



Community Energy
Association



CEEP QuickStart Community of Practice webinar

DPA's for Renewable Energy & Energy Efficiency

Patricia Bell

Community Energy Association

2015

Using DPAs to Conserve Energy & Support Renewables

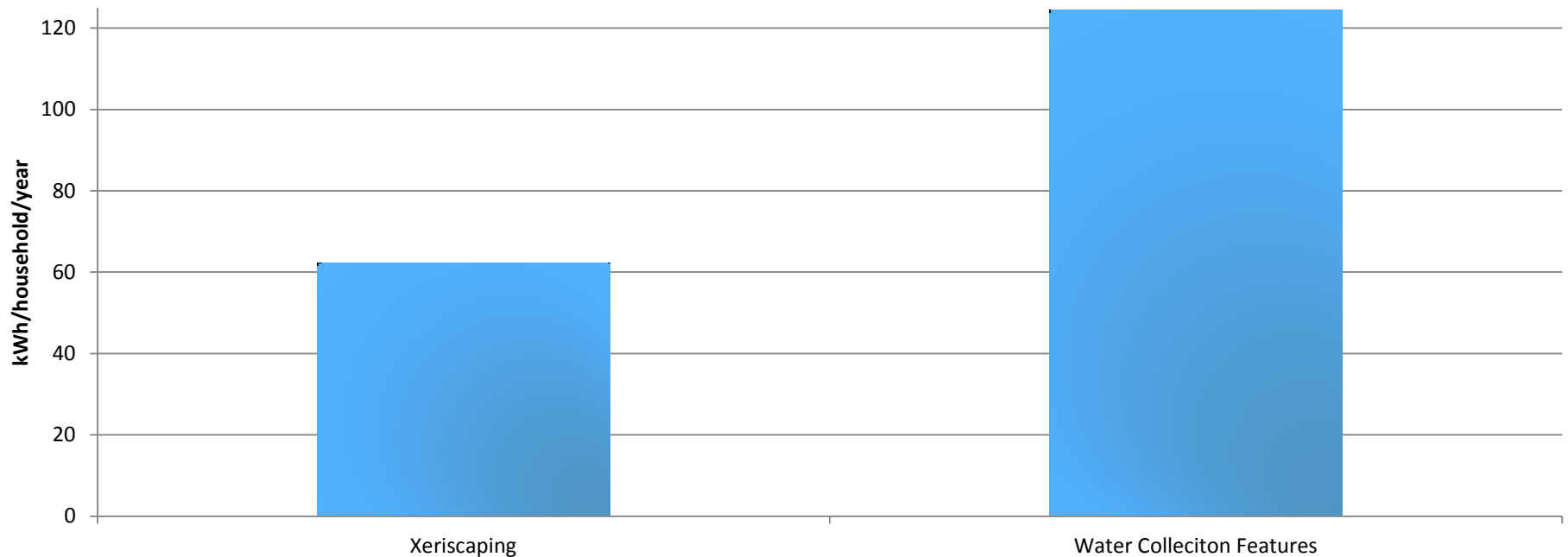
- A focus on how development permit area guidelines can be used to reduce energy consumption and greenhouse gas emissions.
- Both traditional approaches and new approaches can help, especially on a community wide scale.

Traditional - Passive Design Approaches	New Approaches for Energy Efficiency & Renewable Energy
Siting for solar gain and placement of windows (form & exterior design)	Offering waiver of requirement in exchange for energy efficiency improvements
Landscaping	Requiring machinery, equipment and systems external to buildings (e.g. site level requirements for renewable energy)
Requiring studies to assess solar gain or renewable/district energy potential	

Using DPAs to Conserve Energy – Passive Design

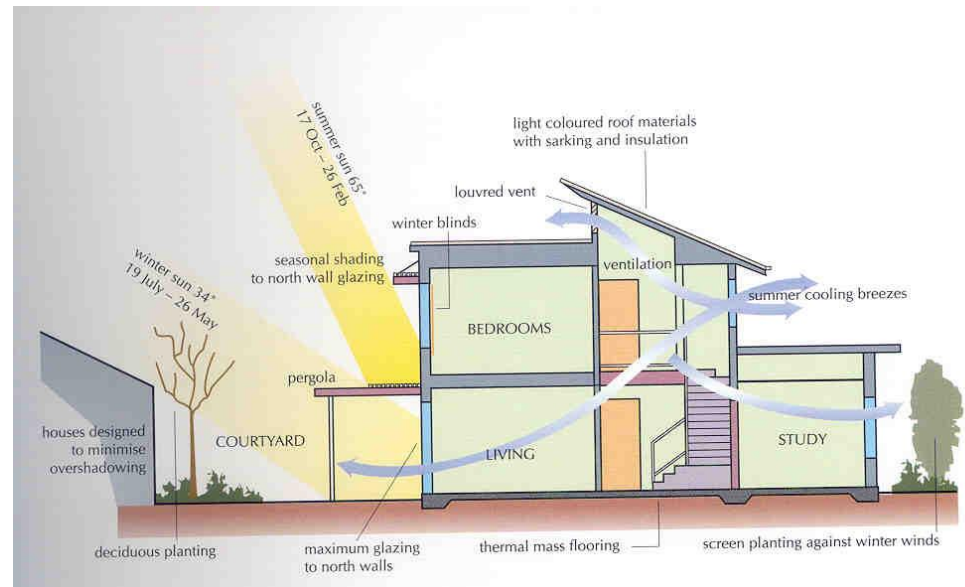
Pembina for BC Hydro: Benefits from requirements around xeriscaping and water conservation. (A wide range of results are possible depending on the type of water infrastructure used in a given community.)

Local Government Energy Savings

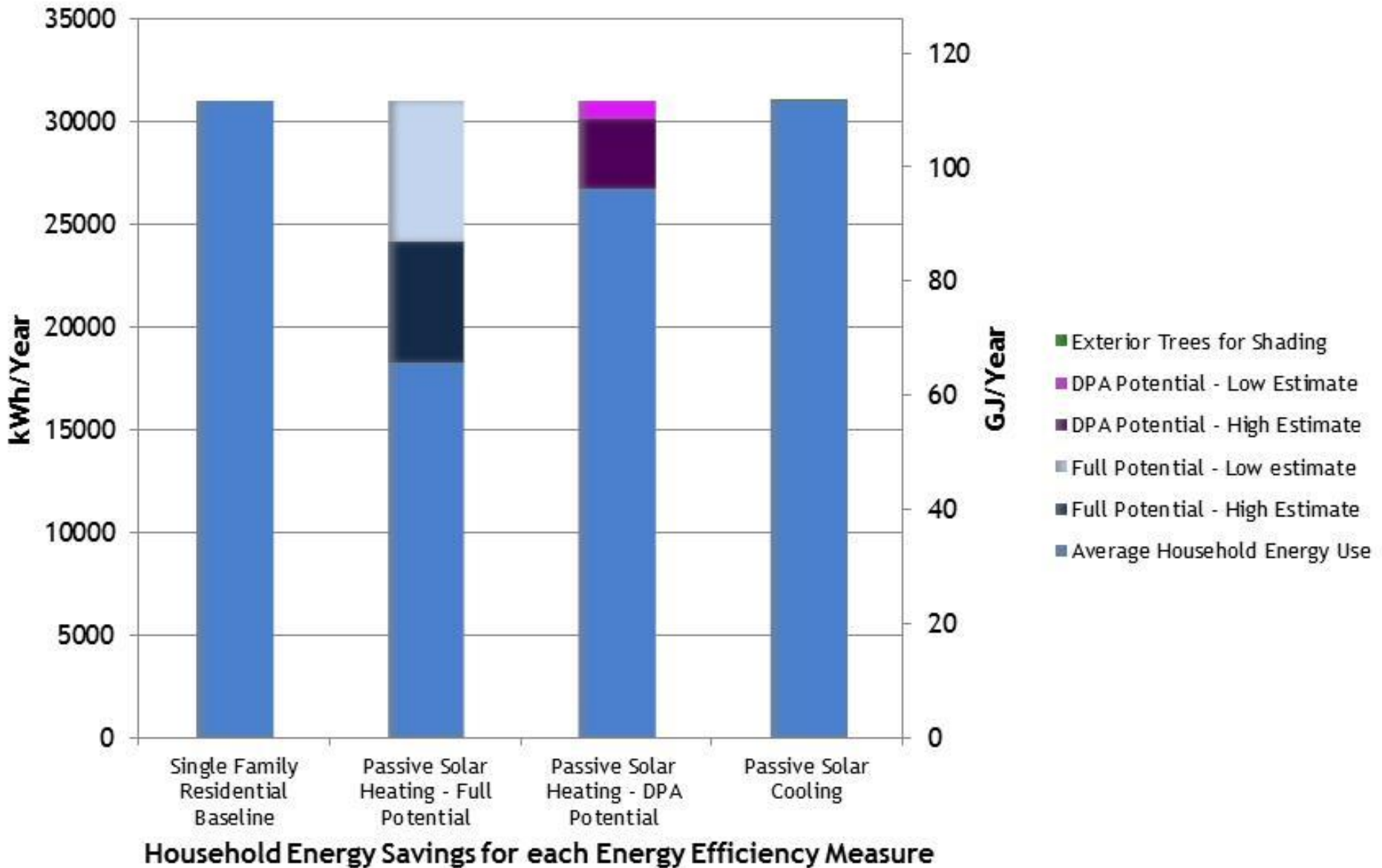


Using DPAs to Conserve Energy – Passive Design

- Siting buildings for passive solar gain can set them up well for future use of solar energy, both actively and passively.
- Savings very low - $\sim <0.5$ GWh/year for small DPA (5% buildings) BUT
- Greater future savings possible: Enables future renos to achieve deep energy savings (“deep-renos”)
- Consider trade-offs between passive design techniques and other building features valued in community (e.g. northern mountain views, large windows), existing road grid and orientation.

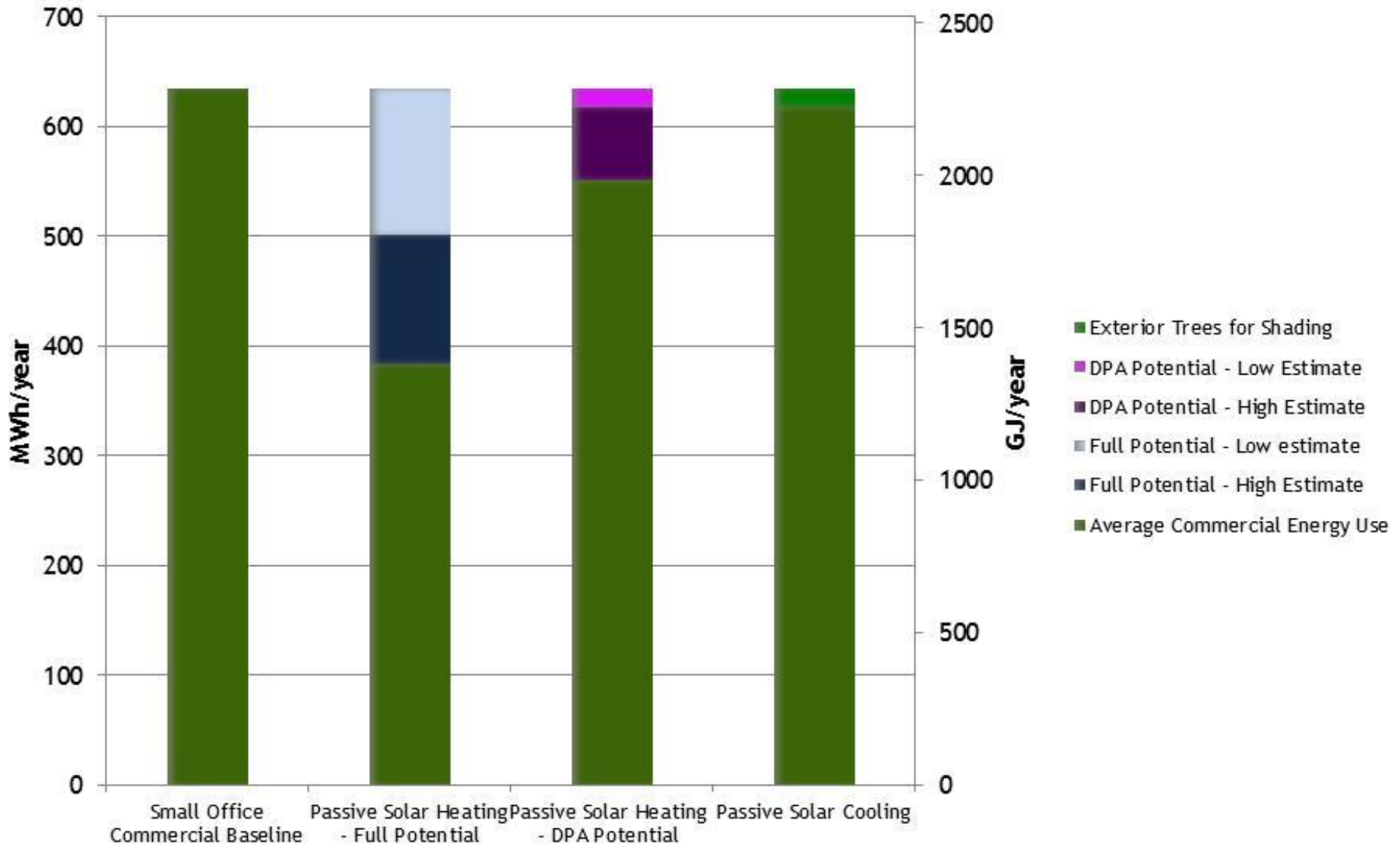


Using DPAs to Conserve Energy – Passive Design



Using DPAs to Conserve Energy – Passive Design

Small Office Energy Savings for each Energy Efficiency Measure



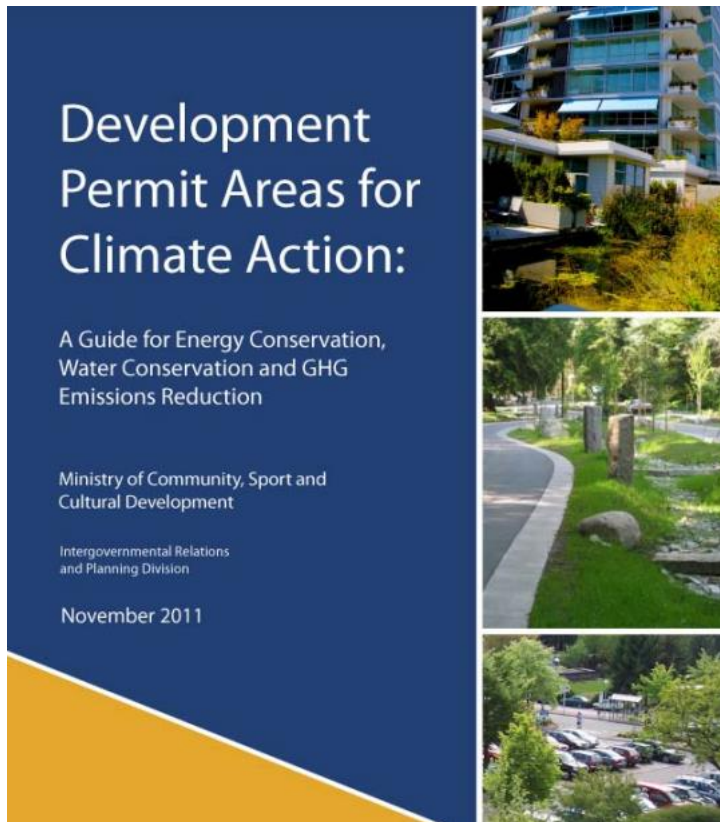
Using DPAs to Conserve Energy – Passive Design

This policy should be considered by communities that want to enable energy savings in the future, but are not currently willing to make requirements above the BCBC.

- Ensure that new developments site buildings for maximum solar gain.
- Ensure that water collection features and xeriscaping are included in all new developments
- Focus on large new developments or city-wide scale
- Avoid listing 10+ desired passive design techniques in the guidelines. Choose a few key passive design features that do not conflict with the BCBC and will have the most effect at enabling deep-renos.

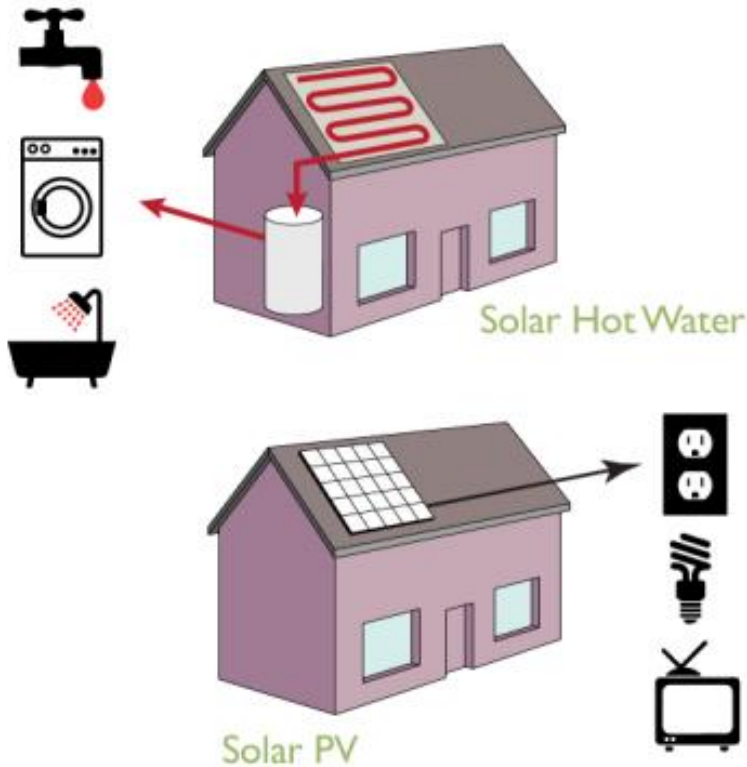


Using DPAs to Conserve Energy – Passive Design



- DPA Guidelines should state that this policy is not expecting buildings to be built above the energy performance standard in the BCBC but that it is encouraging the use of passive design techniques to meet the energy performance standard in the code.
- A local government could considering asking for a letter from an architect or engineer to confirm that the recommended passive design features were considered in determining how the building would meet the energy provisions of the code.
- Design guidelines to match capacity to review and approve.

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Offering waiver of a requirement in exchange for energy efficiency improvements:

- Local governments cannot directly affect *internal building characteristics* however, BC Hydro has a legal opinion that supports approaches that:
 - Set a requirement that is within local government authority (site level or exterior to buildings)
 - Offer to waive this requirement in exchange for internal building improvements that achieve significant energy performance improvements.

Using DPAs to Conserve Energy & Support Renewables

Combining a Merton Rule approach with the waiver approach:

- Local government requires that 10% of energy is renewable and provided onsite.
- This requirement is waived if buildings meet a specific EnerGuide or Energy Star rating.
- Impact is low to high (depending on size of DPA) – about 1.5-10 GWh/year.
- Best fit is a community that has mastered code compliance and is ready to place a high priority on advancing energy savings in the building sector.
- Best aligned with other incentives for energy performance (BC Hydro, Fortis)

10% Renewable Energy Policy (The Merton Rule)

- › Local Plan
- › Supplementary Planning Guidance
- › Unitary Development Plan
- › Borough Plan Advisory Committee

‹ Back to Policies

The Merton Rule

The Merton Rule was a groundbreaking planning policy, developed by Merton Council, which required new developments to generate at least 10% of their energy needs from on-site renewable energy equipment, in order to help reduce annual carbon dioxide (CO₂) emissions in the built environment. The rule applied to all types of buildings, not just homes.

Merton Council developed the rule and adopted it in 2003. Since then the Mayor of London and many councils implemented it, and it became part of national planning guidance.

Our planning policies have since changed, and the Merton Rule has been superseded by new energy requirements in building regulations.

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- Both the requirement and waiver option must be **reasonable and feasible** and this approach – and the area it is applied to - should be carefully justified. A community wide GHG emission target is good justification.
- Advantage of applying community wide is level playing field for developers.
- Another option is to pilot this approach on a ‘sustainable’ new development with a willing developer.
- Align with capacity to review and approve.

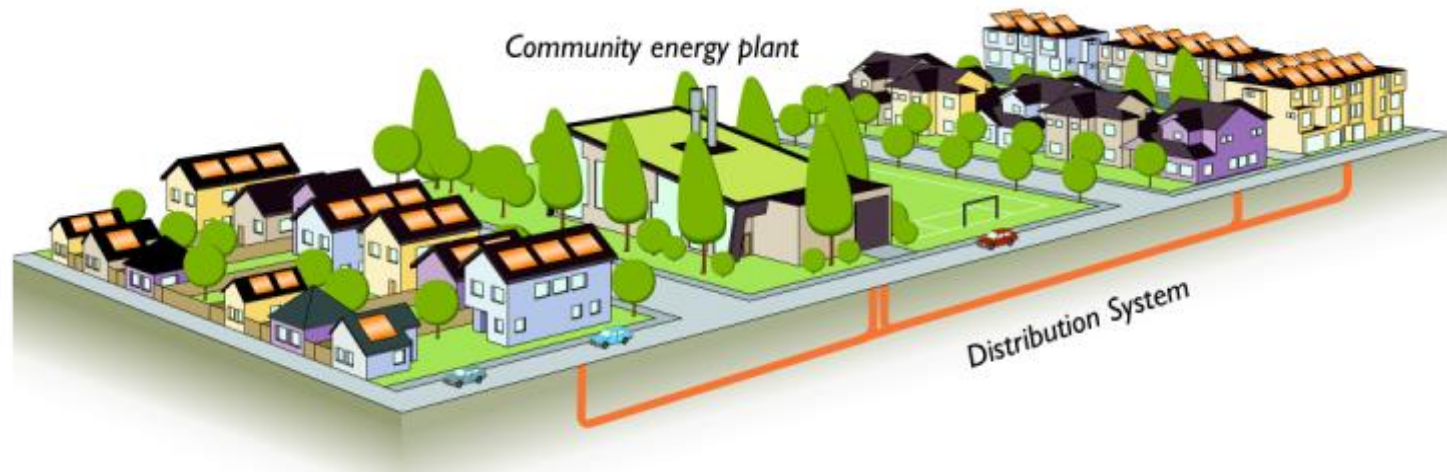


- CEA developing model bylaw as part of East Kootenay Community Energy Manager program.

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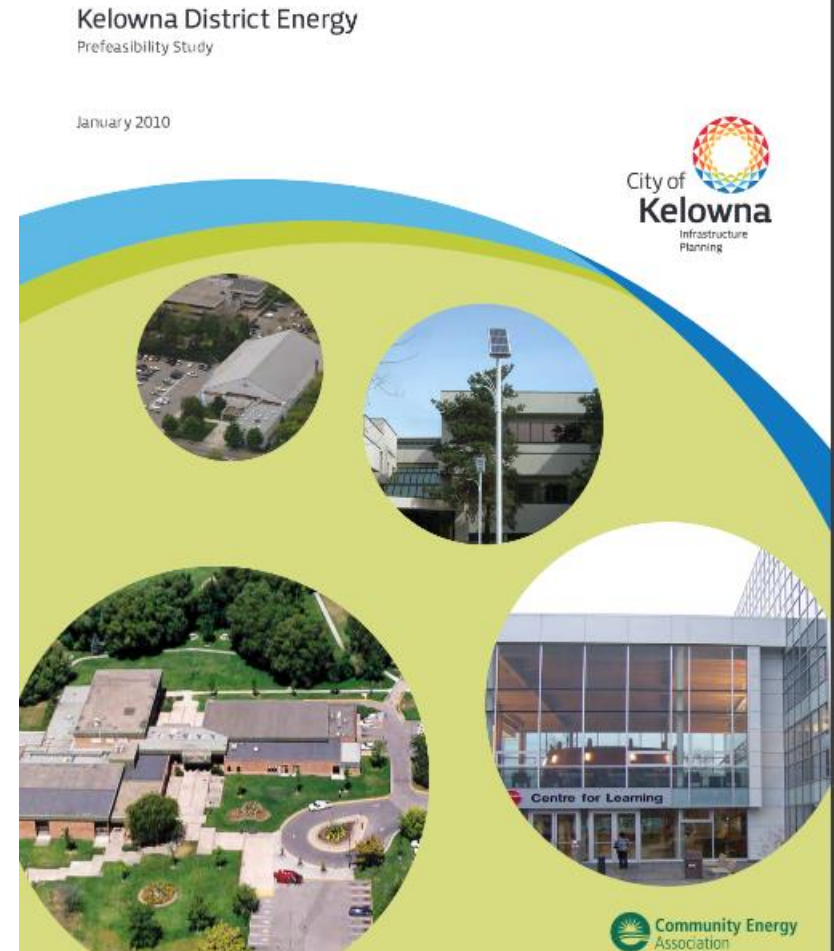
Requiring on-site renewable energy or district energy system as part of traditional powers (machinery, equipment, systems external to buildings):

- District energy approach works best for a large development but this might work well for a smaller development if considering solar hot water, air source heat pumps, solar PV.
- Still cannot require in-building systems but can assume that these exterior/onsite systems will be installed or connected either right away or at a later date. Or require connection using another tool, such as a development agreement or service area bylaw.



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- Be reasonable:
 - For district energy, best preceded by either a local government or developer initiated feasibility study. Can ask for feasibility study via DPA and require construction/connection using other tools (service area bylaw, development agreement).
 - Consider availability of local expertise/knowledge to construct and operate but also consider economic development (creating local expertise).
 - Consider piloting this approach on a 'sustainable' new development with a willing developer.
 - Consider leverage from rezoning or OCP amendment.





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Patricia Bell
Community Energy Association
604-936-0470
pbell@communityenergy.bc.ca

www.communityenergy.bc.ca