

Green Jobs for BC

Progressive Governance Forum

Placemaking: Cool Ideas for Locally Elected Leaders

Harrison Hot Springs – March 26, 2011

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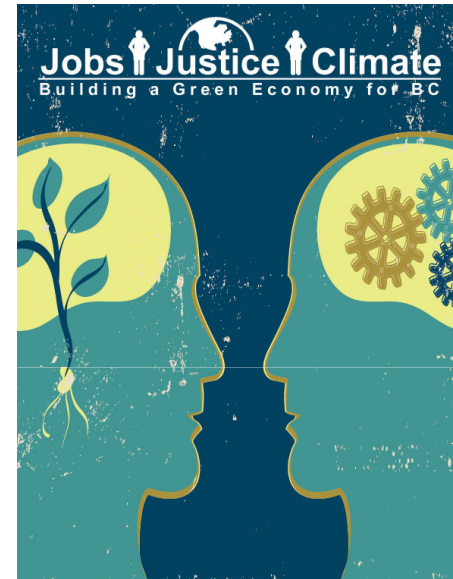
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Overview

Discussion Paper

- Why green jobs?
- What are green jobs?
- Green job sectors
- Broad public policy measures



Why Green Jobs?

Three reasons:

1. Employment
2. Climate change
3. Local government benefits



Why? Employment

- High unemployment in BC
- Decline in traditional sectors
 - Especially rural areas, small towns – loss of place
- Problem for all, not just the unemployed
 - Wage stagnation, job insecurity
 - When livelihood threatened, nothing else matters
 - Including climate change



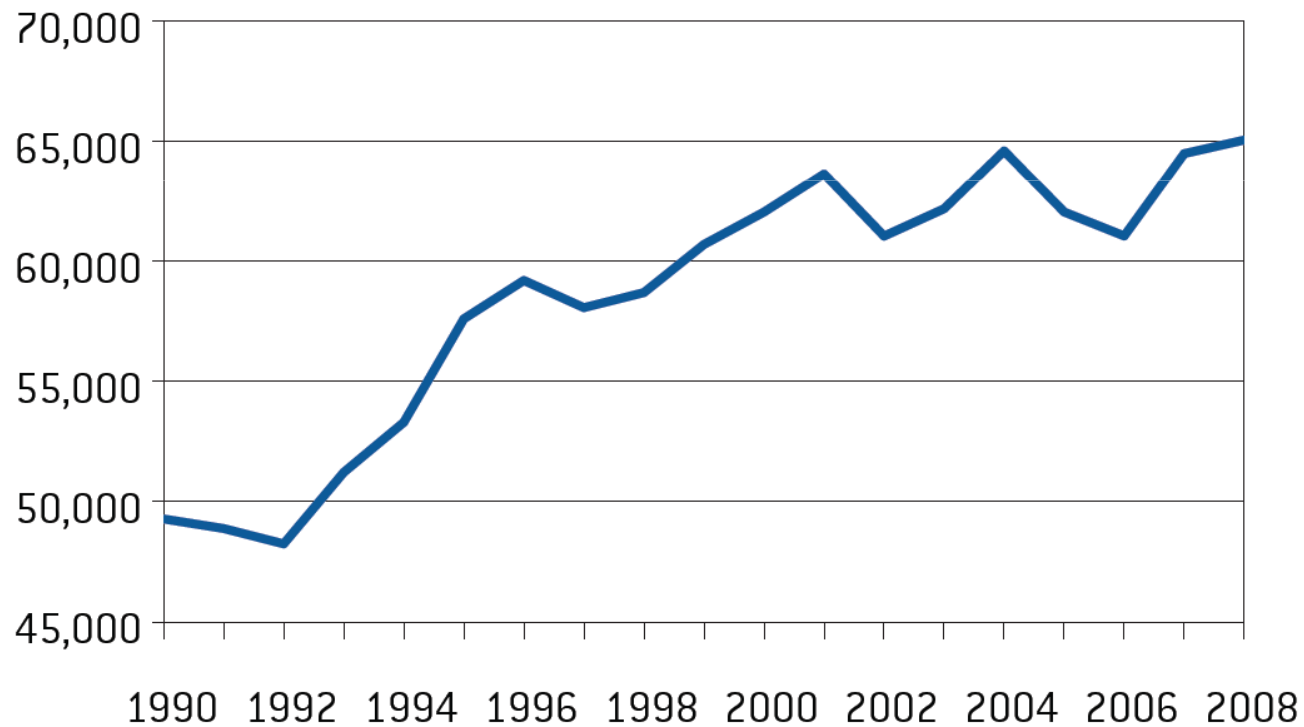
Why? Climate change

- Not about trees and bunnies
 - About collapse of economies and civilization
- Global reduction of GHG (greenhouse gases)
 - 25-40% reduction by 2020 (from 1990 levels)
 - 80-95% reduction by 2050
- Canada commitment
 - Kyoto: 6% reduction by 2012
- BC's track record?



GHGs trend

FIGURE 2.1: TOTAL BC GHG EMISSIONS (KT CO₂E)



Why? Benefits for local governments

- Boost local employment (lag behind recovery)
- Achieve sustainability goals
- Satisfy voter preferences
 - 78% of Albertans prefer subsidies to create jobs in clean energy, rather than oil and gas. (Albertans.)
- Prepare for the new economy
 - Develop new industries to replace dying ones
 - Reduce costs for homeowners, businesses



Green jobs can help. What are they?

- Familiar jobs
- Traditional occupations and new occupations
- Created or saved by policies that build a green economy
- Support families / career track
- Local – in communities where people live
- Training and just transitions programs
- Good jobs

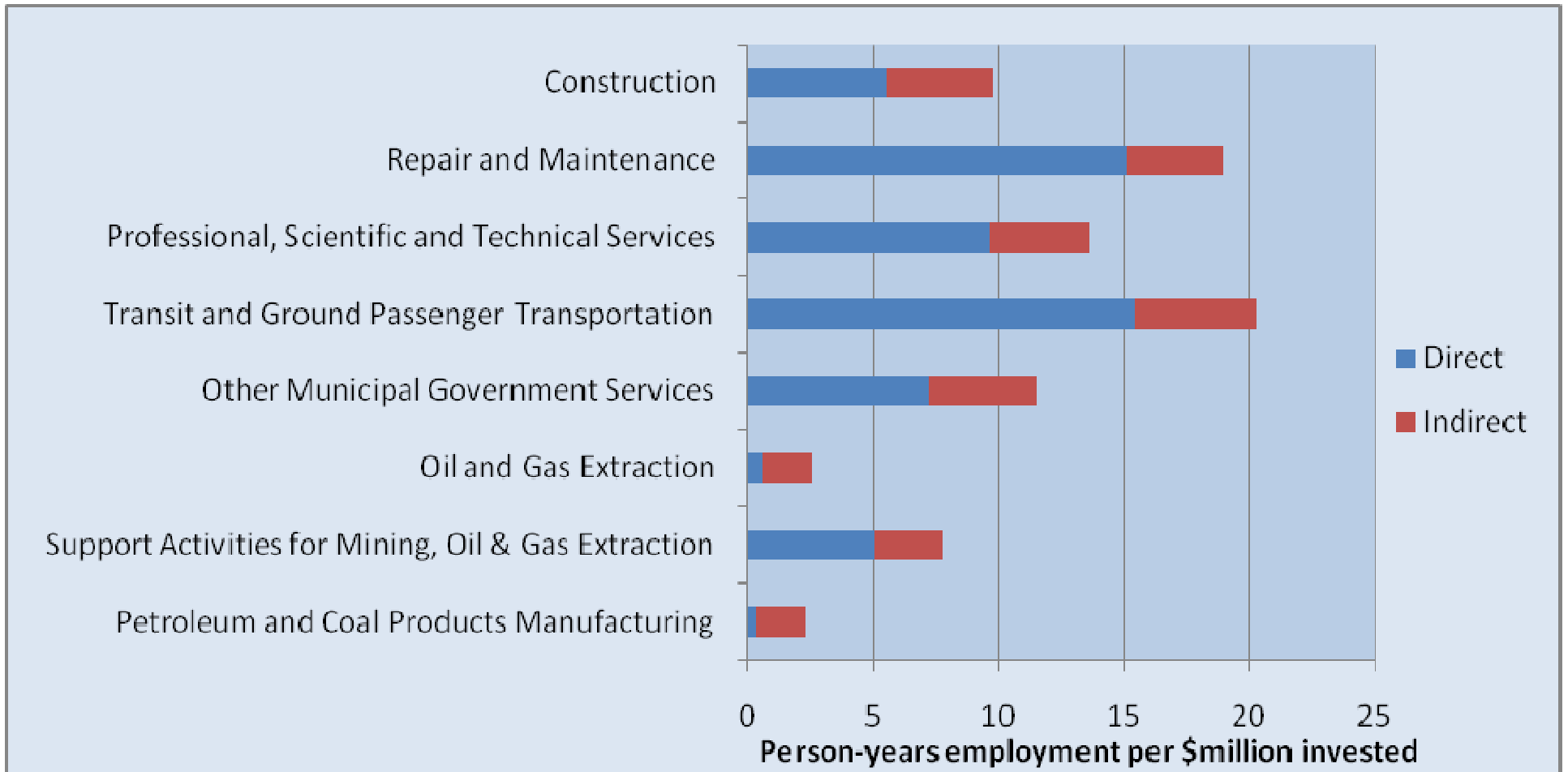


Green jobs sectors and opportunities

1. Buildings – energy efficiency
2. Electricity – clean generation / conservation
3. Transportation – transit and rail
4. Others



Green job sectors: bang for the buck



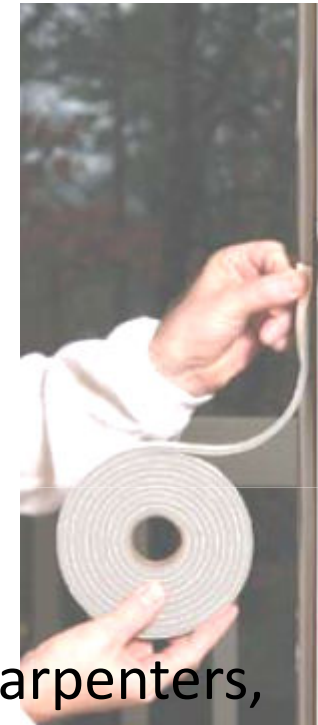
1. Buildings – Energy Efficiency



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Energy efficiency retrofits

- Upgrades for buildings
 - Insulate, weatherstrip, efficient furnaces
- Saves energy, and thus:
 - Saves money for homeowners, renters
 - Makes businesses more competitive
- Electricians, heating/air conditioning installers, carpenters, construction equipment operators, roofers, insulation workers, carpenter helpers, industrial truck drivers, construction managers, building inspectors, and sheet metal workers, manufacturing, administration, auditing, legal



Retrofits: Jobs and Costs

- Basic upgrade 400,000 older homes (25%)
 - Create 8,000 to 13,000 person-yrs locally
 - More jobs: high-level upgrade, more houses, ICI
- Cost?
 - Less than \$0
 - Energy savings cover costs (and more)
 - On-bill financing / local improvement charge / other
 - More: workshop on “The Fastest Way to drop GHG emissions”



Efficiency retrofits: free money



2. Electricity – clean generation/ conservation



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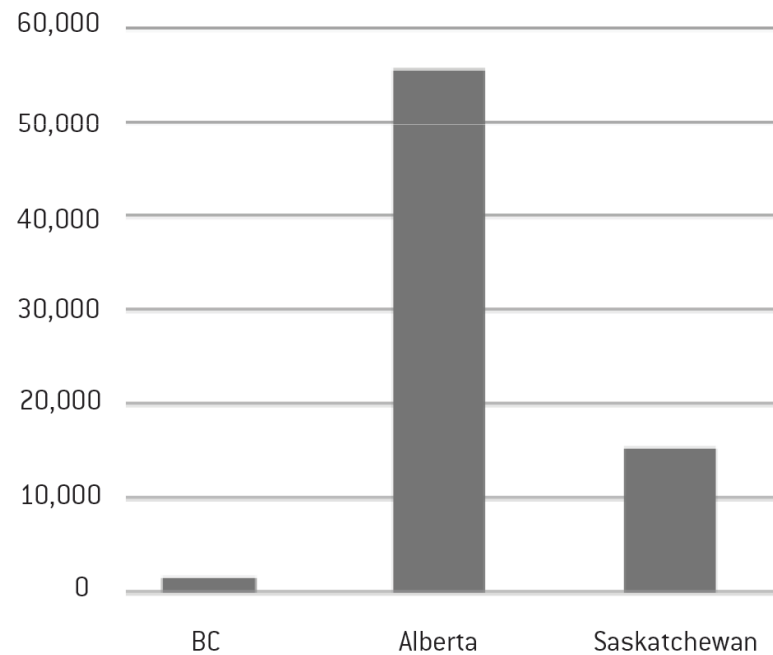
Clean electricity generation

- Major theme in green jobs literature (coal)
- Hydro, wind power, solar, geothermal, biomass
 - 2.3 million jobs globally in renewable energy
- Big job #s require manufacturing
 - e.g. Ontario-Samsung deal: 16,000 jobs
- Public/community/co-op ownership



However BC is different

FIGURE 5.1: GHG EMISSIONS FROM ELECTRICITY AND HEAT GENERATION (KTCO₂E)



Electricity conservation

- Hydro GHG's low - limited scope to reduce
- Future need for new electricity? Exaggerated?
- Option: meet future needs by conservation
 - Demand management (end rate subsidy: M. Shaffer)
- Cleanest, cheapest source of energy
 - Lower/zero cradle-to-grave GHGs
 - No river or fishery impacts
- More jobs than building generation (GE Bridges)
 - 200,000 person-years in BC, locally



Clean energy / conservation jobs

- Representative jobs: electricians, computer software engineers, iron and steel workers, electrical engineers, electrical equipment assemblers, welders, metal fabricators, electrical equipment technicians, construction workers, machinists, construction labourers, operating engineers, electrical power line installers and repairers, sheet metal workers, auditors, administrators, legal, finance, inspections, trucking, warehousing, etc.



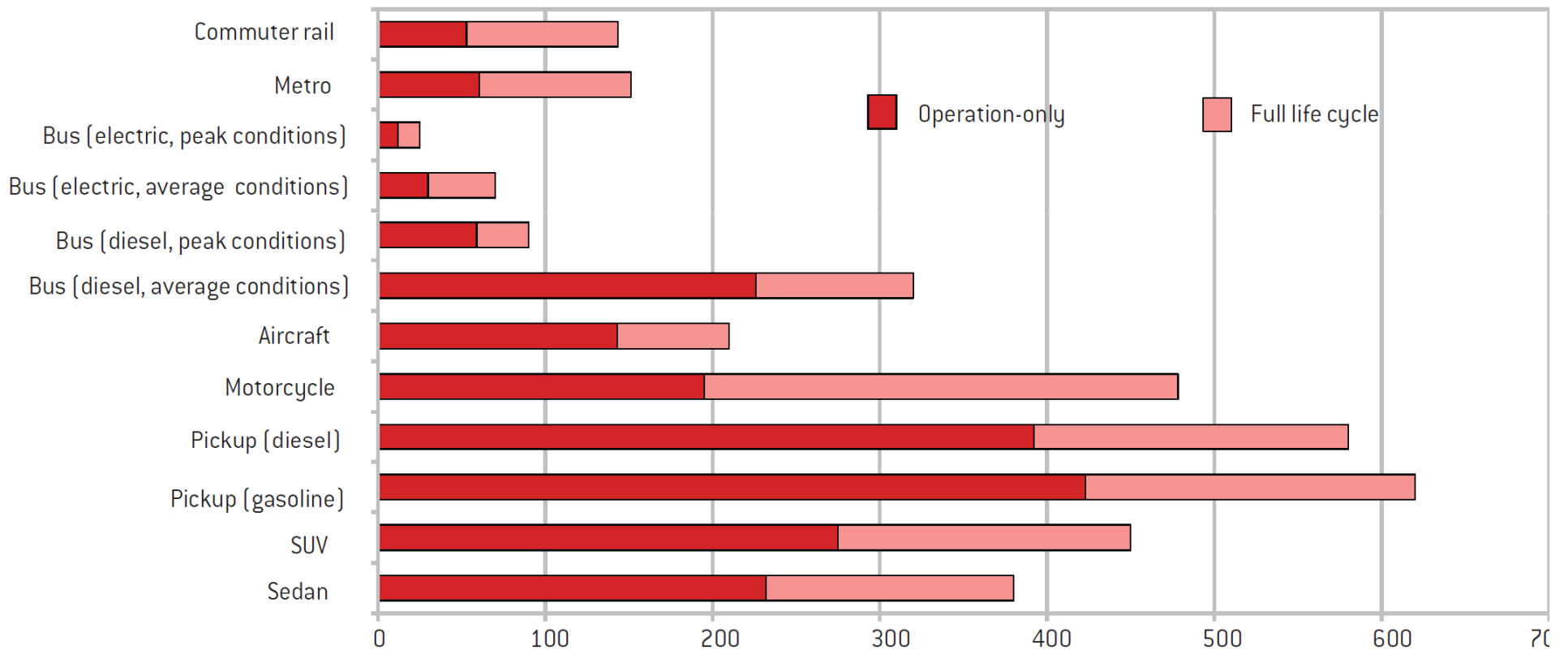
3. Transportation



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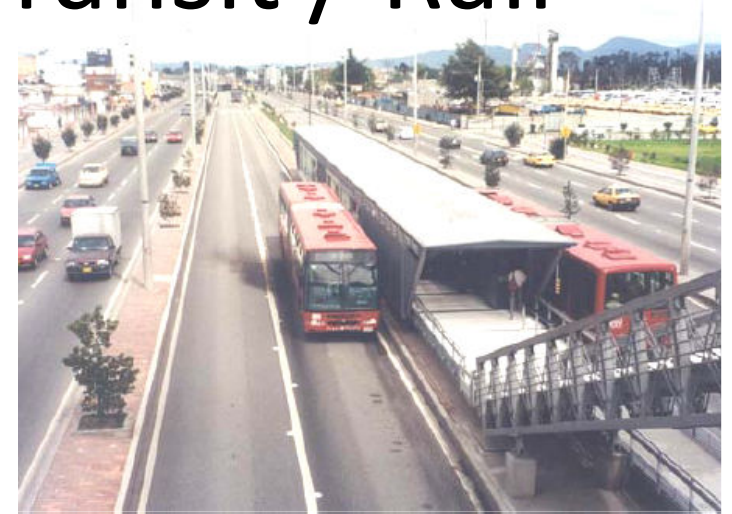
Transportation in BC: Largest GHG sector, fast-growing

FIGURE 4.3: TRANSPORT GHG EMISSIONS: OPERATION-ONLY, AND FULL LIFE-CYCLE



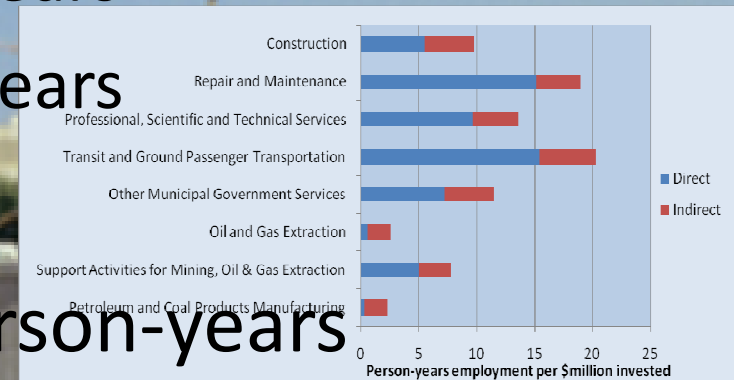
Efficient Alternative: Transit / Rail

- Refurbish buses, rolling stock
- More buses, rapid-bus
- Expand LRT, rail
 - Reduce smog, GHG emissions
 - civil engineers, rail track layers, electricians, welders, metal fabricators, engine assemblers, bus drivers, dispatchers, locomotive engineers, railroad conductors, and front-line transportation supervisors, administration, dispatch, etc.



Transit and Rail: how many jobs?

- How much investment is needed?
 - Recent national transit and local rail studies
- BC's share of transit investment:
 - \$7-\$9 billion capital over 4-5 years
 - \$6 billion operations over 30 years
- Rail: \$1 billion to \$2 billion
- Total: 230,000 to 270,000 person-years employment, locally.



Other sectors

- Manufacturing
 - Small now, but potential for green manufacturing
 - Enhance recycling – local jobs, lower GHGs
- Agriculture
 - Re-localization → more jobs in BC
 - Organic → more employment intensive
- Forestry
 - Conserve more, harvest at older ages
 - Prioritize solid wood manufacturing (Parfitt 2010)



Other sectors

- Fisheries
 - Wild fisheries have lower GHG emissions
 - License local fishers, allow by-catch – lower GHGs
- Services sector (other than already discussed)
 - Education, social services, health care – low GHGs
 - Invest in our kids, families and health
 - Green all jobs (e.g. more location-efficient)



4. Broad public policy measures

- Just transitions
 - Prepare workforce for new demands
 - Justice, and assist workers to stay in the workforce
- GHG-reduction policies
 - Remove industry subsidies that boost GHGs
 - Carbon pricing: tax or cap-auction-trade
 - Reduce GHGs, generate revenues, create green jobs
 - Offshoring: “Cheap oil means cheap jobs” (D. Foster)
- R&D investment
- Relocalization policies (procurement, carbon pricing, even trade)



Conclusions

- **Can** reduce GHG emissions, and other env impacts
- **Can** create local employment
 - 430,000-480,000 person years, at least
- **Can** succeed in the new economy
 - Look forward, not in rearview
- **Need** good public policy
- **Need** progressive elected leaders

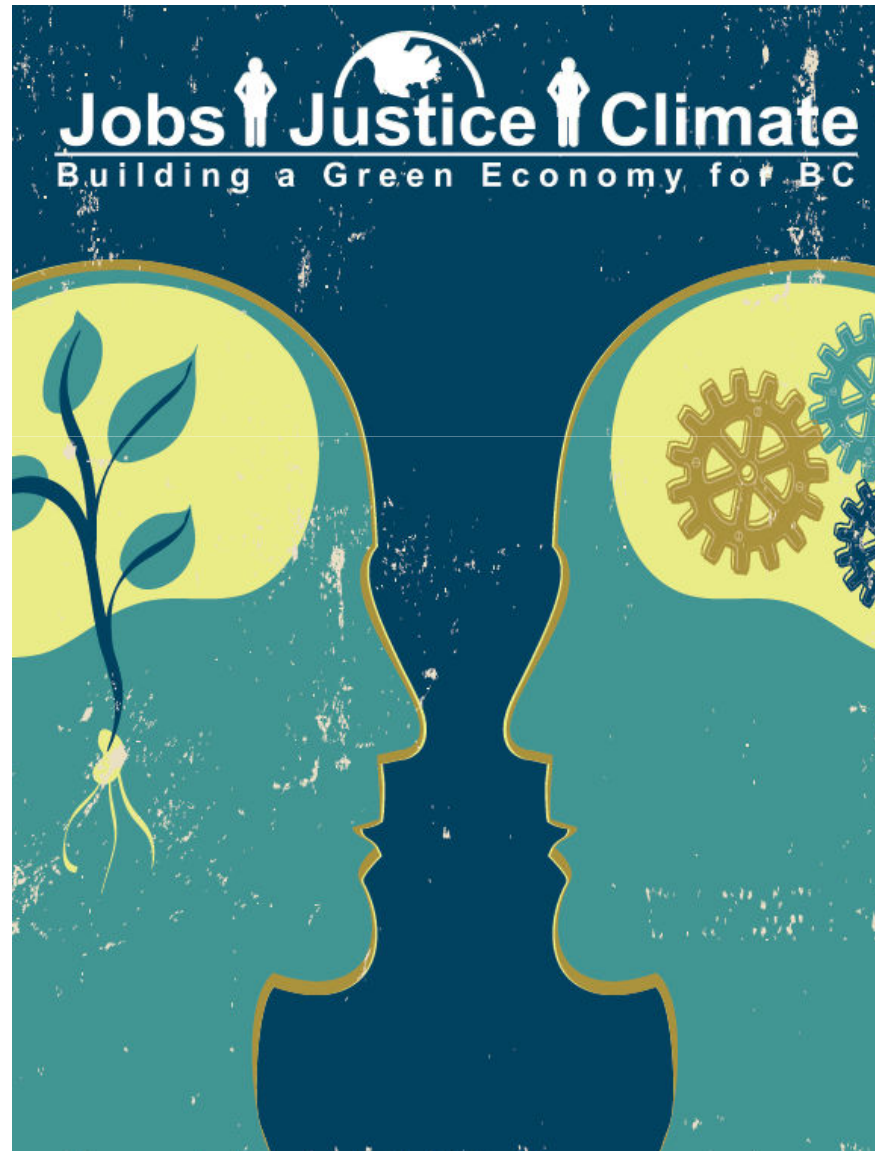


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More info...



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