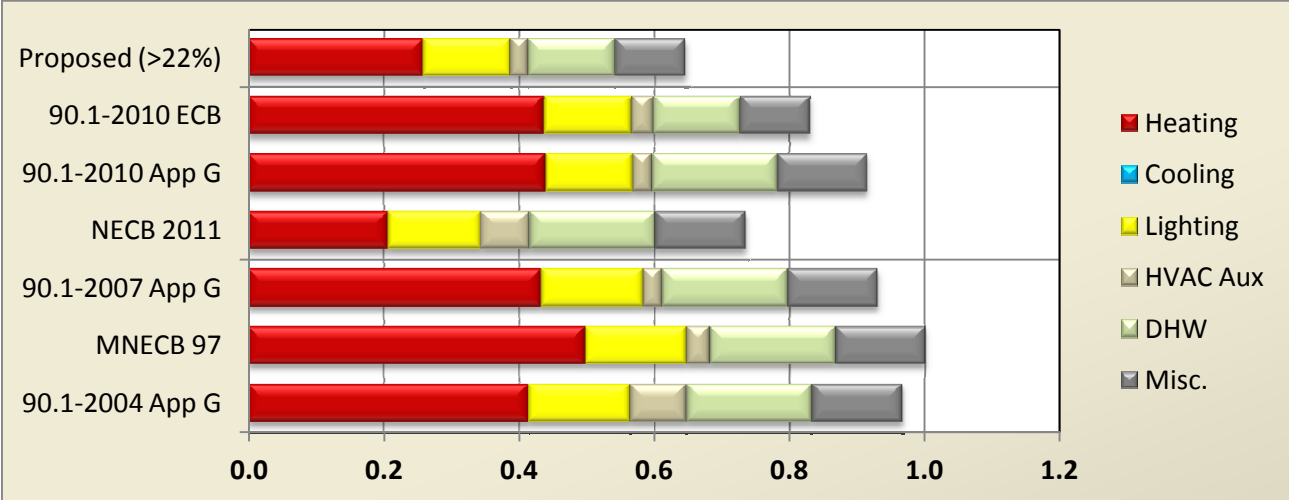


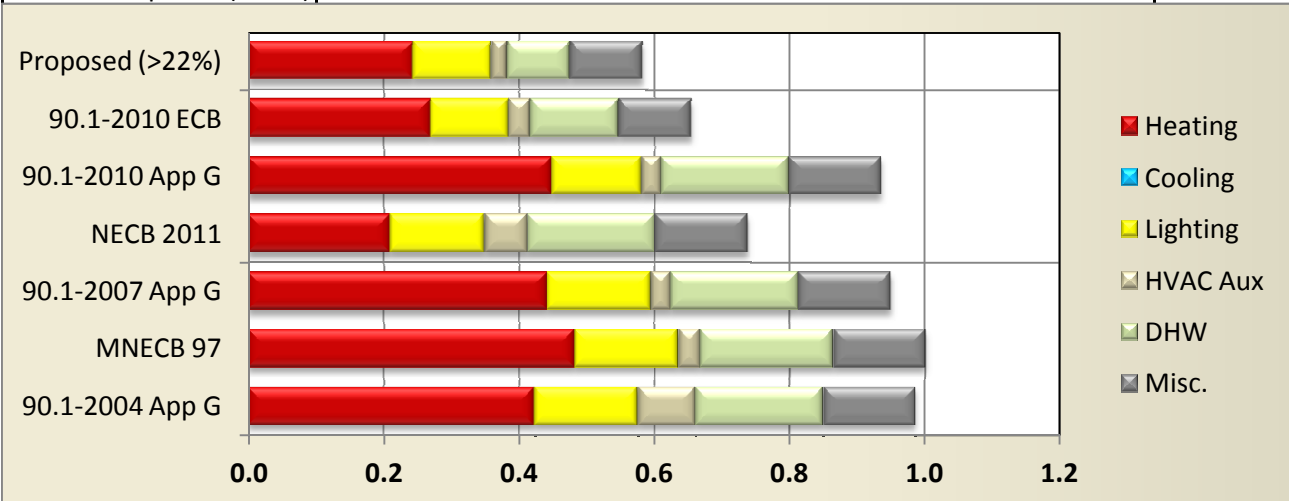
New Construction Archetype Energy Performance Assessment City of Vancouver

Site (Input) Energy Use, Normalized on MNECB 97 Total Energy

MURB, Wood-Stud	End-Use Energy						TOTAL ENERGY
HW (100% Gas)	Heating	Cooling	Lighting	HVAC Aux	DHW	Misc.	
90.1-2004 App G	0.41	0.00	0.15	0.08	0.19	0.13	0.97
LEED 2009 MNECB 97	0.50	0.00	0.15	0.03	0.18	0.13	1.00
90.1-2007 App G	0.43	0.00	0.15	0.03	0.19	0.13	0.93
LEED v4 NECB 2011	0.21	0.00	0.14	0.07	0.18	0.13	0.73
90.1-2010 App G	0.44	0.00	0.13	0.03	0.19	0.13	0.91
90.1-2010 ECB	0.44	0.00	0.13	0.03	0.13	0.10	0.83
Proposed (>22%)	0.26	0.00	0.13	0.03	0.13	0.10	0.65



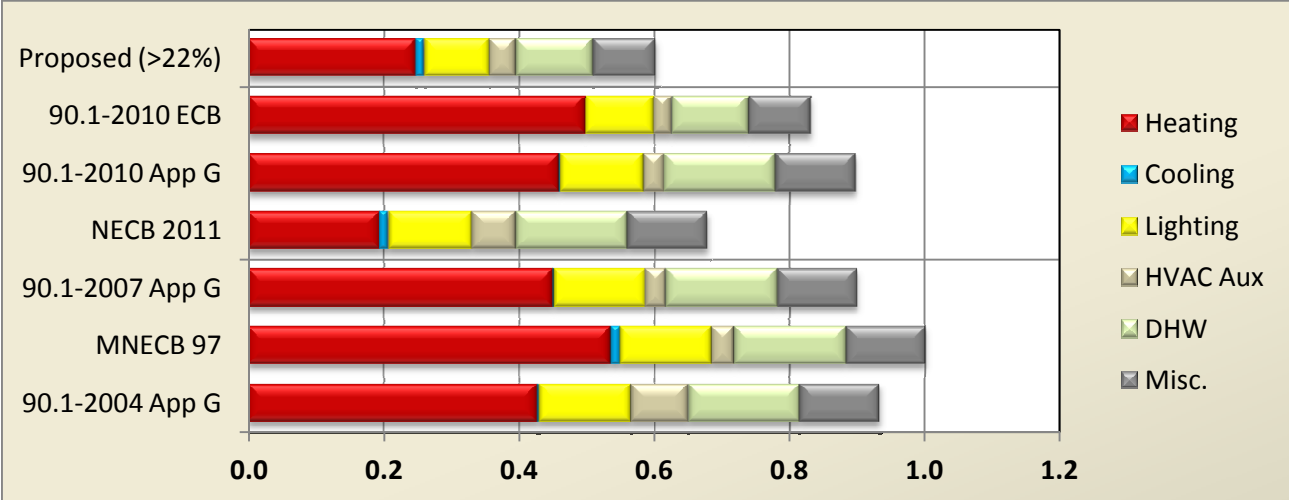
MURB, Wood-Stud	End-Use Energy						TOTAL ENERGY
Electric Baseboard	Heating	Cooling	Lighting	HVAC Aux	DHW	Misc.	
90.1-2004 App G	0.42	0.00	0.15	0.08	0.19	0.14	0.99
LEED 2009 MNECB 97	0.48	0.00	0.15	0.03	0.20	0.14	1.00
90.1-2007 App G	0.44	0.00	0.15	0.03	0.19	0.14	0.95
LEED v4 NECB 2011	0.21	0.00	0.14	0.06	0.19	0.14	0.74
90.1-2010 App G	0.45	0.00	0.13	0.03	0.19	0.14	0.93
90.1-2010 ECB	0.27	0.00	0.12	0.03	0.13	0.11	0.65
Proposed (>22%)	0.24	0.00	0.12	0.02	0.09	0.11	0.58



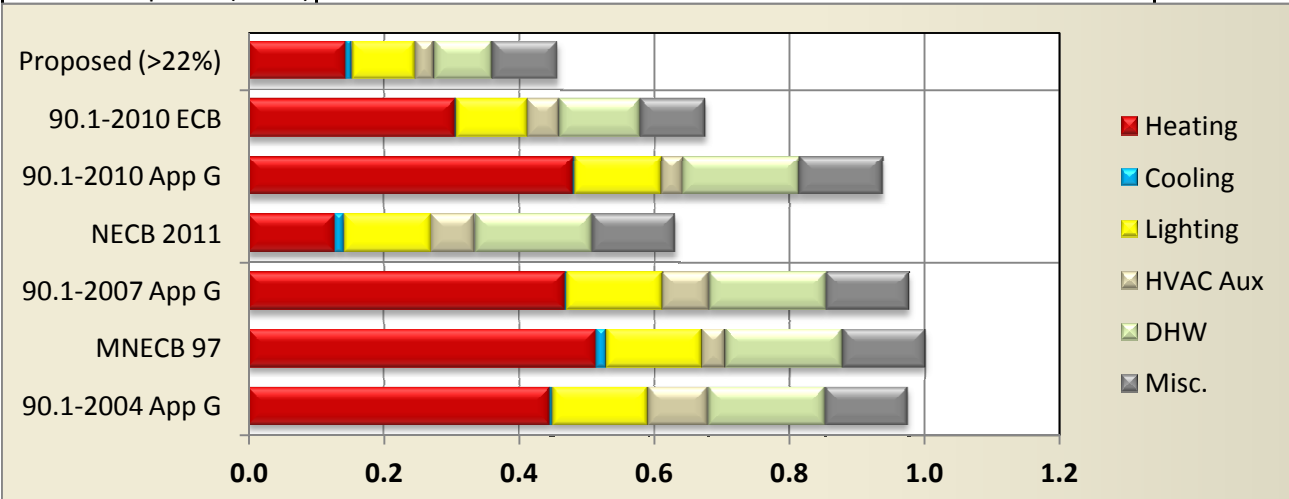
New Construction Archetype Energy Performance Assessment City of Vancouver

Site (Input) Energy Use, Normalized on MNECB 97 Total Energy

MURB, Concrete/Steel		End-Use Energy						TOTAL ENERGY
HW / Cooled		Heating	Cooling	Lighting	HVAC Aux	DHW	Misc.	
LEED v4 2009	90.1-2004 App G	0.43	0.00	0.13	0.08	0.16	0.12	0.93
	MNECB 97	0.53	0.01	0.13	0.03	0.16	0.12	1.00
	90.1-2007 App G	0.45	0.00	0.13	0.03	0.16	0.12	0.90
	NECB 2011	0.19	0.01	0.12	0.06	0.16	0.12	0.68
	90.1-2010 App G	0.46	0.00	0.12	0.03	0.16	0.12	0.90
	90.1-2010 ECB	0.50	0.00	0.10	0.03	0.11	0.09	0.83
	Proposed (>22%)	0.25	0.01	0.10	0.04	0.11	0.09	0.60



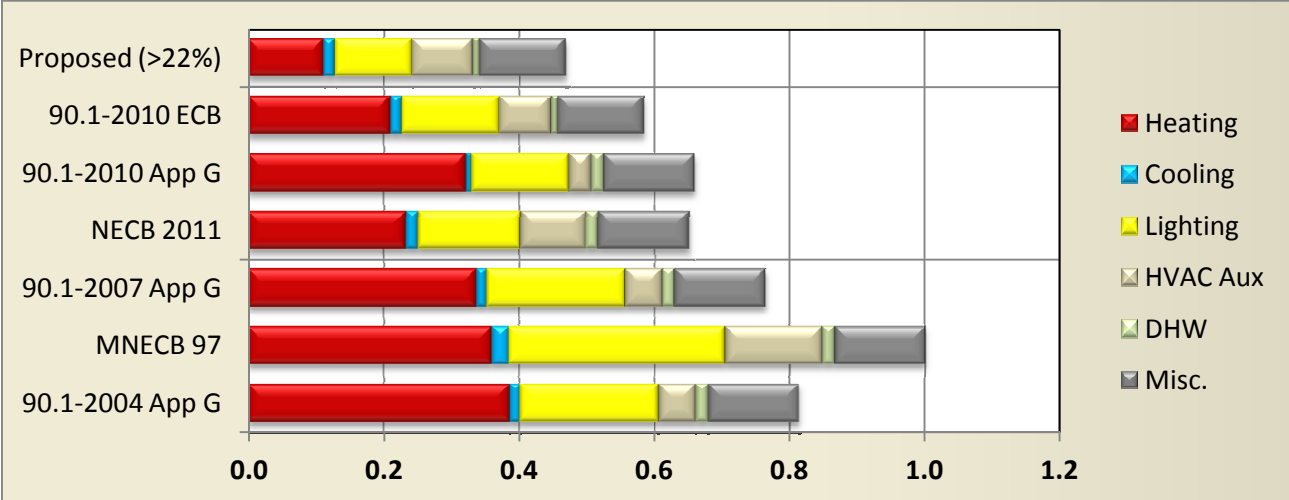
MURB, Concrete/Steel		End-Use Energy						TOTAL ENERGY
Electric BBs / Cooled		Heating	Cooling	Lighting	HVAC Aux	DHW	Misc.	
LEED v4 2009	90.1-2004 App G	0.45	0.00	0.14	0.09	0.17	0.12	0.98
	MNECB 97	0.51	0.01	0.14	0.03	0.17	0.12	1.00
	90.1-2007 App G	0.47	0.00	0.14	0.07	0.17	0.12	0.98
	NECB 2011	0.13	0.01	0.13	0.06	0.17	0.12	0.63
	90.1-2010 App G	0.48	0.00	0.13	0.03	0.17	0.12	0.94
	90.1-2010 ECB	0.31	0.00	0.11	0.05	0.12	0.10	0.68
	Proposed (>22%)	0.15	0.01	0.09	0.03	0.09	0.10	0.46



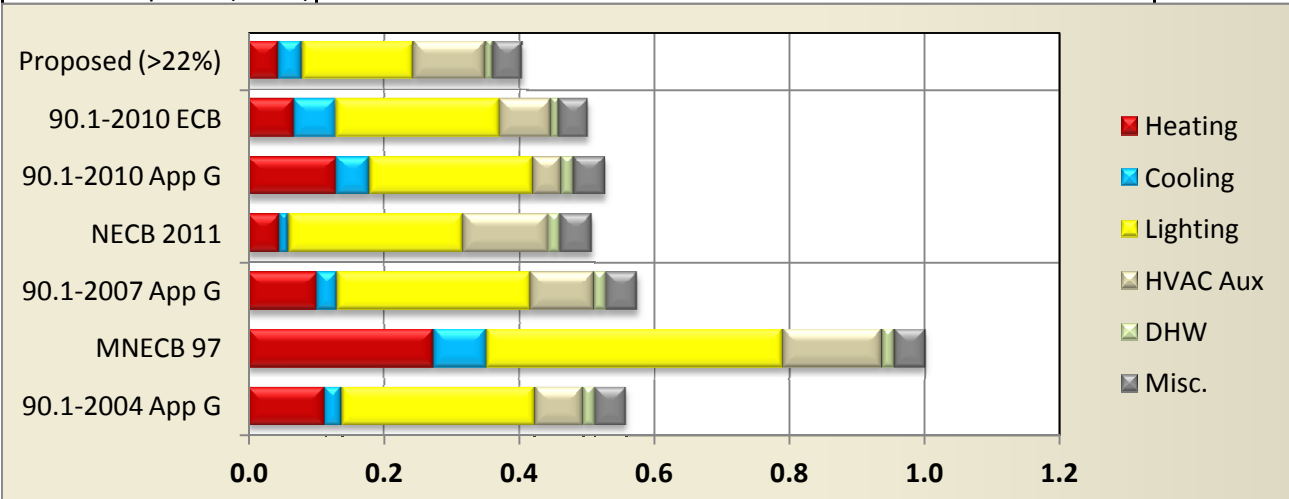
New Construction Archetype Energy Performance Assessment City of Vancouver

Site (Input) Energy Use, Normalized on MNECB 97 Total Energy

Office		End-Use Energy					TOTAL ENERGY	
Gas Heated, FPFC		Heating	Cooling	Lighting	HVAC Aux	DHW	Misc.	
LEED v4 2009	90.1-2004 App G	0.39	0.02	0.20	0.06	0.02	0.13	0.81
	MNECB 97	0.36	0.02	0.32	0.14	0.02	0.13	1.00
	90.1-2007 App G	0.34	0.02	0.20	0.05	0.02	0.13	0.76
	NECB 2011	0.23	0.02	0.15	0.10	0.02	0.13	0.65
	90.1-2010 App G	0.32	0.01	0.14	0.03	0.02	0.13	0.66
	90.1-2010 ECB	0.21	0.02	0.14	0.08	0.01	0.13	0.58
	Proposed (>22%)	0.11	0.02	0.11	0.09	0.01	0.13	0.47



Retail, 1st Floor		End-Use Energy					TOTAL ENERGY	
Distributed HP		Heating	Cooling	Lighting	HVAC Aux	DHW	Misc.	
LEED v4 2009	90.1-2004 App G	0.11	0.02	0.28	0.07	0.02	0.05	0.56
	MNECB 97	0.27	0.08	0.44	0.15	0.02	0.05	1.00
	90.1-2007 App G	0.10	0.03	0.28	0.09	0.02	0.05	0.57
	NECB 2011	0.05	0.01	0.26	0.13	0.02	0.05	0.51
	90.1-2010 App G	0.13	0.05	0.24	0.04	0.02	0.05	0.53
	90.1-2010 ECB	0.07	0.06	0.24	0.08	0.01	0.04	0.50
	Proposed (>22%)	0.05	0.03	0.16	0.11	0.01	0.04	0.40

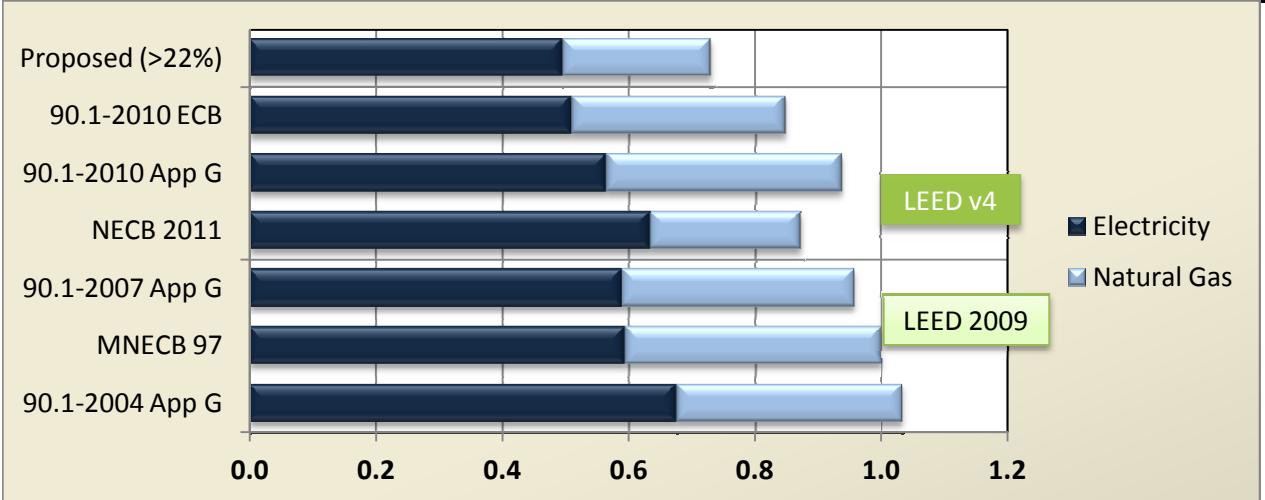


New Construction Archetype Energy Performance Assessment City of Vancouver

Energy Costs, Normalized on MNECB 97 Total Cost

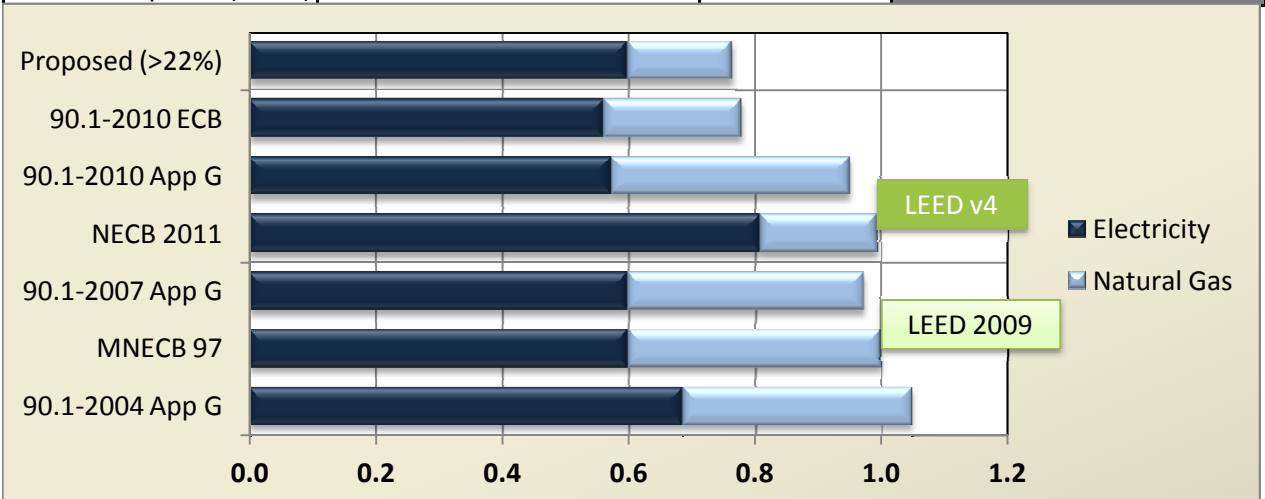
MURB, Wood-Stud		Energy Cost by Source		TOTAL	Proposed	LEED EAc1*
HW (100% Gas)		Electricity	Natural Gas	COST	Savings	Points
LEED v4 2009	90.1-2004 App G	0.68	0.36	1.03	29.3%	n/a
	MNECB 97	0.59	0.41	1.00	27.0%	2 pts
	90.1-2007 App G	0.59	0.37	0.96	23.7%	6 pts
	NECB 2011	0.63	0.24	0.87	16.3%	6 pts
	90.1-2010 App G	0.56	0.37	0.94	22.0%	9 pts
	90.1-2010 ECB	0.51	0.34	0.85	13.8%	n/a
	Proposed (>22%)	0.50	0.23	0.73		

*EAc2 for v4



MURB, Wood-Stud		Energy Cost by Source		TOTAL	Proposed	LEED EAc1
Electric Baseboard		Electricity	Natural Gas	COST	Savings	Points
LEED v4 2009	90.1-2004 App G	0.69	0.36	1.05	27.1%	n/a
	MNECB 97	0.60	0.40	1.00	23.6%	no pts
	90.1-2007 App G	0.60	0.37	0.97	21.3%	5 pts
	NECB 2011	0.81	0.19	0.99	23.2%	9 pts
	90.1-2010 App G	0.57	0.38	0.95	19.6%	7 pts
	90.1-2010 ECB	0.56	0.22	0.78	1.9%	N/A
	Proposed (>22%)	0.60	0.17	0.76		

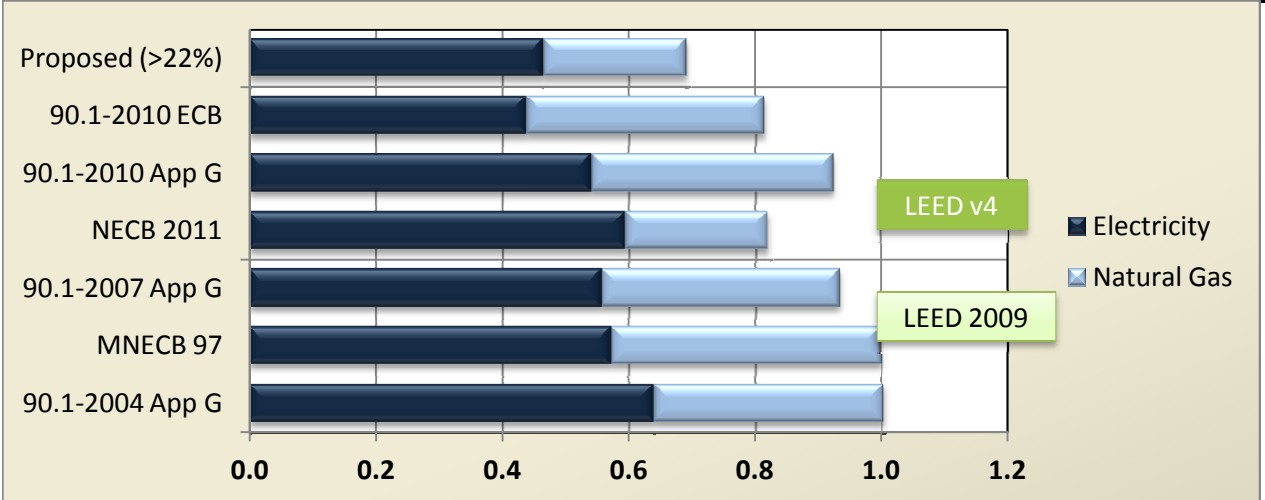
*EAc2 for v4



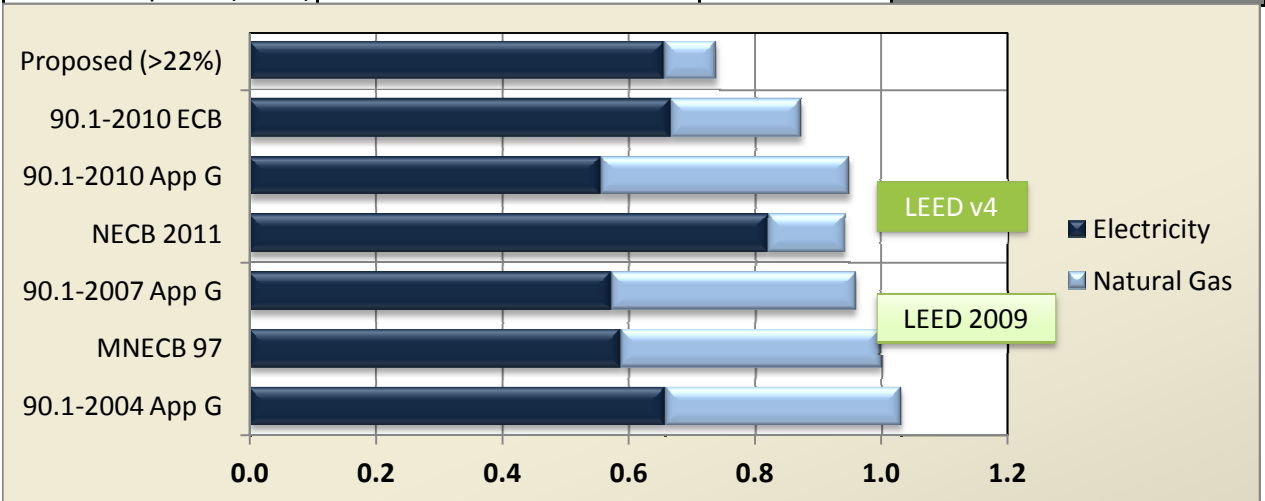
New Construction Archetype Energy Performance Assessment City of Vancouver

Energy Costs, Normalized on MNECB 97 Total Cost

MURB, Concrete/Steel	Energy Cost by Source		TOTAL COST	Proposed Savings	LEED EAc1 Points
	Electricity	Natural Gas			
HW / Cooled					
90.1-2004 App G	0.64	0.36	1.00	31.1%	n/a
LEED 2009 MNECB 97	0.57	0.43	1.00	30.9%	4 pts
LEED 2009 90.1-2007 App G	0.56	0.38	0.93	26.0%	8 pts
LEED v4 NECB 2011	0.59	0.23	0.82	15.6%	5 pts
LEED v4 90.1-2010 App G	0.54	0.38	0.92	25.2%	10 pts
90.1-2010 ECB	0.44	0.38	0.81	15.1%	N/A
Proposed (>22%)	0.46	0.23	0.69		*EAc2 for v4



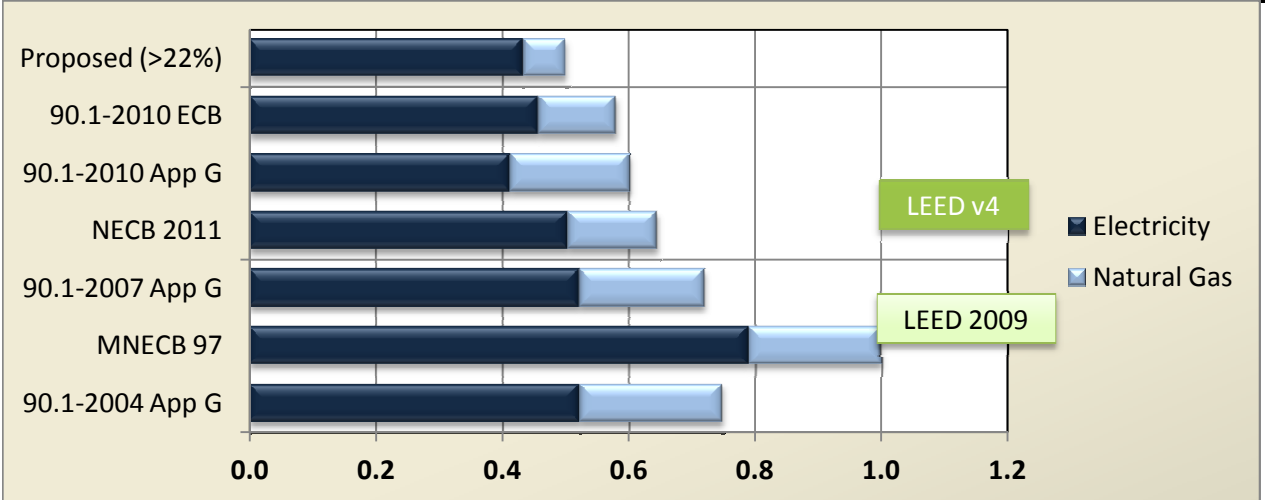
MURB, Concrete/Steel	Energy Cost by Source		TOTAL COST	Proposed Savings	LEED EAc1 Points
	Electricity	Natural Gas			
Electric BBs / Cooled					
90.1-2004 App G	0.66	0.37	1.03	28.5%	n/a
LEED 2009 MNECB 97	0.59	0.41	1.00	26.2%	1 pt
LEED 2009 90.1-2007 App G	0.57	0.39	0.96	23.1%	6 pts
LEED v4 NECB 2011	0.82	0.12	0.94	21.8%	8 pts
LEED v4 90.1-2010 App G	0.56	0.39	0.95	22.3%	9 pts
90.1-2010 ECB	0.67	0.21	0.87	15.5%	N/A
Proposed (>22%)	0.66	0.08	0.74		*EAc2 for v4



New Construction Archetype Energy Performance Assessment City of Vancouver

Energy Costs, Normalized on MNECB 97 Total Cost

Office Gas Heated, FPFC	Energy Cost by Source		TOTAL COST	Proposed Savings	LEED EAc1 Points
	Electricity	Natural Gas			
90.1-2004 App G	0.52	0.23	0.75	33.0%	n/a
LEED 2009 MNECB 97	0.79	0.21	1.00	49.9%	15 pts
LEED 2009 90.1-2007 App G	0.52	0.20	0.72	30.5%	10 pts
LEED v4 NECB 2011	0.50	0.14	0.64	22.4%	9 pts
LEED v4 90.1-2010 App G	0.41	0.19	0.60	16.9%	6 pts
90.1-2010 ECB	0.46	0.12	0.58	13.7%	N/A
Proposed (>22%)	0.43	0.07	0.50		*EAc2 for v4



Retail, 1st Floor Distributed HP	Energy Cost by Source		TOTAL COST	Proposed Savings	LEED EAc1 Points
	Electricity	Natural Gas			
90.1-2004 App G	0.55	0.04	0.59	21.6%	n/a
LEED 2009 MNECB 97	0.89	0.11	1.00	53.6%	20 pts
LEED 2009 90.1-2007 App G	0.58	0.04	0.62	25.2%	12 pts
LEED v4 NECB 2011	0.59	0.01	0.60	22.5%	11 pts
LEED v4 90.1-2010 App G	0.49	0.05	0.54	13.8%	6 pts
90.1-2010 ECB	0.54	0.02	0.57	18.0%	n/a
Proposed (>22%)	0.45	0.02	0.46		*EAc2 for v4

