



BUSINESS SCHOOL
Te Kura Pakihi

COURSE OUTLINE

FINC420
Energy and Carbon Finance
[Climate and Energy Finance]

Semester Two, 2019

Paper Description and Aims

An examination of climate and energy finance placed in their broader energy and environmental policy context

Learning Outcomes

Upon successful completion of this paper, you should be able to:

- To understand how climate change creates opportunities and risks for the financial system, investors and financial markets
 - [*Critical Thinking; Environmental Literacy; Global Perspective; Interdisciplinary Perspective*]
- To gain an understanding of how energy and carbon markets function
 - [*Global Perspective; Life-long Learning; Interdisciplinary Perspective*]
- To use finance techniques and theory to make energy finance/investment decisions
 - [*Research, Communication; Information Literacy; Teamwork*]
- To explore the latest methods and approaches for doing empirical research in energy and carbon finance
 - [*Communication; Critical Thinking; Information Literacy; Scholarship*]

Teaching Staff

Paper Coordinator and Lecturer

Name: Ivan Diaz-Rainey (IDR)

Office: CO5.44

Email: ivan.diaz-rainey@otago.ac.nz

Office Hours: Tuesday 11:00am to midday and Thursdays 11:00 to midday

Lecturers on electricity markets

Name: Greg Sise, Managing Director of Energy Link Ltd

Others: Other guest lecturer will be invited to speak

Class Representatives

Class representatives are an important means of communication between students and staff. Contact details for your student class representatives can be found on the Blackboard page for this paper.

Course Delivery

Every week students must attend lectures which will be interactive:

Lecture Day/Time: Tuesday and Thursday 9:00am to 11:00am

Energy Utility Simulation Game: In addition to lectures, students will manage an energy utility company through the use of a competitive simulation software.

Course Calendar: The course calendar (in this outline) details scheduling information. Note that this calendar may change as the course proceeds. Any changes will be announced at lectures and be detailed on Blackboard.

Students are expected to prepare for and attend all classes to gain full benefit from the course.

Course Learning Resources

We will use a mix of a textbook and 'readings'. The readings will be available on Blackboard. The main textbook we will use will be:

- Simkins, B., & Simkins, R. (2013). Energy finance and economics: Analysis and valuation, risk management, and the future of energy (Vol. 606). John Wiley & Sons. [The university has purchased an eBook version, available [here](#)]

Also we will make use of the following online competitive simulation game

- CESIM SimPower Game [The University will pay the fee for you to use the simulation]

Blackboard

<https://blackboard.otago.ac.nz/> provides you with access to course materials, class notices, and resources. Blackboard is used to email the whole class so it is important that you check your student email and *Blackboard* regularly.

Further information about student support, learning support and information, academic integrity and other University resources for students is available on the COMMERCE_UG_2017: Commerce Undergraduate Students site on Blackboard.

Student Webmail

We will use your student email account to email you information relevant to your programme. To forward your University email address to an email address that you use regularly:

1. Log into your StudentMail account (<http://www.otago.ac.nz/smlanding/>) using your student username and password.
2. Click the **Cog** button (top right corner).
3. Click on **Mail** under **Your App Settings**.

4. Under **Accounts** on left hand side, select **Forwarding**.
5. Under the Forwarding heading, type in the email address you want your email to be forwarded to. You can also choose to have a copy of these emails kept on your StudentMail account, so please check the box if you would like this.
6. Click the **Save** button.

Assessment

All material presented is examinable (except where stated otherwise) by assignments and the final examination. All important assessment information such as due dates and times, content, guidelines and so on will be discussed at lectures and, where appropriate, detailed on Blackboard. *Students are responsible for ensuring that they are aware of this information, keeping track of their own progress, and catching up on any missed classes.*

Assessment	Type	Due date	% of final grade
AT1 – best 2 (2% each) of up to 5 class quizzes	Individual	Various	4%
AT2 NZX stock climate risk one pager	Individual	Week 3	6%
AT2 Assignment 2 & Presentation for Topic 3 <ul style="list-style-type: none"> • Presentation (<i>Terms Requirement</i>) 	Team	Week 9	30%
AT4 Simulation Report <ul style="list-style-type: none"> • 4% and 2% bonus for teams placed 1st and 2nd (subject to a maximum grade of 100% for the <i>paper</i>) 	Team	Week 13	20%
AT5 Final Exam (closed book)	Individual	Exam period	40%

Course Requirements

To pass the paper you must achieve a ***weighted average of 50% from the Assignments and Final Exam. The Final Exam is a closed book exam.***

Late Assignments

In the absence of evidence of extenuating circumstances, assignment submitted late will receive a penalty of a reduction of the grade by 10 percentage points and an additional 5 percentage points for any subsequent days it is late.

Referencing Style and Style Guide

For this paper the referencing style is (*e.g. Harvard, Chicago, APA, etc*). Here is a link to the style guide: (*insert link*) Style guides are also available on the University Library website: <http://www.otago.ac.nz/library/quicklinks/citation/index.html>

Learning Outcomes

Learning Outcome	AT5 Final Exam	AT4 Simulation	AT3 Fundamental Analysis in Oil and Gas Companies	AT2 NZX Climate risk	AT1 Quizzes
To understand how climate change creates opportunities and risks for the financial system, investors and financial markets	X	X	X	X	X
To gain an understanding of how energy and carbon markets function.	X	X			X
To use finance techniques and theory to make energy finance/investment decisions.	X	X	X		
To explore the latest methods and approaches for doing empirical research in energy and carbon finance.	X				X

Course Calendar

Week	Week Starting	Topic	Detail	Reading	Quiz & Simulation	Assessment/ Deadline	
1	8/07/2019	Topic 1 Climate Change and Finance	Intro to paper, CC, climate risks and opportunities, ESG, impact investing, measuring climate risk, cases US Banks and South Dunedin	Readings + Videos			
2	15/07/2019					AT1 Quiz 1	
3	22/07/2019	Topic 2 Energy Finance	Traditional Energy Finance, Energy Transition and Clean Energy Finance	Reading, Videos + Chpt 13		AT2 NZX climate risk	
4	29/07/2019	Topic 3 Fundamental Analysis and Stranded Assets Risk	O&G Companies and Stranded Asset Risk in Teams	Chapters 8, 9 + readings		AT1 Quiz 2	
5	5/08/2019						
6	12/08/2019		AT3 Group Meetings & Guest Lectures			AT1 Quiz 3	
7	19/08/2019		AT3 Presentations				
Mid Semester Break 26 August to 30 August							
8	2/09/2019	Topic 4 Electricity markets	Greg - NZ Electricity Market: Introduction and Nodal Pricing	Slides			
9	9/09/2019		Tue - Greg - NZEM: Hedging Thur - Ivan Intro to simulation	Slides	Practice	AT3: Oil Co. Valuation	
10	16/09/2019	Topic 5 Decision Making Simulation	Introduction to the Utilities Simulation (Develop Strategy)	CESIM Manual	Round 1 + 2	AT4a	
11	23/09/2019	Topic 6 Carbon Markets + RES Financing and policy support	Carbon market vs taxes theory; linking theory: EU ETS, NZ ETS RES financing and policy support (FIT; GCM)	Readings	Round 3		
12	30/09/2019				Round 4	AT1 Quiz 4	
13	7/10/2019	Revision and AT5 Guidance					AT4b Sim. report 20%

Disclaimer

While every effort is made to ensure that the information contained in this document is accurate, it is subject to change. Changes will be notified in class and via Blackboard. Students are encouraged to check Blackboard regularly. It is the student's responsibility to be informed.