

**CARLETON UNIVERSITY**  
**Sustainable Energy and Policy Unit**  
**MASTER'S THESIS EXAMINATION**

**CANDIDATE:** *Calene Treichel*  
*Master of Applied Science, Carleton University, 2020*

**DATE:** *Monday January 13, 2020, 14:00 3124 Mackenzie Building*

**THESIS TITLE:** *Technoeconomic Analysis of Air Based Solar Assisted Heat Pump Water Heaters for Canadian and American Cities*

**EXAMINATION BOARD:**

<b>Internal Examiner</b>	Huseyin Gunay, Civil & Environmental Engineering	(In Person)
<b>Member of Department</b>	Ian Beausoleil-Morrison, Mechanical & Aerospace Engineering	(In Person)
<b>Member of Department</b>	Jean Duquette, Mechanical & Aerospace Engineering	(In Person)
<b>Thesis Supervisor</b>	Cynthia Cruickshank, Mechanical & Aerospace Engineering	(In Person)
<b>Chair/Director of Department or Designate</b>	Ronald Miller	(Ex-officio)
<b>Dean of Faculty</b>	Larry Kostiuk	(Ex-officio)
<b>Dean, Faculty of Graduate and Postdoctoral Affairs</b>	Patrice Smith	(Ex-officio)

  
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**Ronald Miller, Chair/Director of Department or Designate**  
**Sustainable Energy and Policy Unit**