2.2 CONSTRUCTION

ZC1	Explore including environmental requirements in RFPs, e.g. giving preference to contractors who will use non-food based biofuels in trucks and generators.	Design Team, Construction Team, Bioregional
ZC1	Consider generating or purchasing renewable energy credits to offset energy used during construction.	Leadership Team

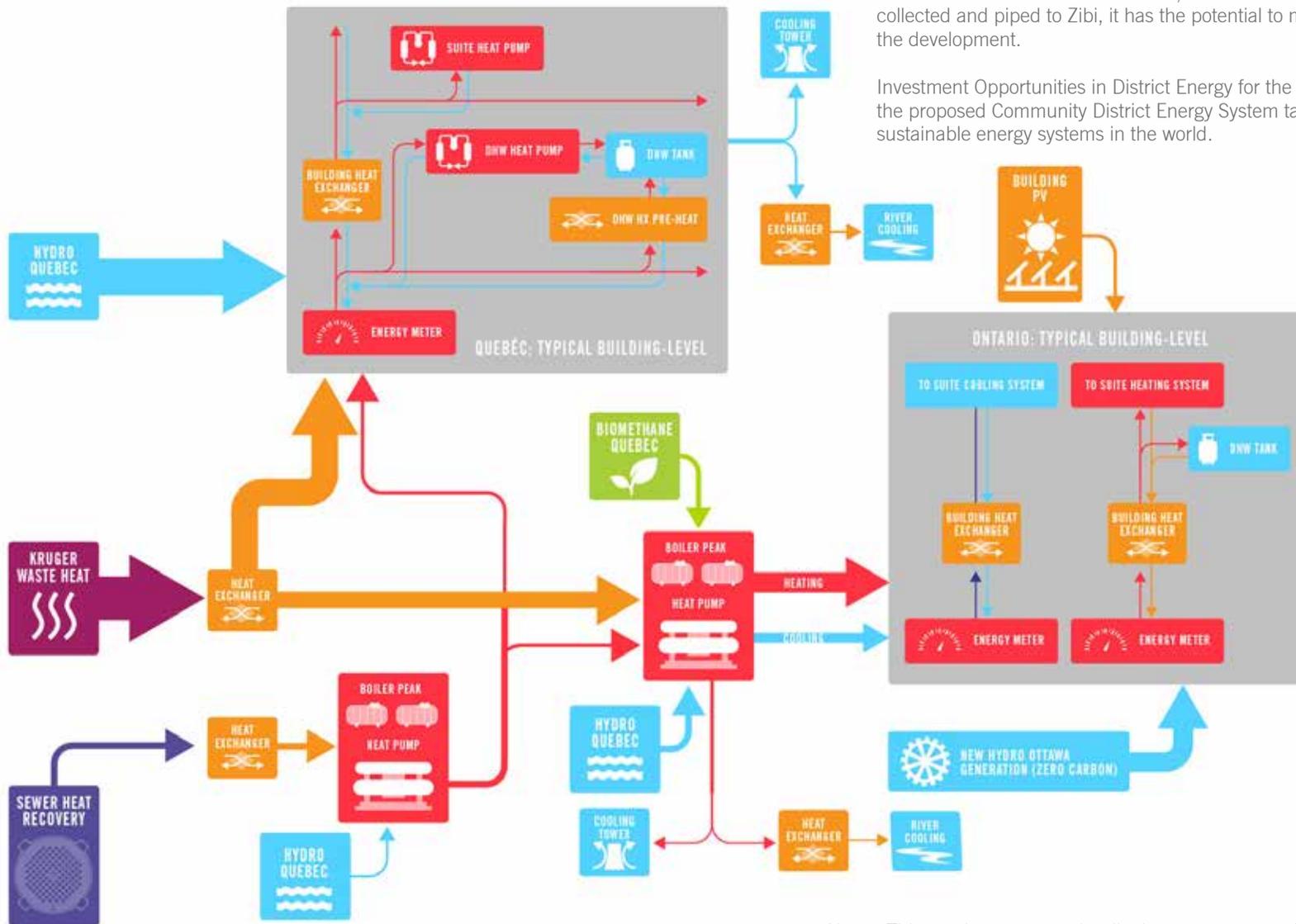
10.2.3 COMMUNITY LIFE

Goals	Design strategies	Who is responsible
ZC2	Ensure energy meters in multifamily and community buildings are highly visible.	Design Team
ZC2	Use zero carbon concepts in marketing.	Leadership Team
ZC2	Create a community engagement program to encourage energy reduction.	Leadership Team, Residents' Assoc., EcoConcierge
ZC2	Create energy consumption and reduction dashboard to inform residents how their actions help to achieve zero emissions goal.	Leadership Team, EcoConcierge
ZC2	Provide access to purchase of reputable carbon offsets for unavoidable emissions, e.g. travel.	Leadership Team
ZC2	Partner with Hydro Ottawa & Hydro Quebec to monitor and report on community energy use.	Leadership Team

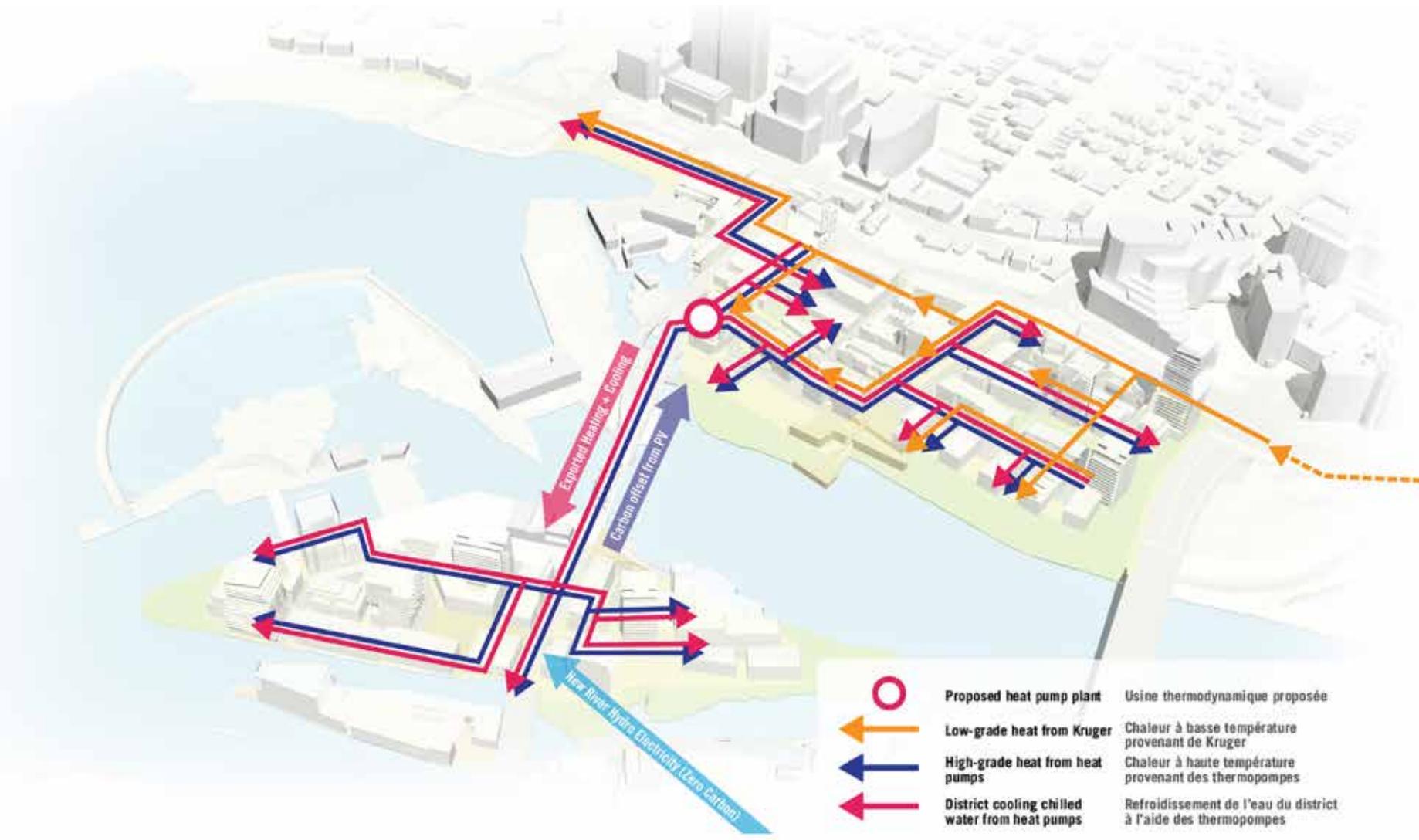
DISTRICT ENERGY 10.3

The neighbouring Kruger plant uses thermal energy as a key part of their processes in paper and cardboard production. The heat is used inside Kruger for pre-heat of process water, fresh water for showers, and heating coils on seven air handling plant. There are further potential opportunities for heat recovery from the existing Kruger plant. These include: three more tissue machine exhausts and flues from the boiler plant. The potential energy available if these systems were implemented are estimated to be around 13.2MW, with heat 55-60°C. If this waste heat is collected and piped to Zibi, it has the potential to meet much of the heat loads of the development.

Investment Opportunities in District Energy for the Algonquin Nation to invest in the proposed Community District Energy System targeted to be one of the most sustainable energy systems in the world.



Above: This graph represents the district energy system for Zibi.



MONITORING

What gets measured gets managed. Our monitoring program will focus on the KPIs for each of the One Planet Principles, gathering data to show progress towards meeting our Goals.

The objectives of our monitoring program are to:

1. Monitor the commitments in the One Planet Action Plan and enable on-going endorsement as a One Planet Community;
2. Identify progress towards Goals and areas for improvement;
3. Provide feedback for the developer and residents/tenants to ensure that actions can be taken by the appropriate stakeholder for improvement;
4. Support continual learning and improvement;
5. Demonstrate achievement of other sustainability commitments e.g. LEED, CSH;
6. Build community spirit.

Monitoring with reporting against indicators can help define the level of success of a project, assist in disseminate successes to stakeholders, and provide a powerful learning tool for future communities.

Developing a Monitoring Plan

The aim of monitoring is not to burden communities with potentially expensive monitoring costs. Rather it is to integrate some simple feedback mechanisms in operation of the community to support its continued management.

A monitoring plan should be integrated into on-going property management services. The monitoring plan should be developed early in the development process, as early as the initial design stage. The EcoConcierge will facilitate monitoring and provide feedback to residents and tenants. While monitoring the health of natural habitats and wildlife is best done by a professional biologist or ecologist, it's possible to involve residents in bird watching or species identification. Bird watching as a monitoring activity could contribute to social interaction and provide a community activity. Partnerships with local universities, colleges, school groups, and clubs can add valuable biological information to the project and increase a sense of identity with the site.

Proxy data or sampling may be used where direct data collection is not possible. For example, if recycling is collected by a municipal authority, it is not normally weighed at collection. A proxy for waste collected might be to count the number of bins collected and how full they are; a sample might be collected by surveying a random sample of households regarding their recycling habits.

Monitoring may well be supplemented by more detailed research in certain areas –as part of a university study, for example.

Monitoring Requirements for Endorsed One Planet Communities

The One Planet Communities program requires that endorsed Communities monitor performance on meeting the Common International Targets until 2020. This requirement is satisfied through the production of an Annual Review report which is made public on the program website (www.oneplanetcommunities.org) and circulated to all residents and tenants. Such feedback may help move residents towards adopting sustainable lifestyle changes and supporting the community's progress towards achieving a 'One Planet level' by 2020.

The One Planet Communities program also requires endorsed projects to prepare short case studies on showcase initiatives under a number of the Common International Targets (for more information please refer to the Common International Targets).

Methods and Indicators

Monitoring should not be unnecessarily onerous. Wherever possible it should be linked to existing monitoring resources such as data from the local energy supply company, residents' satisfaction surveys carried out by the property manager, or recycling monitored by the EcoConcierge. Green leases can be a mechanism to ensure collection of data from occupants, residential, commercial, retail, or otherwise. For example, a lease could include a requirement that an Annual Review report be submitted covering performance against the 10 One Planet principles and targets.

Examples of common monitoring methods and a short commentary can be found in the table to the right;

METHOD	COMMENTS
- Automatic remote metering	Default is for occupants to agree to have all utility data made available for monitoring, although kept anonymous (electricity, hot water, waste water). It may be legally necessary to give people an opt-out option.
- Additional remote metering	Occupants are offered the opportunity to participate in more detailed monitoring and to have more detailed remote monitoring equipment installed in their properties.
- Voluntary self-monitoring	Residents could be issued with weighing scales and waste record sheets which they fill in and eventually transfer to an online data collection facility.
- Community Intranet	Many green lifestyle services will be offered through the Community Intranet such as the car club or organic box scheme ordering. All these intranet facilities should be constructed in a way that data collection is made easy.
- Customer and other data from onsite retailers and service providers	Data collected on consumer habits as they relate to the key performance indicators.
- Occupant interviews	Every 2 years (or as determined), personal half hour interviews.
- Occupant surveys	Postal surveys get variable response rates of 10-30% typically. Internet surveys can also be used.

