

From History and Into the Future –

An Overview of US Energy Market with Shiny

-- WEI LIU

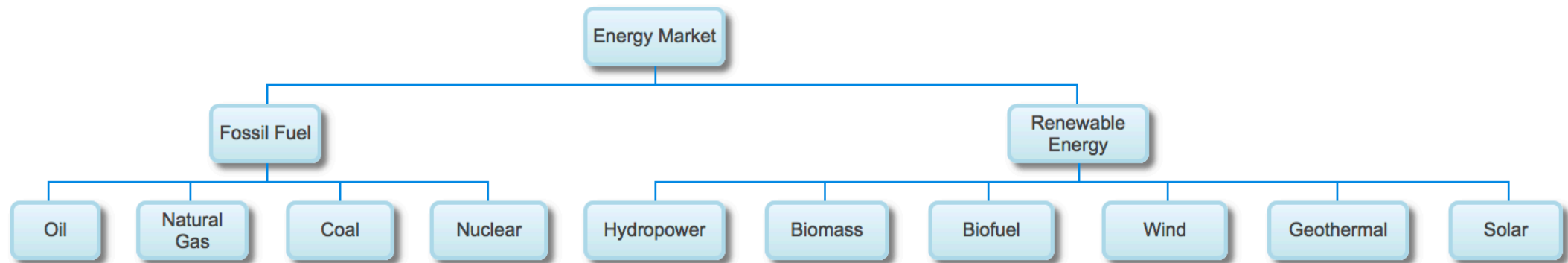
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Motivation

- Are we running out of energy?
- How do we fill the gap when coal is going down?
- How is the renewable energy doing? Will it replace the fossil fuels?
- Will we be energy independent in the future?

Background



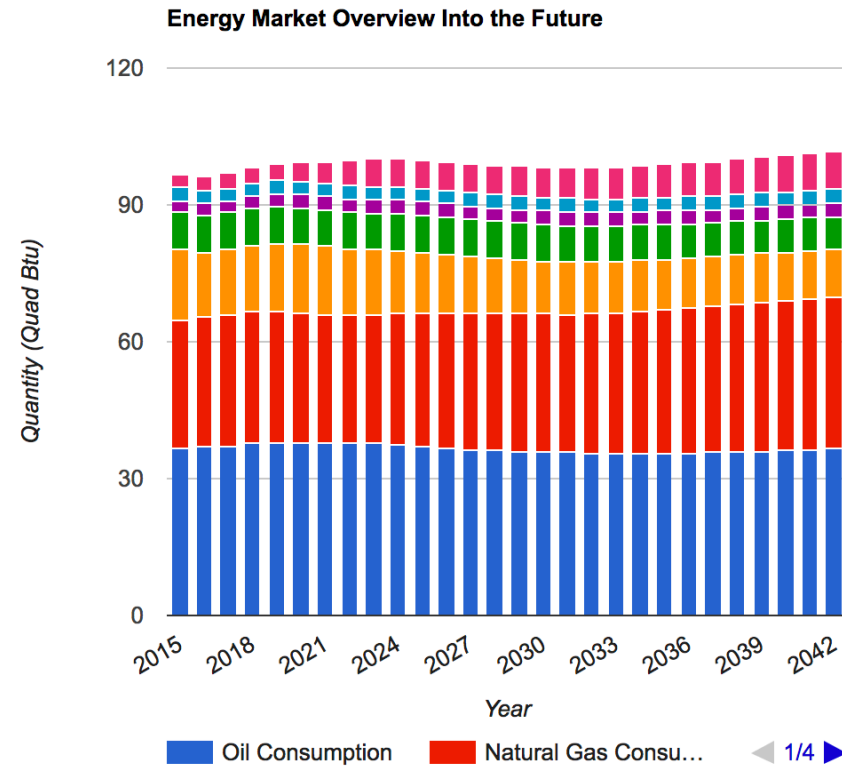
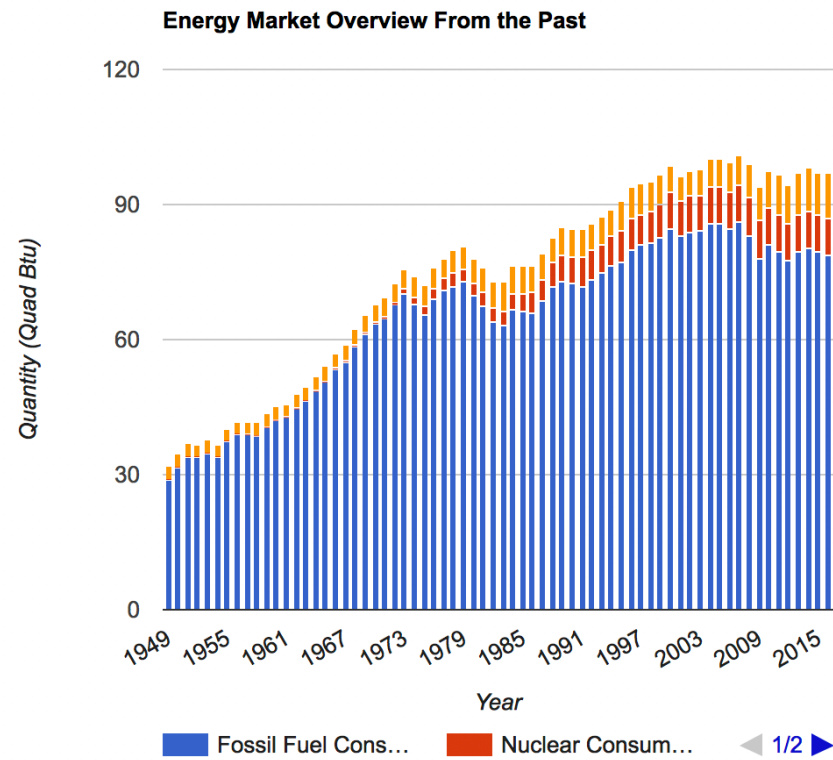
Data Gathering

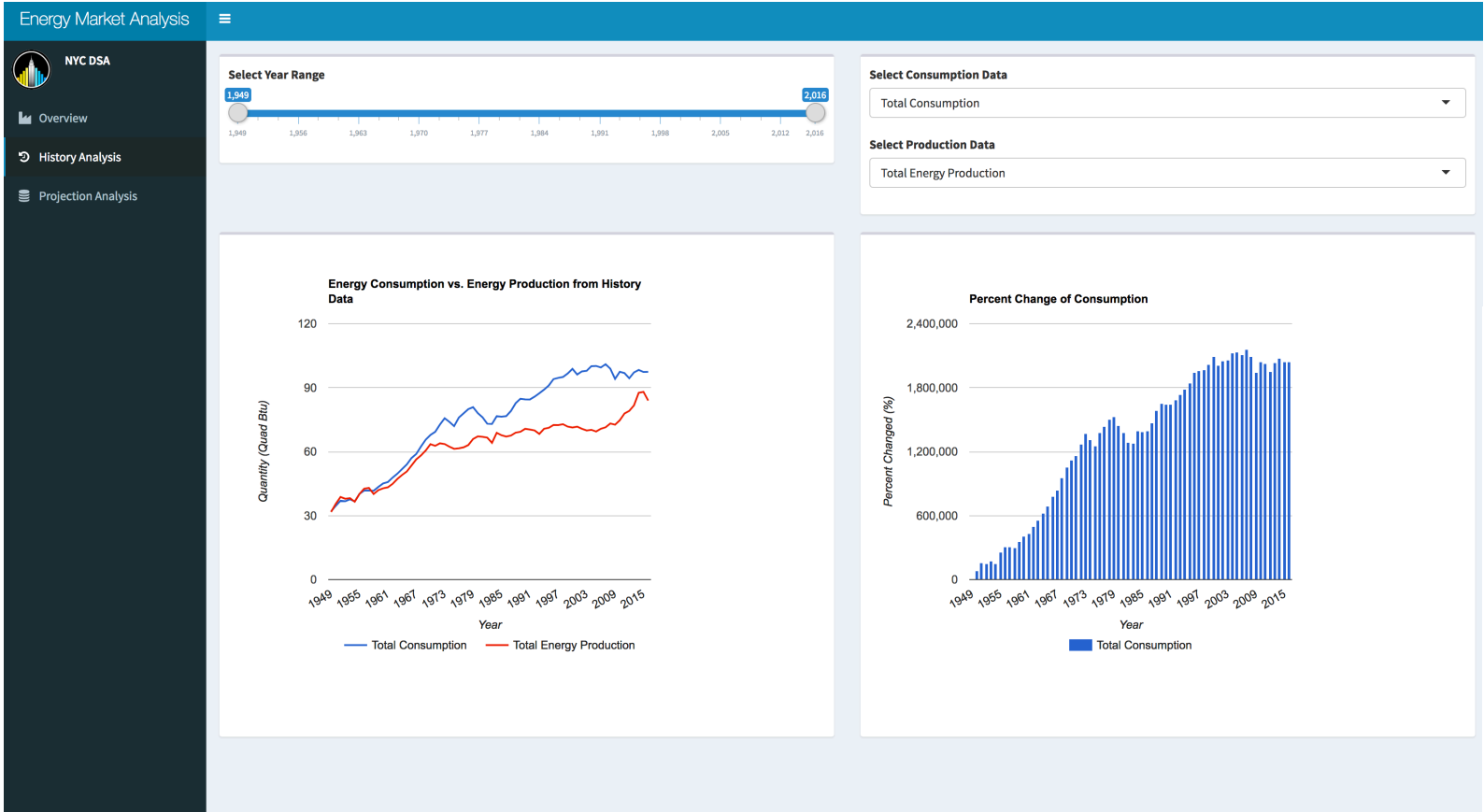
- Data Source: EIA (US Energy Information Administration)

PIN API			2047	2048	2049	2050	Growth (2016-2050)
Production							
	Crude Oil and Lease Condensate (quads)	6	21.02	20.85	20.63	20.53	0.3%
	Natural Gas Plant Liquids (quads)	4	6.33	6.27	6.28	6.29	0.8%
	Dry Natural Gas (quads)	2	40.72	40.93	41.15	41.61	1.2%
	Coal ¹ (quads)	5	12.24	12.19	12.13	11.99	-0.7%
	Nuclear / Uranium ² (quads)	0	6.62	6.54	6.51	6.36	-0.8%
	Conventional Hydroelectric Power (quads)	1	3.01	3.01	3.01	3.02	0.6%
	Biomass ³ (quads)	6	4.58	4.59	4.58	4.54	0.2%
	Other Renewable Energy ⁴ (quads)	7	9.27	9.45	9.67	9.73	3.5%
	Other ⁵ (quads)	2	0.92	0.91	0.92	0.92	-0.0%
	Total (quads)	3	104.71	104.74	104.89	104.98	0.6%
Imports							
	Crude Oil (quads)	9	18.26	18.33	18.52	18.87	0.2%
	Petroleum and Other Liquids ⁶ (quads)	7	3.77	3.77	3.75	3.75	-0.3%
	Natural Gas ⁷ (quads)	1	1.31	1.30	1.29	1.29	-2.5%
	Other ⁸ (quads)	3	0.17	0.17	0.18	0.18	-2.7%
	Total (quads)	5	23.51	23.57	23.74	24.08	-0.1%

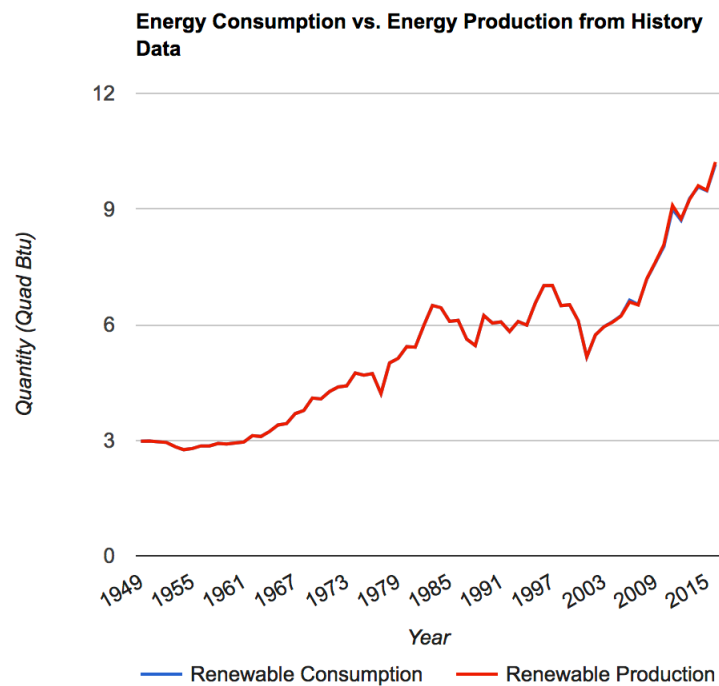
Source: <https://www.eia.gov/outlooks/aeo/data/browser/#/?id=1-AEO2017&cases=ref2017&sourcekey=0>

Data Gathering





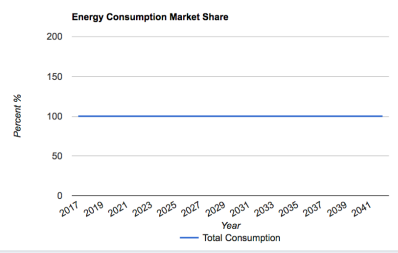
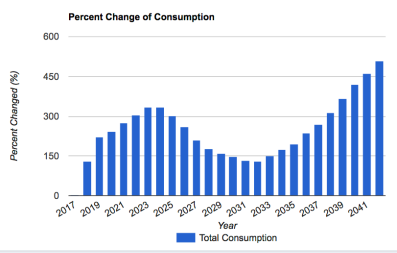
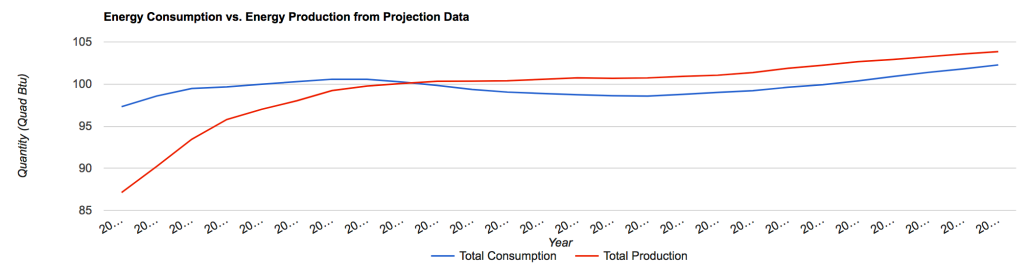
History Data Analysis





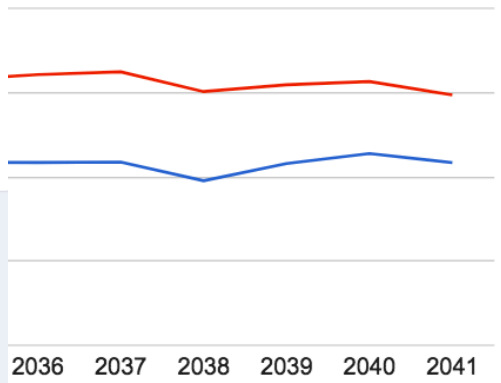
Select Consumption Data
Total Consumption

Select Production Data
Total Production



Total Renewable Consumption

Projection Data Analysis



Conclusion

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Thank You!

