SECTION FOUR:
BRINGING IT HOME

Identifying and Supporting Opportunities

> Build Organizational Capacity & Engage the Community

> Identify & Complete Municipal IRR Projects

> Preserve Green Infrastructure & Support Low Impact Development

> Working with Industry

Meeting Regulatory Requirements

Federal and Provincial Policy and Funding

> Government of Canada

> Province of BC

Steps to Winning a Grant Application

IDENTIFYING AND SUPPORTING OPPORTUNITIES

This section separates the development of IRR projects involving municipally owned and operated assets from the planning policy and bylaw support a municipality can provide to protect or enhance community-based environmental assets and private sector low impact development. The table below lists typical municipally owned and operated assets on the left and community based environmental assets and plans, policies and bylaws that can be used to protect natural assets and support private sector low impact development on the right.

There are three steps that a municipality can follow to implement the four strategies within the Regenerative Infrastructure Approach outlined in Section 1.4 of this guide to identify and implement resource recovery opportunities. These three steps are:

> Build Organizational Capacity & Engage the Community

> Use a Sustainable Asset Management Approach to Support IRR Projects

> Preserve Environmental Assets & Support Low Impact Development

Regenerative Infrastructure Opportunities at the Municipal Level			
Municipally Owned/Operated Assets		Community-Based Assets	
Typical Facilities & Assets	**Other Infrastructure & Services**	**Environmental Assets**	**Support for Low Impact Development**
• Airports	• Heat	• Stream preservation	• Official community plan
• Arenas	• Electricity	• Aquifer management	• Zoning
• Libraries		• Tree management	• Subdivision control
• Civic lands		• Water conservation	• Development permits
• Infrastructure (water, waste-water, solid waste, recycling)		• Invasive species	• Transportation planning
• Recreational assets		• Parks & other public land management	• Development cost charges
• Transit			• Design guidelines
• Fleets			• Energy & emissions plans
• Social housing			• Watershed management plans
• Streets & sidewalks			• Input on provincial facilities
• Traffic control			• Strategic plans
• Fire/Police Stations			

Build Organizational Capacity & Engage the Community

Policy direction and implementation actions will vary according to the kinds of opportunities that are available to each community. However, an important step for all communities is to begin a process of building organizational capacity to provide support for the policy reviews and budget requests needed to support integrated resource recovery projects and other service delivery activities.

Integrated resource recovery policies and projects can require input and support from several different municipal departments. Functional divisions between these departments occur not only at the local government level but also in provincial and federal governments and consulting firms that provide advisory services. For example, one consultant may be asked to prepare plans for greenhouse gas reductions, while another prepares plans for upgrading wastewater treatment facilities, and yet another prepares a report on managing organic waste. An integrated approach would involve looking for synergies between these three opportunities instead of viewing them separately.

Note, while building capacity and engaging the community is illustrated in the figure on the right at the beginning of the process, a cultural change might be more easily achieved after a successful project has been completed and benefits have been demonstrated.

Building institutional capacity involves[2]

1. As an organization, formally recognizing the benefits of seeking resource recovery opportunities as part of facility and community planning.

2. Establishing a corporate mindset of avoiding functional divisions (silos) when seeking resource recovery opportunities.

3. Developing municipal asset management plans from the bottom up and setting policy/vision at the top.

4. Training staff in finance, engineering, operations and community planning to develop asset management plans and integrate these requirements into long-term financial planning.

5. Combining best practices in accounting, engineering, financial planning and sustainability performance measurement to support resource recovery outcomes.

Institutional capacity can be increased by:

- Holding joint staff training workshops that include participation from experienced staff from other jurisdictions

- Providing training across different municipal functional divisions to build corporate alignment and commitment to resource recovery and continuous improvement

- Using broader staff information sessions (for staff not directly involved in projects or plans) to foster a municipal culture of conservation and innovation

- Amending reporting structures (reports to council or other internal reports), so that staff must report on how new projects and policies are promoting resource conservation, preservation, generation and recovery

- Engaging council (or regional boards) through workshops or other means on the sustainability benefits of asset management and resource recovery

Functional divisions can be reduced or removed by:

- Establishing an internal committee to guide projects and review policy

- Supporting this internal committee with a staff person who has a coordinating and/or outreach role

- Requiring consultants to review all relevant plans (and make recommendations for cross-plan supportive changes) when preparing reports

Public support can be fostered by:

- Developing basic outreach information about the opportunities and benefits of integrated resource recovery that can be included in press releases, mail outs, websites, social media and public open house displays on an ongoing basis

- Including questions about the environmental, social, and economic benefits of resource recovery in citizen surveys (provide examples to make the concept easier to grasp)

- Conducting early and ongoing public consultation for new resource recovery projects

- Ensure that public consultation, project proposals and plans include consideration of how to mitigate possible project impacts such as increased truck traffic, noise, particulate emissions and odour.

Use the case studies in this guide to help make a business case for change.

Using Sustainable Asset Management to Support Regenerative Infrastructure Projects

Resource recovery projects that involve municipal owned and operated assets can benefit from using an asset management framework. Organizational processes in asset management practice help to establish a way of doing business that allows for the wider benefits of IRR projects (economic, environmental, and social as well as direct financial benefits) to be recognized and considered in decisions.

Asset Management for Sustainable Service Delivery: A BC Framework, provides detailed guidance on developing asset management practices. Asset management is an integrated process, bringing together skills, expertise, and activities of people, with Information about a community's physical assets and finances, so that informed decisions can support sustainable service delivery. The BC Framework identifies three stages of asset management:

1. Assessing capacity, current practices and asset status
2. Developing asset management policy and creating asset management strategies and plans
3. Implementing asset management practices, measuring results and reporting out

Following a sustainable asset management approach is an effective way to identify and implement municipal IRR projects. Asset management is becoming a recommended approach across Canada, supported or required by funding programs such as those offered by the Federation of Canadian Municipalities. The Province of B.C.'s recommended approach to asset management is summarized in this section to provide an overview of the approach. More detailed guidance is available through the Asset Management BC website.

Identifying IRR opportunities may be achieved either as part a detailed sustainable asset management strategy or as an IRR exploration exercise that follows the broad asset management framework outlined below.

Assess Capacity, Current Practices and Asset Status

Prepare inventories and operational audits

In this stage, an organization should collect and analyze information that assesses an its ability to undertake asset management as an ongoing corporate function.

A community should complete high-level assessments of four key elements – staff, information, assets and finances – to form the basis for policy, strategy, plan development, project completion, and monitoring.

Assess staff resources:

- Assess capacity to form a cross functional team (i.e. the right staff in the right places)
- Evaluate the current level of knowledge and skills around asset management and resource recovery
- Review roles and responsibilities and recommend changes that will support improved asset management and new opportunities for resource recovery

Identify existing policies and systems

- Review internal and community based policies, strategies, plans and management systems to determine which of these may be used to support resource recovery opportunities
- Identify any existing asset management functions or systems within the organization

Take inventory and audit assets

To support decisions and create a baseline for monitoring, complete an inventory and audit of municipal capital assets and asset-related services, including:

- All capital assets and their age and physical condition,
- Defined customer and technical levels of service, and
- Operational and service delivery risks
- Any resources that might be recovered if capital or processes were updated
- An assessment of potential markets for energy, reclaimed water, and nutrients and any other by-products of current operations.

Evaluate financial systems

- Review policies and practices related to long-term financial planning and finance tracking related to infrastructure demand, cost recovery, reserves and debt.

Set a schedule for inventory updates

Assessing the current state of assets should not be a one-time activity completed at the outset of building asset management practices. It is important that information about assets is updated as assets are added, repaired, replaced or retired. Information gathered should include:

- What assets are owned, their replacement value, age, risk, and role in service delivery
- Current and expected future replacement costs
- Anticipated changes in community's service needs
- New opportunities arising from the availability of new equipment or reduced pricing
- Evolving markets for system by-products

An asset registry is a powerful tool that can inform decision-making about day-to-day activities or long-term plans, but must be kept up-to-date to continue to add value to the organization.

Address risk

A certain level of risk aversion in the design and planning of infrastructure is both necessary and responsible. Although resource recovery facilities may initially entail a greater degree of economic and social risk than conventional infrastructure approaches, local governments can learn from other communities that have already implemented resource recovery projects. The case studies included in this guide can provide peer level guidance on getting started.

Plan: Identify and Prioritize Opportunities

After inventories and audits have been prepared and possible resource recovery opportunities have been identified, the next step is to develop the policy, strategy and plans that will establish the basis for moving forward, prioritize opportunities and support implementation.

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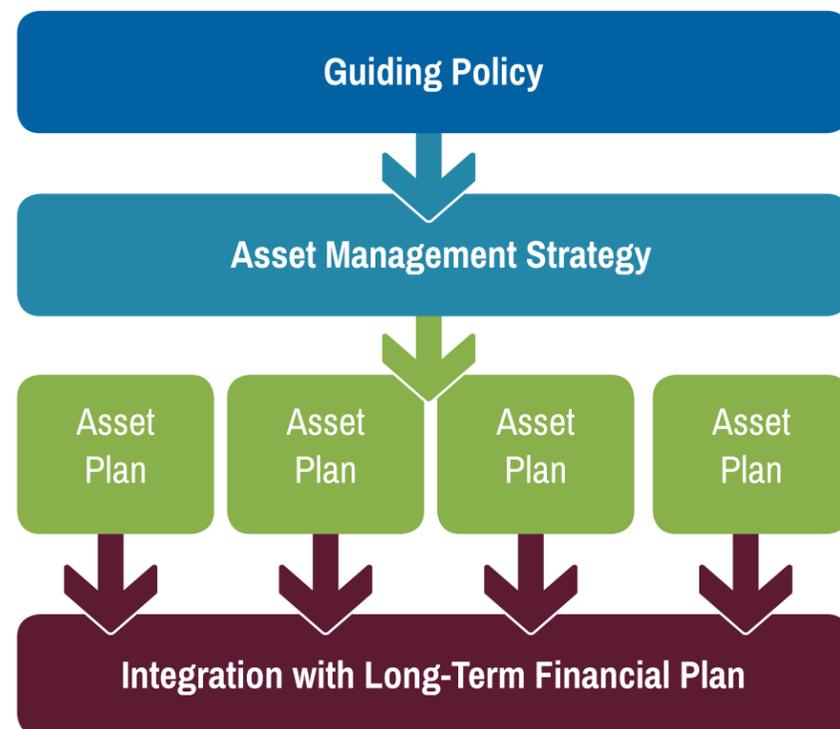
Develop Guiding Policy

Policy to guide the recovery of resources from municipally owned and operated assets can be developed as part of an overall asset management approach or as a separate policy that supports sustainable development, resource efficiency or energy related goals.

This internal policy will formalize a community's commitment to resource recovery by:

- Defining integrated resource recovery and identify the connection between other community goals and objectives around sustainable development, efficiency, or energy
- Embedding resource recovery into asset management processes
- Articulating principles to guide decision-making about resource recovery
- Outlining the organization's financial and systems approach to asset renewal and resource recovery
- Establishing clear guidance for council and staff on resource recovery and asset management processes

A policy example:

Asset management plans will be developed for major service/asset categories. These plans will be informed by community consultation consistent with engagement strategies and activities; land use planning, *opportunities for integrated resource recovery,* financial planning and reporting. Annual budget deliberations will be informed by asset renewal alternative options, along with operating, maintenance and capital budget impacts. Service and risk consequences of asset renewal alternative options will be made clear in both asset management plans and budget documentation.

Source: Asset Management for Sustainable Service Delivery: A BC Framework (text in italics added)

Amend or Develop an Overall Strategy

Resource recovery can be included in an existing asset management strategy, become part of a new strategy or be developed as a separate strategy focused on sustainability, resource efficiency or energy.

A resource recovery strategy (on its own or as part of an asset management strategy) provides the link between the policy level of the organization and day-to-day operations and embeds resource recovery into other corporate initiatives.

The strategy should be a corporate-level document that summarizes how organizational objectives relate to the development of resource recovery and asset management objectives, and how the organization will approach the development of practices and plans to achieve these objectives. Federation of Canadian Municipalities offers a free guide on developing an asset management policy and strategy. More information can also be found through the Asset Management BC website.

Strategies should identify the current state of assets (e.g. replacement values, conditions, risk and levels of service, by-products and resource recovery opportunities) and current asset management practices and guide each department in their roles and responsibilities. Aligning objectives, priorities, approach, and organization risks is an effective and efficient use of assets, staff time, and financial resources.

While various guides on developing an asset management strategy include concepts and case studies supportive of lifecycle analysis and sustainability, it is more difficult to find examples specifically noting that opportunities for resource recovery will be actively pursued

It makes sense to incorporate resource recovery opportunities into new or existing asset management strategies and plans. Assessing resource recovery opportunities will be easier with a clear understanding of existing conditions and future plans for individual municipally owned assets.

Create Asset Management Plans

A local government may choose to have an asset management plan for each asset type, and/or a corporate asset management plan that addresses all of the assets owned by an organization.

Functionally, an asset management plan should:

- Be a readable and user-friendly document that is long-term in scope
- Be continuously improved and regularly incorporate new information or changing requirements
- Provide clear direction on what to do, when to do it and how much it will cost
- Identify the consequences of not moving forward

The content of an asset management plan should identify:

- Results of the inventory and audit
- Opportunities for resource recovery and other efficiencies
- Assessments of potential markets for system resource by-products
- Describe practices, projects, and programs required to meet organizational asset management objectives developed in the strategy, manage risks, and achieve a desired level of service in the most cost effective way
- Staff and financial resources required and a timeline for implementation
- Necessary future improvements to the plan

Integration with Long-term Financial Plan

The integration of asset management or resource recovery plans with a community's long-term financial plan is essential to sustainable service delivery.

Integrating asset management plans with the financial planning process provides the basis for developing, reviewing, updating, and implementing financial strategies for sustainability. Integration may:

- Identify inconsistencies between desired service levels and available funding
- Translate an asset management plan from a wish list to an actionable plan
- Stabilize costs over the long-term
- Ensure the organization is on track to manage and reduce any infrastructure deficits
- Justify financial support from higher levels of government
- Provide a basis for evaluating alternative models of service delivery (e.g. Public Private Partnerships), reduced levels of service or service/asset elimination
- Help prioritize competing projects
- Support ongoing implementation as financial plans are reviewed

Implement Plans, Measure Results & Report Out

Implementation, measuring results and reporting out are the next steps in this process. Completing the earlier steps in this process (inventory, audit, strategy and financial plan integration) should ensure that projects have been prioritized, implementation timelines developed and that there are staff capacity and financial resources to complete projects.

Best practices in progress measurement use high-level, corporate-wide indicators expressed in output or financial terms as overall indicators of progress. These indicators are clear and measurable, and can help to highlight the connection between cost and service, and performance trends over time.

Reporting demonstrates measurable progress towards resource recovery and asset management goals and objectives. Annual and financial reports should include progress against these goals and objectives, including performance on selected indicators.

Asset Management BC provides a link to a service sustainability assessment tool (developed by the City of Grand Forks, B.C.) that will help municipalities measure sustainability performance and generate reports for staff, management and Council.

Other possible progress indicators can be identified by reviewing the case studies provided in this guide.

Preserve Environmental Assets & Support Low Impact Development

Thinking about natural assets as an integral part of community infrastructure recognizes the value provided to communities from existing natural systems and helps make the case to preserve them.

Private sector low impact development can replicate environmental assets - for example, by building swales, permeable paving or green roofs to absorb stormwater runoff - or by designing new neighbourhoods in a way that preserves existing natural systems.

Both of these approaches require a relatively new way of thinking about environmental assets and their benefits, and in some cases, can require consideration of revisions to existing bylaws that require a traditional, centralized approach to the delivery and use of resources (such as water) and management of waste products (such as waste water).

This section presents an approach that local governments can follow to preserve environmental assets (also known as green infrastructure or natural capital) and to support low impact development.

Preserve Environmental Assets

Community-based environmental assets include:

Municipally Owned/Operated Assets	Goods & Services Provided
Water resources such as lakes, streams, rivers, aquifers and wetlands	Water supply and treatment, food production, recreation, cultural, habitat
Vegetation, including forests, parks, riparian zones, private tree cover, and grasslands	Carbon storage, water regulation, soil formation, recreational, cultural, air quality, stormwater control, raw material (biomass), erosion control, pollination
Soils and infiltration areas	Water regulation, stormwater control, water supply and treatment, food production
Airshed (atmosphere)	Habitat, respiration

One way to approach encourage preservation of environmental assets is to assign value to them. The destruction of environmental assets leads to the need to find replacement services for the ones they provide - services in the form of water purification, waste assimilation, cleansing of the atmosphere, mitigation of greenhouse gas emissions, flood prevention, soil retention, fertility enhancement, alternative recreational services, and much more. Assessing these replacement costs is one way to assign value.

More information on valuing environmental assets can be found in The Value of Natural Capital in Settled Areas of Canada.[3] This report also includes a case study assessing the value of natural capital in the Lower Fraser Valley in B.C.

Value of Goods and Services from Canadian Forests

- Market value of non-timber products (e.g., food, medicines, forage) = $.74 per hectare per year in British Columbia.
- Willingness to pay for recreational fishing is $3.17 per hectare per year, while that from hunting is $12.50 per hectare per year, as estimated by contingent valuation studies.
- Canadians are willing to pay $57.65 per hectare per year to view wildlife, and $44.64 per hectare per year for recreational activities such as camping, hiking, and kayaking as estimated by contingent valuation studies.
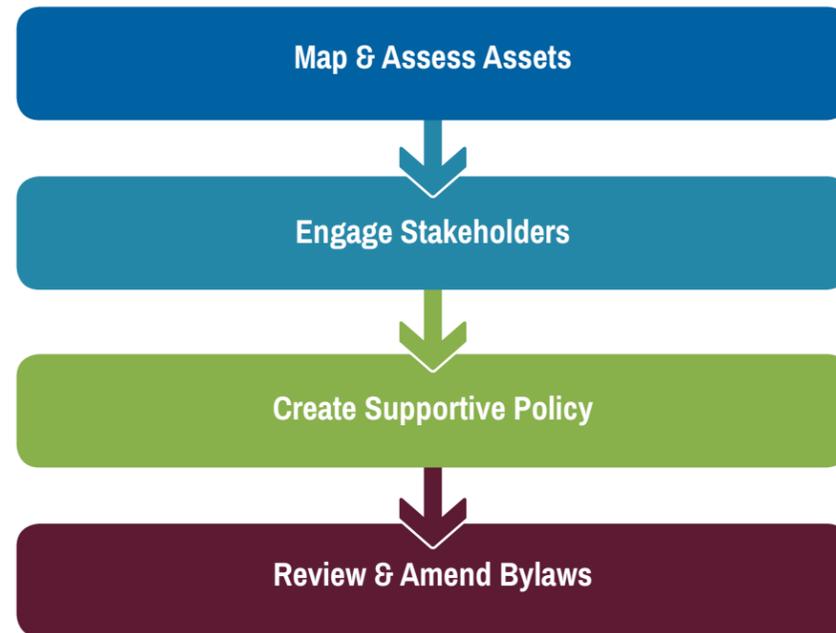- Carbon sequestered by forest biomass and soils ranges from $15 to over $600 per hectare per year.

[3] Olewiler, N. (2004), The Value of Natural Capital in Settled Areas of Canada. Published by Ducks Unlimited Canada and the Nature Conservancy of Canada

Map & Assess Assets
Engage Stakeholders
Create Supportive Policy
Review & Amend Bylaws

Map & Assess Assets

Ecosystem mapping is an essential prerequisite to understanding of the location and quality of green infrastructure located within a community. A mapping and data gathering exercise helps local governments understand which green infrastructure elements are present in their community (e.g. aquifers, forests, wetlands), their size and current condition, the value they are currently providing and whether protection, enhancement or restoration is needed. Public input can help identify assets and verify results. A periodic review will help ensure that the condition of environmental assets is well understood and that protective mechanisms are working.

A good example is provided by the Town of Gibsons Aquifer Mapping Study (2013).

Engage Stakeholders

It is helpful at this point to engage community stakeholders on the results of the mapping and assessment, with a goal of building support for improved approaches to managing environmental assets and achieving consensus on the value of that work. Relevant stakeholders will include those involved in recreation, preservation of natural areas, stream management and restoration and the development sector.

Create Supportive Policy

The Province of B.C. delegates powers to municipalities through the Local Government Act and the Community Charter. Some of the most important authority for environmental protection relates to land use planning and regulation. However, other powers, such as those relating to tree protection and soil deposit and removal can also play an important role.

After environmental assets have been mapped and assessed, management plans can identify actions needed to protect, enhance or restore priority features. Environmental asset maps and policy should be included in official community or regional plans and necessary amendments made to various regulatory bylaws (e.g. subdivision control, zoning, development permit), as well as any other community plans (strategic, watershed management, environmental) already in place guiding environmental assets. Staff or consultants preparing management plans should have expertise in natural sciences and understand best management practices.

When land is privately held, municipalities can provide incentives for landowners to conserve their land when the value of the natural capital from that land equals or exceeds its value in other uses.

Review and Amend Bylaws

When developing green infrastructure policies, most local governments use a combination of one or more regulatory bylaws (such as protecting watercourses and restricting the removal or deposition of soil) and the creation of development permit areas, guidelines, and policies.

Areas with high green infrastructure values can be identified and protected through land use policy and zoning regulations, for example, by establishing protection zones and setbacks. Regulations can be enforced through security deposits, covenants, fines, litigation, and/or injunctions (for development permits).

The package of bylaws and policies that a local government chooses can encourage municipal approving officers to require landowners to dedicate small sensitive ecosystems for preservation or protect them with covenants. Engineering standards can address rainwater management and erosion control during subdivision development.

The Green Bylaws Toolkit, updated in 2016, outlines the value of environmental assets and provides detailed explanations for a variety of land use policies, regulatory tools and subdivision design approaches. Sample bylaws are included.

Supporting Low Impact Development

A challenging area of municipal governments is responding to highly innovative, low impact development proposals from the private or institutional sectors. In the most innovative cases, low impact development may ask to be disconnected from key municipal services by conserving and reusing water, composting solid waste, processing liquid waste on site, significantly reducing energy demand and/or generating energy.

Generally speaking, low impact development:

- incorporates energy efficient features (natural lighting and ventilation, good insulation, solar or geothermal heating, district heating, high efficiency fluorescent lighting, cool roofs) and reducing occupant dependency on cars (bicycle parking, showers for bicycle commuters);
- incorporates water efficient features (collecting rainwater, using waterless urinals, low-flow faucets and toilets and/or composting toilets, green roofs, recycling grey water);
- re-uses existing building structures and/or building materials; reduces and recycles waste materials;
- preserves natural vegetation, and reduces disturbance to landscapes and habitats to maintain biodiversity and preserve ecological integrity (e.g. cluster development);
- incorporates sustainable, healthy, locally made or harvested non-toxic materials and features into buildings and furnishings (e.g. certified sustainable or recycled wood, low volatile organic compound emissions carpet, paint and composite wood products, previously used or recycled materials).

From a land use planning perspective, low impact development might be:

- located on brownfields or redevelopment sites and away from sensitive habitats (maximizing urban land use)
- clustered near urban centres, contributing to density, supporting low impact transportation (transit) and connected to existing municipal services (maximizing infrastructure use)
- integrated into sustainable and smart growth communities.

Tools to Support Innovation

As regulators and policy makers, local governments can encourage developers to think about green building design and practices that can be accommodated within existing codes and regulations. The Green Buildings Guide (Tools for Local Governments to Promote Site Sustainability) provides a good overview of regulatory and policy tools to increase private sector low impact development.

From and energy efficiency perspective, as of 2018, B.C. municipalities have the choice to incent or require higher building energy performance for Part 3 (high-rise)

and Part 9 (low rise and single family) buildings. The BC Energy Step Code is a voluntary provincial standard enacted in April 2017 that provides an incremental and consistent approach to achieving more energy-efficient buildings that go beyond the requirements of the base BC Building Code. It does so by establishing a series of measurable, performance-based energy-efficiency requirements for construction that builders can choose to build to, and communities may voluntarily choose to adopt in bylaws and policies.

Review Plans & Bylaws and Remove Barriers

One way to encourage low impact development is to review plans and bylaws to 1) remove barriers and 2) create supportive policy. Local governments can:

- Introduce resource recovery into their Regional Growth Strategies, Official Community Plans, Community Energy Plans, and Sustainability Plans
- Ensure the processes for revising Liquid Waste Management Plans, Solid Waste Management Plans, development permit processes, building codes, zoning processes, bylaws, tax incentives, and financial grant programs encourage rather than hinder resource recovery
- Consider the many regulations which apply to the environment, water, and energy against community goals. It will be helpful if these regulations are not weakened, but are coordinated by regulators to facilitate an integrated approach to resource recovery
- Identify and remove policy barriers. For example, do regulations and local policies make it easier or harder for communities and developments to be sustainable, treat sewage on-site, or to recover resources from waste? Do building codes and related bylaws make it easier or harder to implement community energy systems?
- Seek opportunities to reduce energy and water consumption in the community
- Examine trends in water supply, including drought management plans
- Identify industries which can provide waste or receive recovered resources

Accommodating Innovative, Net Zero Design

Developments that sit at the cutting edge set the benchmark for what is possible and may inspire others to create more livable, sustainable communities. Local governments that collaborate with developers to facilitate out-of-the-box proposals ease the way not only for extremely innovative projects, but also for more modest green projects that follow in the footsteps of green leaders. A local government's support of innovation, and a willingness to find and develop solutions for alternative approaches, lends confidence and support to the green development community.

A partnership approach by the local government is one of the keys to success: without the local government's agreement to work with the developer to find equivalencies to the Building Code, innovative projects would be unable to proceed from a regulatory perspective. For example, the Eco-Sense Residence in Victoria was built to the Living Building Challenge standard. Features include passive solar design, solar PV with grid tie, net zero electricity, energy and water conservation, solar thermal hot water, composting (no flush) toilets, rain water harvesting, grey water re-use, a living roof, earthen floors and natural finishes. Regulatory negotiation was required to allow construction on a previously damaged site, to accommodate the concept of net zero in the zoning bylaw, and to prepare a flush toilet ready policy and composting toilet alternative solutions.

Other B.C. Examples

Within B.C., two other recent innovative projects are the Dockside Green project in Victoria and the Centre for Interactive Research in Sustainability (CIRS) project in Vancouver.

The former is an initiative of the City, which issued a Request for Proposals in selling some land and thereby secured sustainability features through the sale and a master development agreement; the latter project is a joint venture of a number of educational institutions.

These developments have been facilitated in large measure by the willingness of the local governments to embrace the initiatives for their contribution to the City's understanding of sustainability, and to approve having planning/building staff work pro-actively and flexibly with the developers to identify and review City bylaws and Building Code equivalencies to meet sustainability, health and safety standards.

Dockside Green	Centre for Interactive Research on Sustainability
- Recycling of waste products – waste is food concept, closed loop, triple bottom line approach; buildings will have recycling rooms for composting, and strategic local partnerships to use waste will be encouraged; - Reduction in use of potable water through tertiary on-site sewage treatment and reuse of waste water for toilets and streams; - The finding of eco-efficiencies in an innovative mix of industrial, commercial and residential uses; - Establishment of a local mini-transit system using bio-diesel or hybrid vehicles as well as a ferry shuttle.	Sustainable design goals for the CIRS project include: - 100 per cent daylighting, for productivity, health and energy savings; - Net energy generator; no mechanical cooling; greenhouse gas neutral; - Water: 100 per cent rainwater; no external supply; on-site treatment of all liquid waste; no storm water runoff from site; - Waste: no solid or liquid waste leaving site; maximize building utilization; sustainable building materials; - A centre for learning in sustainable technology: educate, train and demonstrate sustainable design in action; - Performance monitoring, commissioning and adaptive management principles.

Dockside Green, Victoria, BC
Photo Courtesy of Peter Robinson

❯Working with Industry

Partnerships with industry can enhance outcomes and accelerate progress on project. Involving private sector partners can:

- Provide access to capital for initial construction and system expansion
- Participate in pilot projects to test new technology
- Contribute technical knowledge not available elsewhere
- Reduce risk to municipal and First Nation partners
- Allow longer periods to overcome start-up costs by spreading costs over larger project portfolios

The City of Surrey partnered with Orgaworld (Renewi) – a publicly listed waste-to-product company that treats municipal, commercial and hazardous waste. Orgaworld provided project financing and designed and built the biofuel facility. The company will operate and maintain the facility over a period of 25 years. Working with Orgaworld also allowed Surrey to access the federal P3 Canada Fund to provide further financial support for the project.

Surrey is also working with FortisBC to produce biogas at the facility, which will then be captured and upgraded to renewable natural gas. This gas will be used to power Surrey's waste collection trucks as well as the City's growing fleet of natural gas fuelled vehicles. Once fully operational, the Surrey Biofuel Facility will produce approximately 100,000 gigajoules of renewable natural gas, which is enough energy to heat more than 1,100 homes for a year.

The Columbia Shuswap Regional District is also working with FortisBC to upgrade biogas derived from landfill gas and inject it into the local natural gas distribution system. FortisBC owns and operates the biogas upgrading plant – removing risk and reducing costs for the regional district by providing their expertise and financial resources.

FortisBC has received approval from the BC Utilities Commission for an additional renewable natural gas purchase agreement that will result in a new RNG production facility at the Lulu Island Wastewater Treatment Plant owned by the Metro Vancouver Regional District.

There may also be some downsides to involving private partners:

- Reduced ability to be responsive to local conditions and goals
- Reduced alignment with public interest
- Increased complexity in financing and operational structures

For more information on working with private sector partners, consult Investing in Green Energy Projects and Utilities (Volume 1: Investment Guide and Volume 2: Case Studies).