Inputs	Scripts	Description	Outputs	Feeds into
Transmission Lines and Capacities. *OBS: no data for this now! Need to update for region, e.g. using IPM data*	`TransmissionLineFuncs`	Imports data	Transmission line source, sink, capacity	CE Model
Reserve Types + ?? from ??? + Michael's Storage Paper	`RIPSMaster` (`DefineReserve...`)	Sets parameters used to compute reserves, which are determined in CE + UC models	Parameters for computing reserves	CE pre-process *OBS: Don't have operational reserves in CE model since there are no unit commitment constraints. Will use this for CE model.*
Fuel Prices from EIA AEO + EPA IPM	`RIPSMaster`	Imports Fuel Prices	Fuel Prices	CE + UCED
Generator Fleet from EIA 860, Needs, eGrid, PHORUM and AEO + IPM	`SetupGeneratorFleet`	Sets up generator fleet. Starts with NEEDs fleet, then adds emission rates (eGrid), cooling techs + sources (EIA 860), lat/long (eGrid), Var O&M + Fix O&M (AEO + IPM), unit commitment parameters (PHORUM), fuel prices, a random operational cost added (to expedite solution of optimization) + eligibility to provide regulated reserves. Script also combines plants of certain types (for computational efficiency)	Generator Fleet	CE + UCED
CO_2 cap	`InterpolateCO2Cap`	Sets CO_2 cap based on input limits	CO_2 cap	CE
Hourly Zonal Demand	`ForecastDemandWithRegion`	Computes hourly demand by zone given Francisco coeff + future met data from UW	Hourly Demand	Selectweeks... (DemandFuncCE)

Inputs	Scripts	Description	Outputs	Feeds into
New plant types for construction (see SI of storage paper for sources)	`ImportNewTechs`	Tech data compiled already in Excel from variety of sources. Script imports data, then modifies plant costs per particular cooling type with IECM data. Also filters particular plant types given inputs	Plant Types able to be built in CE	CE
Hourly Capacity Factors (CFs) of renewables form NREL (Wind data set + Solar Integration data set, both from NREL) *OBS: should update solar to NSRDB with PVLib - Michael has downloaded NSRDB data + code for PVLib is in Solar ??? folder*	`GetRenewableCFs`	Get hourly CFs for wind + solar by zone by: 1. 'ID-ing' best wind sites 2. Getting hourly CFs for these sites 3. Replacing wind/solar in zone with best wind/solar sites until capacity zero'd out	Hourly wind + solar CFs + metadata for plants to which those CFs correspond	`GetNetDemand` → (*script combines all plants + CFs into single hourly max gen profile for all wind + solar, which is input to CE + UCED*)
Hourly Capacity Factors (CFs) of new wind + solar that CE can build	`GetRenewableCFs`	Relies on `GetRenewableCFs` scripts to determine CFs for any incrementl (5 GW now) amount of capacity to existing wind + solar capacity. All wind + solar added by CE have that same avg CF profile.	Hourly CFs for all new wind + solar plants	CE

Inputs	Scripts	Description	Outputs	Feeds into

Curtailments of existing (already in fleet) thermal plant duw to ambient conditions + regulation based on UW data, Aviva coefficients + regulation limit	RIPSMaster (importHourlyThermalCur..)	For each grid cell from UW:
		
		1. Import meteo + water data
		
		2. For each gen in cell:
		
		  (a) set coefficients (Aviva)
		
		  (b) calculate curtailment from:
		
		    i. ambient conditions (Aviva regression)
		    ii. regulations (based on mixing eqn in word doc)
			Hourly time series of curtailments os each plant	GetHourlyCapacsForCE