COUNTRY EXPOSURE MODEL

Review main statistic of a exposure model and create summaries for a given Country.

```
/home/risk/venvs/py38w/lib/python3.8/site-packages/geopandas/_compat.py:111: UserWarning: The Sh
apely GEOS version (3.9.1-CAPI-1.14.2) is incompatible with the GEOS version PyGEOS was compiled
with (3.10.1-CAPI-1.16.0). Conversions between both will be slow.
  warnings.warn(
```

```python
# Parameters
country = "Norway"
```

```
Exposure files:
  Exposure_Com_Norway.csv
  Exposure_Ind_Norway.csv
  Exposure_Res_Norway.csv
```

Sanity checks and formats

Exposure at National level

Summary by occupancy type

OCCUPANCY	OCCUPANTS	BUILDINGS	COST_USD	BUILDINGS_%	COST_USD_%
Res	5,348.0K	1,534.6K	$692.1B	87.14%	69.08%
Ind	1,906.5K	105.2K	$114.6B	5.97%	11.43%
Com	2,139.2K	121.2K	$195.3B	6.88%	19.49%

Other metrics to consider

OCCUPANCY	AREA_SQM	COST_BUILDING_USD	AVG_BUILDING_AREA_SQM	AVG_COST_PER_AREA_USD
Total	297.0M	$697.2B	169	$3,374
Res	257.9M	$553.7B	168	$2,683
Ind	15.6M	$45.8B	148	$7,335
Com	23.4M	$97.6B	193	$8,345

Exposure summary at Admin level 1

NAME_1	COST_USD	BUILDINGS	OCCUPANTS	COST_USD_%	BUILDINGS_%	OCCUPANTS_%
Buskerud	$215.2B	290.8K	2,340.9K	21.48%	16.51%	24.92%
Hordaland	$104.2B	187.1K	1,065.6K	10.40%	10.62%	11.34%
Astfold	$72.4B	148.8K	719.1K	7.23%	8.45%	7.66%
Rogaland	$65.3B	106.7K	666.7K	6.52%	6.06%	7.10%
Oppland	$63.3B	132.1K	559.3K	6.32%	7.50%	5.95%
Nordland	$56.8B	113.9K	459.2K	5.67%	6.47%	4.89%
Vestfold	$50.7B	103.8K	476.6K	5.06%	5.89%	5.07%
Sor-Trondelag	$49.3B	72.2K	441.9K	4.92%	4.10%	4.70%
More og Romsdal	$45.8B	91.1K	418.4K	4.57%	5.17%	4.45%
Vest-Agder	$44.1B	86.9K	434.5K	4.40%	4.93%	4.63%
Hedmark	$39.9B	79.0K	316.1K	3.98%	4.49%	3.36%
Akershus	$35.1B	49.9K	267.4K	3.51%	2.83%	2.85%
Nord-Trondelag	$31.7B	68.5K	300.5K	3.16%	3.89%	3.20%
Troms	$30.0B	60.1K	265.1K	3.00%	3.41%	2.82%
Aust-Agder	$23.4B	48.2K	205.6K	2.33%	2.73%	2.19%
Sogn og Fjordane	$22.7B	45.0K	166.8K	2.27%	2.56%	1.78%
Oslo	$21.0B	27.8K	152.4K	2.09%	1.58%	1.62%
Telemark	$15.8B	21.4K	56.8K	1.58%	1.22%	0.61%
Finnmark	$15.3B	28.2K	80.6K	1.53%	1.60%	0.86%

Exposure by simplified taxonomy

```
Adding `MACRO_TAXO` column
```

MACRO_TAXO	COST_USD	BUILDINGS	OCCUPANTS	COST_USD_%	BUILDINGS_%	OCCUPANTS_%
RC	$393.1B	301.4K	3,863.2K	39.24%	17.11%	41.13%
W	$326.0B	832.2K	2,773.9K	32.53%	47.25%	29.53%
MUR	$187.6B	533.1K	1,462.6K	18.72%	30.27%	15.57%
S	$95.3B	94.7K	1,293.9K	9.51%	5.37%	13.77%

Exposure by taxonomy

```
Showing only taxonomies that represent 90% of the total `COST_USD`
```

MACRO_TAXO	TAXONOMY	COST_USD	BUILDINGS	COST_USD_%	BUILDINGS_%
W	W/LFM+CDN/H:2/RES	$153.1B	486,957	17.08%	29.14%
MUR	MUR/LWAL+CDN/H:2/RES	$104.7B	332,393	11.68%	19.89%
RC	CR/LWAL+CDN/HBET:3-5/RES	$83.5B	116,384	9.31%	6.96%
W	W/LFM+CDN/H:1/RES	$72.4B	237,472	8.08%	14.21%
RC	CR/LWAL+CDN/HBET:6-/RES	$70.3B	10,901	7.85%	0.65%
RC	CR/LDUAL+CDN/HBET:3-5/RES	$57.0B	78,184	6.36%	4.68%
MUR	MUR/LWAL+CDN/H:1/RES	$53.5B	166,207	5.96%	9.95%
S	S/LFM+CDN/H:1/IND	$34.1B	31,571	3.80%	1.89%
RC	CR/LDUAL+CDN/HBET:6-/RES	$32.0B	4,955	3.57%	0.30%
W	W/LFM+CDN/H:2/COM	$31.5B	21,688	3.52%	1.30%
RC	CR/LWAL+CDN/HBET:3-5/COM	$31.3B	12,978	3.50%	0.78%
W	W/LFM+CDN/HBET:3-5/RES	$30.9B	46,910	3.45%	2.81%
RC	CR+PC/LFM+CDN/H:1/IND	$29.8B	26,309	3.33%	1.57%
RC	CR/LDUAL+CDN/HBET:3-5/COM	$25.1B	10,382	2.80%	0.62%
W	W/LFM+CDN/H:1/COM	$21.8B	23,342	2.43%	1.40%
S	S/LWAL+CDN/HBET:3-5/RES	$18.1B	26,061	2.02%	1.56%
W	W/LWAL+CDN/H:1/IND	$16.2B	15,785	1.81%	0.94%
RC	CR+PC/LWAL+CDN/HBET:3-5/COM	$16.1B	5,913	1.80%	0.35%
MUR	MUR/LWAL+CDN/H:1/COM	$15.0B	16,760	1.67%	1.00%