ENGSCI 700A/B

Research Compendium

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1 Project Log Book

Note: Rework points before this date.

1.1 January - February

- Began scoping energy related project during experience in the Commercial team at ExxonMobil Australia

- Emailed and Meet with Rosalind

- Decided to look at Carbon Pricing Initiatives to inform reinvestment and carbon pricing initiatives

- Rosalind tasked with with investigating GAMS

1.2 March 1st - May 30th

- Coronavirus was classified a worldwide pandemic

- New Zealand was sent into lockdown

- Researched 30+ Academic reports, articles, websites for Literature Review

- Wrote 10 page Literature Review

- Scoped the project

- Submitted Mid-Semester Literature Review on May 5th

- Installed GAMS on my local device

- Began researching the construction of an energy system with Excel, VEDA FE, GAMS, VEDA BE, Python

- Created GOCPI Geographies.gyp script to combined cities, countries and continents while providing granularity to the modelling process

- Created GOCPI.html as a project display for selling the project

- Ran into a series of installation and usage issues with VEDA and GAMS

- Requested VM to work from home

- Installed VMware and GAMS on FlexIT systems

- Faced GAMS Licensing issues on FlexIT

1.3 May 31st 2020

1. Installed Microsoft Remote Desktop and FortiClient VPN to access UoA Virtual Machine

2. Set up Virtual Machine

1.4   June 1st 2020

1. Installed VEDA FE and VEDA FE on Virtual Machine

2. Downloaded 12 Demo Models to build my TIMES Model

1.5   June 3rd

1. Begun testing the Model the Demo Models

1.6   June 4th - June 10th

1. Meeting with Rosalind. Discussed set up and action points moving forward.

2. Showed VEDA-FE. Four assessments were discussed.

3. Continued researching how to use VEDA

1.7   June 11th - Approximately 4 hours

1. Meeting with Rosalind at 10:30am via Zoom

2. Discussed action points moving forward.

3. Continued to adapt excel spreadsheets for Excel Data.

4. There is still an issue with GAMS Installation (Check with Tony. He knows a guy)

5. VEDA FE creates the necessary DD files. Continue to work through the DEMO Models to understand GAMS.

1.8   June 16th - July 1st

- No Progress - Study Break and Exams for ACCTG 371, FINANCE 362 and EN-GSCI 711

1.9   July 2nd

- Last meeting in Rosalind's corner office. Discussed online exams, Chegg, cheating and project next steps.

- Agreed to adapt spreadsheets for user input and use BP's World Energy Outlook Statistics to determine production, conversion and consumption rates.

1.10   July 3rd

- Began adapting Demo 12 model for custom inputs

- Began using the openpyxl python library to manipulate excel (GOCPI Input.gyp)

1.11   July 4rd

- Continue to work on openpyxl adaptation with xls and xlsx excel sheets

1.12   July 6th

- Created a proper file directory for managing the project

- Continued to adapt GOCPI Inputs.gyp to scale across multiple sheets

- Adapted GOCPI.html, GOCPI Inputs.gyp and GOCPI Geographies to work after rearranging the geographies

1.13   October 30th

- Continue to work on openpyxl adaptation with xls and xlsx excel sheets

2   Bibliography