

Cumulative Effects Assessment A Consultant's Perspective



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Topics of Presentation

- Canadian Context - Evolution of CEA
 - History of CEA
 - Legislation
 - Current Guidance Documents
 - Emerging Process in British Columbia
- Case Study – Site C Clean Energy Project
 - “Reasonably Foreseeable” vs “Hypothetical” projects & activities
 - CEA inclusion lists and screening criteria
 - Temporal frame of reference
 - Role of Government in addressing regional CEA issues
- Summary





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History of CEA in Canada and British Columbia



- 1992 - Cumulative Effects Assessment (CEA) becomes a requirement of Environmental Assessment (EA) under Canadian EA Legislation
 - CEA not required for EAs under Province of British Columbia (BC) EA legislation
- 2002 – CEA may be part of scope of BC EA by order of Executive Director of Environmental Assessment Office
- 2009 – CEA becomes a requirement per policy decision, but not by statute
- 2012 – Canadian and BC EA legislation amended to allow substitution of federal EA by BC EA process as part of Canadian and provincial “green taping” process

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Cumulative Effects Assessment – Canadian Legislation



- Canadian Environmental Assessment Act - 2012 S.C. 2012, c. 19, s. 52
 - PURPOSES
 - 4. (1)** The purposes of this Act are
 - (i) **to encourage the study of the cumulative effects** of physical activities in a region and the consideration of those study results in environmental assessments.
 - FACTORS TO BE CONSIDERED
 - 19. (1)** The environmental assessment of a designated project must take into account the following factors:
 - (a) the environmental effects of the designated project . . . and **any cumulative environmental effects that are likely to result from the designated project in combination with other physical activities that have been or will be carried out.**
 - (b) the significance of the effects referred to in paragraph (a).

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Cumulative Effects Assessment – Canadian Legislation



- Canadian Environmental Assessment Act - 1992 S.C., 1992, c. 37
 - 16.2 The results of a study of the environmental effects of possible future projects in a region . . . *particularly in considering **any cumulative environmental effects that are likely to result from the project in combination with other projects or activities that have been or will be carried out.***

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Cumulative Effects Assessment – British Columbia Legislation

- British Columbia Environmental Assessment Act - [SBC 2002] CHAPTER 43
 - **Executive director determines assessment scope, procedures and methods**
 - 11 (2) The executive director's discretion under subsection (1) includes but is not limited to the discretion to specify by order one or more of the following:
 - (b) the potential effects to be considered in the assessment, including **potential cumulative environmental effects**;






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CEA – Canadian Guidance Documents

- Cumulative Effects Assessment Practitioners Guide¹
 - Prepared in 1999 for the Canadian Environmental Assessment Agency
 - Prepared by The Cumulative Effects Assessment Working Group and AXYS Environmental Consulting Ltd.
- Operational Policy Statement - Addressing Cumulative Environmental Effects under the Canadian Environmental Assessment Act (1999; updated 2007)
 - Intended to provide clarification to Responsible Authorities on how cumulative environmental effects should be considered in environmental assessments conducted under the *Canadian Environmental Assessment Act*



¹Hegmann, G., C. Cocklin, R. Creasey, S. Dupuis, A. Kennedy, L. Kingsley, W. Ross, H. Spaling and D. Stalker. 1999. Cumulative Effects Assessment Practitioners Guide. Prepared by AXYS Environmental Consulting Ltd. and the CEA Working Group for the Canadian Environmental Assessment Agency, Hull, Quebec.

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CEA – British Columbia Guidance Documents

- Environmental Assessment Office 2009 User Guide (BCEAO 2009)
 - a project's potential cumulative effects must be considered with respect to **Valued Components (VCs)** in the categories of **environmental, social, economic, heritage and health**

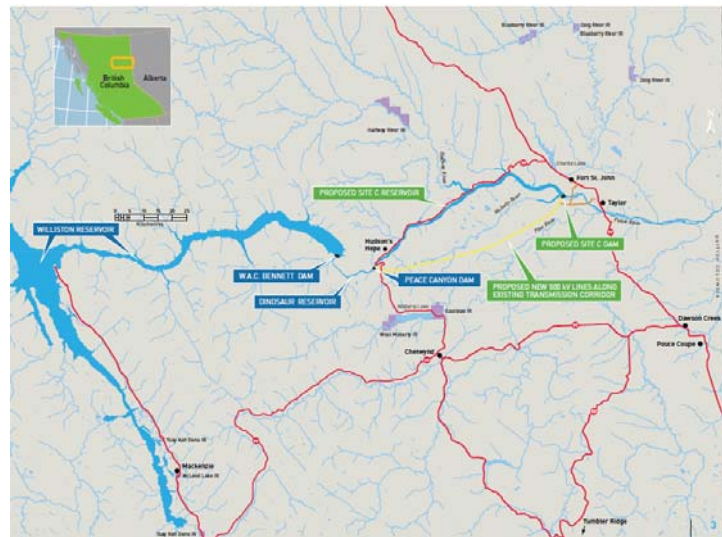



CEA – British Columbia Guidance Documents

- Addressing Cumulative Effects in Natural Resource Decision Making – A Framework for Success – (BCEAO 2014)
 - Phased approach – 2011 through 2016
 - Policy, procedures and tools that will enable periodic assessment of cumulative effects at a broad, strategic scale rather than on a project-by-project basis
 - Province divided into ~40 broad scale assessment units that are largely aligned with strategic land use planning areas
 - Valued Components (VCs) defined for each area
 - Government, industry and academia agree that cumulative effects are most effectively addressed at a broad, sub-regional scale



Case Study: Site C Clean Energy Project






Case Study: Site C Clean Energy Project




Site of proposed new 60m high rock-faced earthfill dam and hydropower generating station on the Peace River, BC




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Case Study: Site C Clean Energy Project



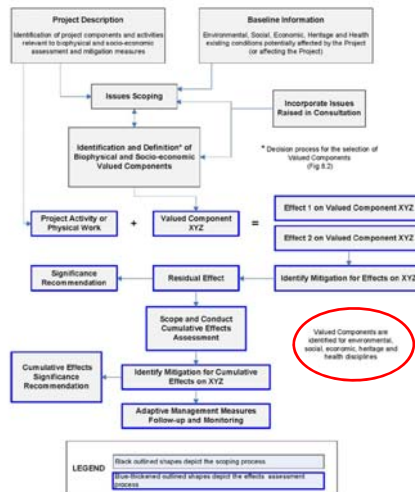
Artist's rendering of Site C hydropower plant along the Peace River, B.C., Image: BC Hydro.



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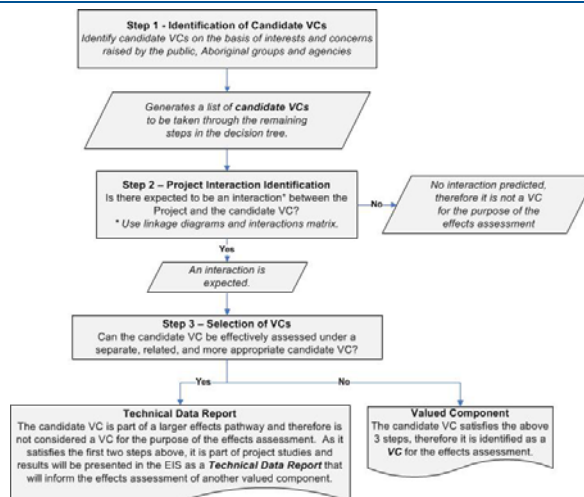
Environmental Assessment Methodology



Source: Site C Clean Energy Project – Environmental Impact Statement Guidelines – Volume 2 Assessment Methodology and Environmental Effects Assessment



Selecting Valued Components



Source: Site C Clean Energy Project – Environmental Impact Statement Guidelines – Volume 2 Assessment Methodology and Environmental Effects Assessment

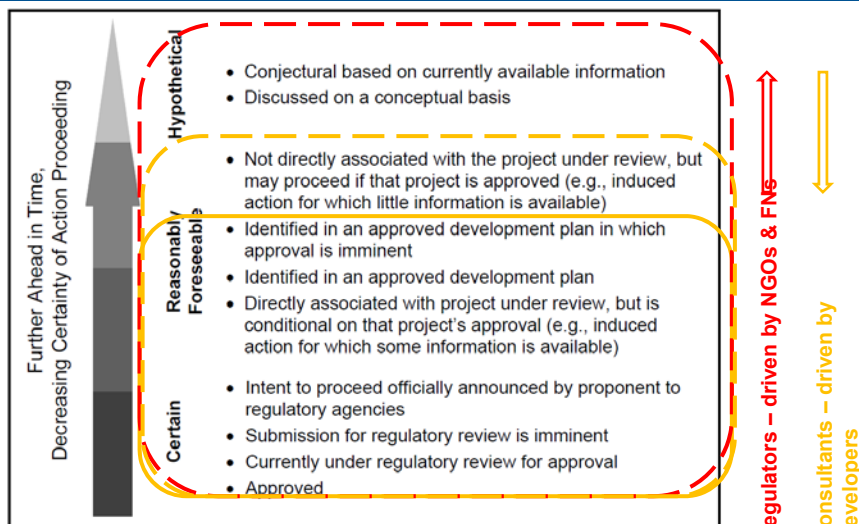


Temporal CE Boundaries – 3 Cases

- **Baseline Case** - effect of all projects and activities that have been carried out historically that have helped to shape the Valued Components (VCs) as they stand today
- **Future Case without the Project** – combining the Baseline Case with projects and activities that are **at least as foreseeable** as the Project, to demonstrate the potential residual effects of projects and activities that have been and will be carried out
- **Project Case** – takes into account the residual effects of the Project that are likely combined with those identified in the Future Case without the Project



“Reasonably Foreseeable” vs “Hypothetical”



Hegmann, et al. 1999



Spatial and Temporal Overlap

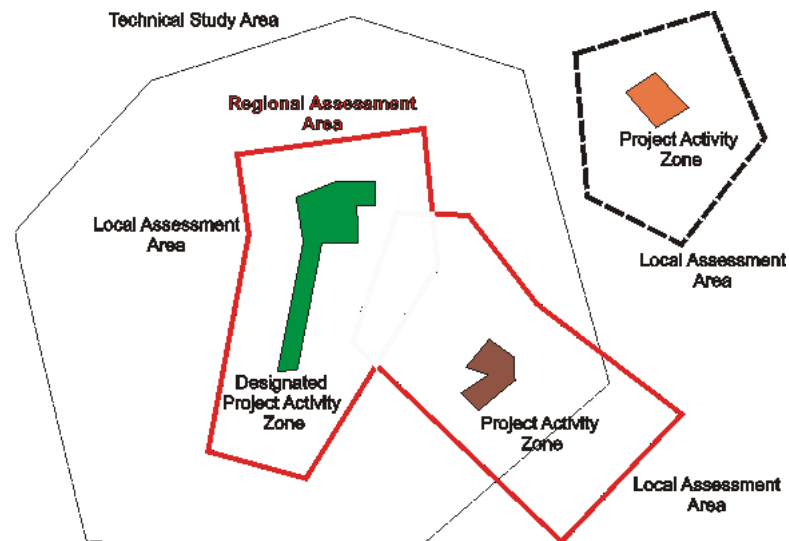
- The concept of Regional Assessment Areas
 - For the purpose of the CEA, the area within which residual effects of the Project may combine with the residual effects of other projects and activities
 - As opposed to the Local Assessment Area, the area within which the potential adverse effects of the Project will be assessed
- Assessment of cumulative effects of the Project on a VC was carried out if a potential residual adverse effect of the Project on that VC had a spatial and temporal overlap with the residual effect of another project or activity that same VC



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Spatial and Temporal Overlap



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Projects and Activities for CEA Inclusion

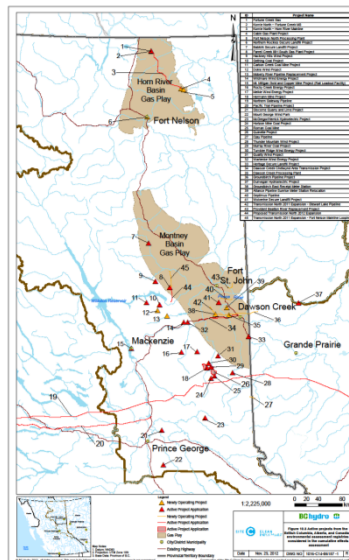
- Considered a conservative list of projects and activities found within the largest RAA (labour market, and regional economic development), including:
 - Registered active projects on government EA websites (45)
 - Including constructed but not yet operational
 - Registered oil and gas applications (100s)
 - Registered water license applications (100s)
 - Projects or activities associated with existing or “accepted” land tenure applications (699)
 - Current timber harvest plans (0)
 - Administrative Plans (Official Community Plans, and parks and recreation plans (15)
 - Large waste discharges (4)



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Registered Active Projects Considered for CEA

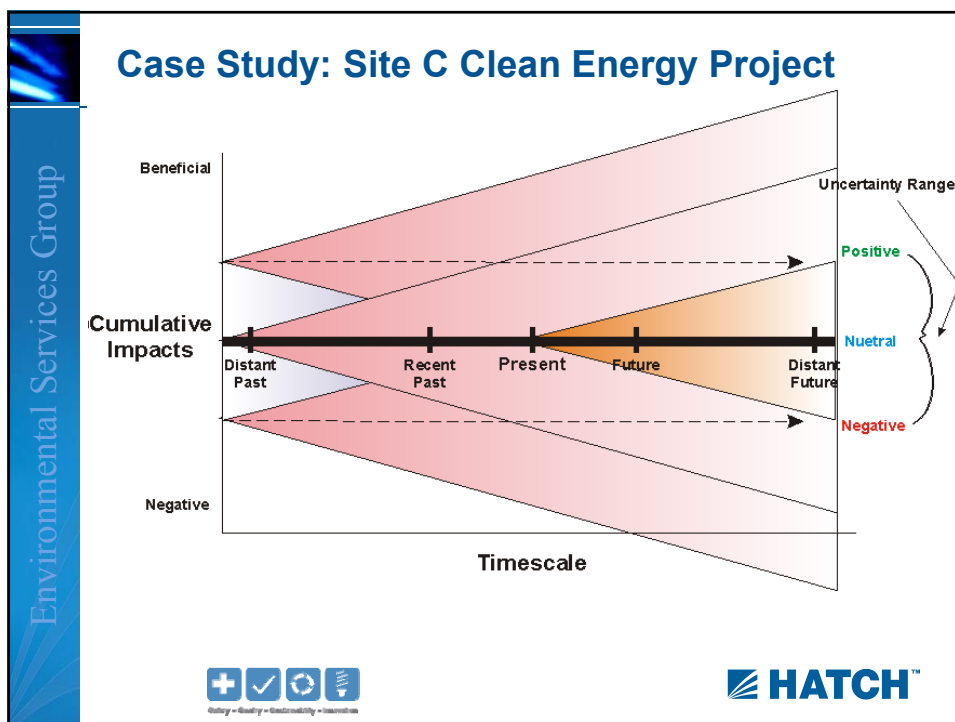
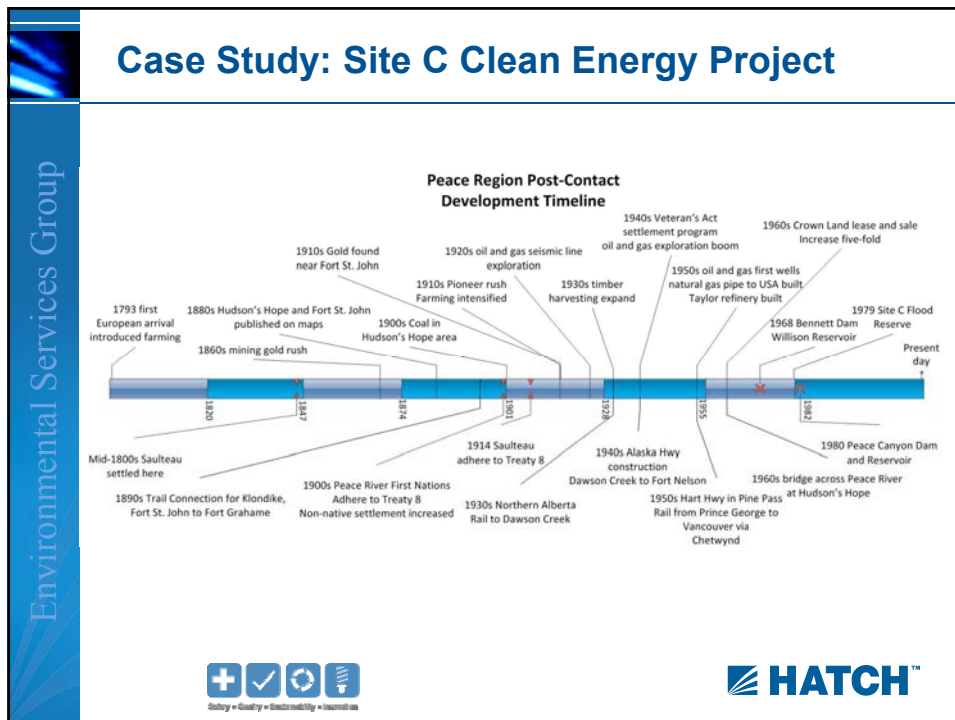


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Screening Criteria for Others Projects / Activities		
Environmental Services Group	Type of Overlap	
	Excluded	Included
Spatial	<ul style="list-style-type: none"> Project or activity is outside the largest RAA. By using a conservatively large RAA, all potential cumulative effects for VCs were captured. Project or activity is located in Alberta beyond 100 m of the Peace River high water mark or further downstream than Fort Vermilion (i.e., downstream of the RAA boundary of the Fish and Fish Habitat VC). 	<ul style="list-style-type: none"> Project or activity is within the largest RAA. Project or activity is located in Alberta within 100 m of Peace River high water mark and as far downstream as Fort Vermilion.
Temporal	<ul style="list-style-type: none"> Project was in operation or activity was occurring prior to September 5, 2012; therefore, associated residual effects may be reflected in baseline case conditions.^a Project or activity is not reasonably foreseeable (i.e., not as likely to proceed as Site C Clean Energy Project). 	<ul style="list-style-type: none"> Active projects in federal or provincial environmental assessment or other regulatory process. Approved projects and activities that are: <ul style="list-style-type: none"> not constructed under construction or constructed, but not operational Project or activity is reasonably foreseeable (i.e., at least as likely to proceed as the Site C Clean Energy Project).
 		



Temporal Frame of Reference	
Environmental Services Group	<ul style="list-style-type: none"> The concept of 'Present Day' conditions being a reflection of the past, rather than 'Present Day' being one of many potential outcomes of the past For the CEA "Now" was defined as the date of issue of the Final EIS Guidelines (i.e., Scope) <ul style="list-style-type: none"> Considerable baseline study had been done prior to this date Concerns over pre-development hind-cast modeling <ul style="list-style-type: none"> Availability and usefulness of data Inherently unreliable
	 



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Government's Role in Implementing CEA Mitigation

- Developer limited to implementing mitigation measures for which it has control
- Cumulative effects on VCs resulting from activities that have regional resource management implications
 - Most often limit the developer to only being able to recommend possible regional approaches to mitigation
 - Require government to play an active role in managing CE databases, set regional development objectives and determine VCs

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Summary

- Consultants are better able to undertake cumulative effects assessment where:
 - Requirements are clearly defined by legislation / regulations;
 - CEA / CI Guidelines have been developed on behalf of government(s) for use by EA practitioners;
 - Internal guidance documents have been developed by government(s) to guide regulators in applying the principles of CEA / CI;
 - Where disputes over interpretation of elements of CEA / CI arise, consultants are able to meet with government counterparts who are knowledgeable in the field of CEA / CI to resolve issues
 - Government has to play a role in CEA by defining a priority set of regional development values and objectives, including VCs

