Excel Tips and Tricks

Patrick Dolan

GVEA

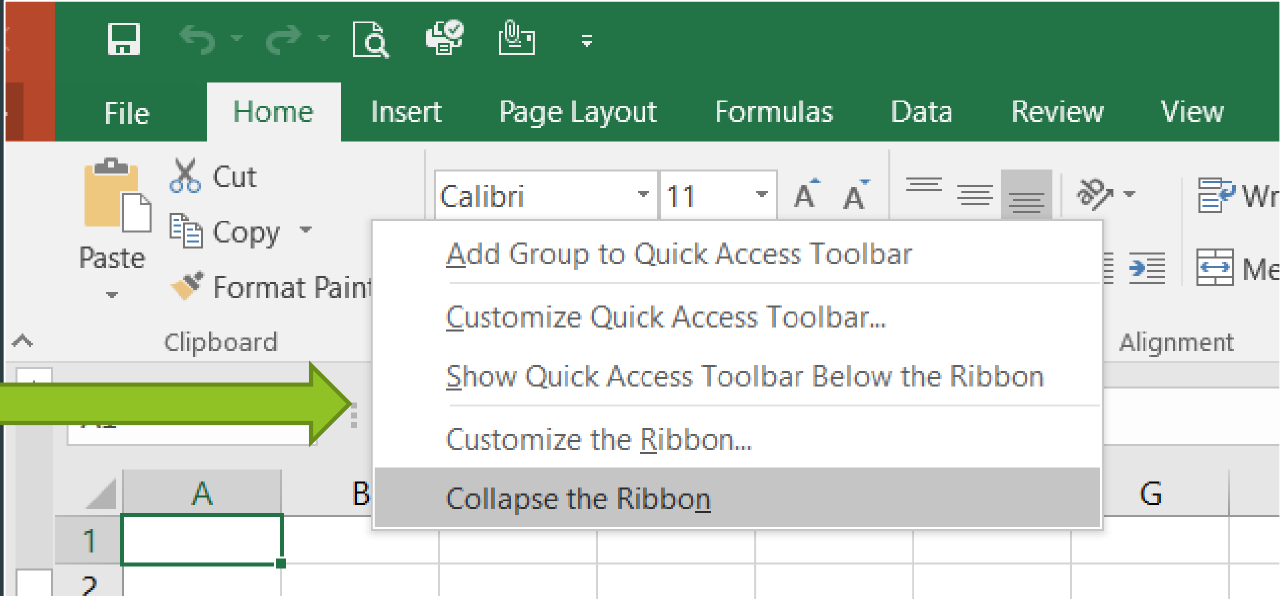
Pro tips to make Excel work for you

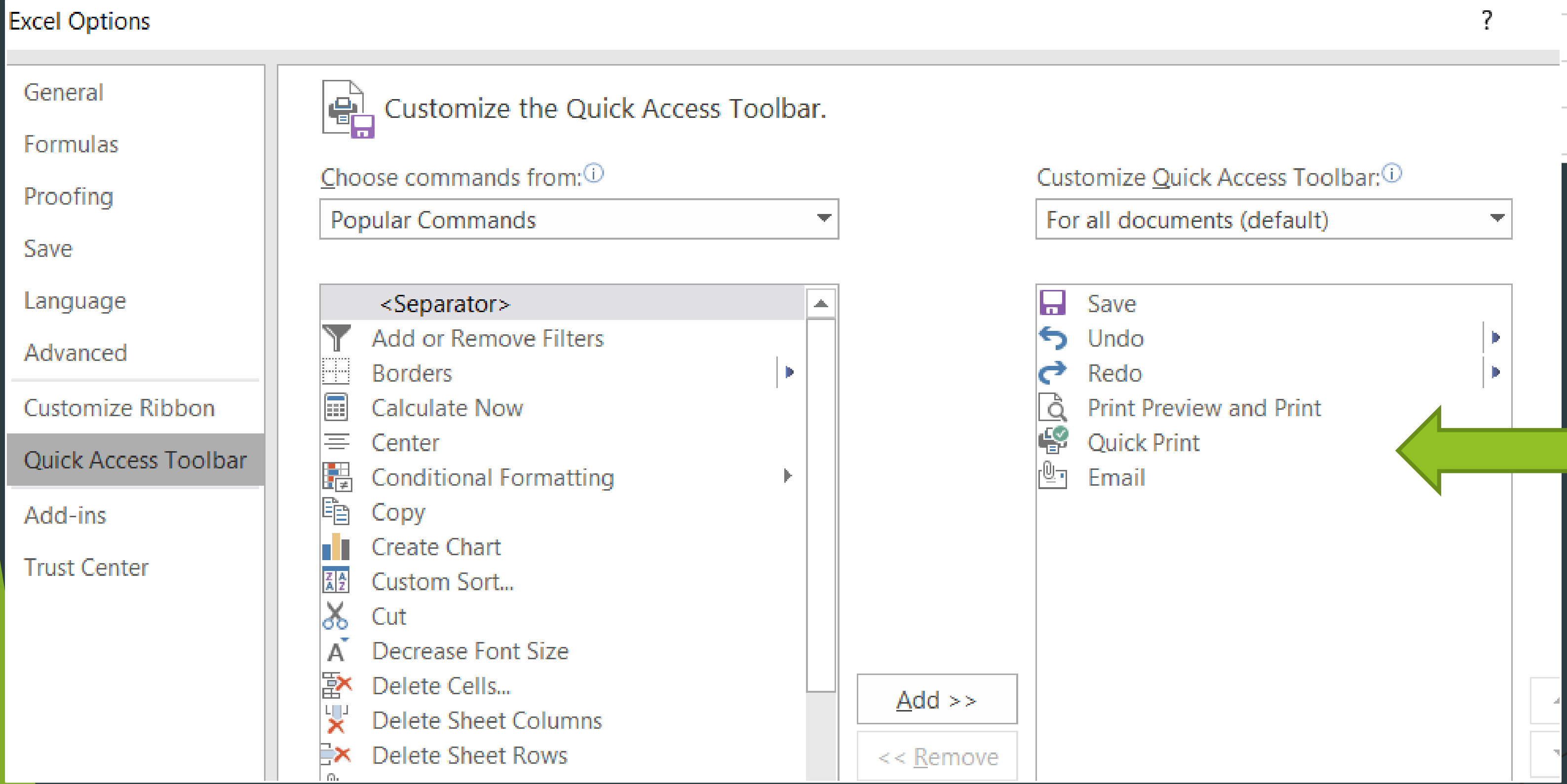
Some things we'll cover

- Toolbar & Quick Access Settings
- Concatenate
- Contrasting Headers
- Formatting Reports for Printing
- Data Validation
- Paste Special
- Pivot Tables

Update Your Settings

- Display the full toolbar
  - Remove collapse the Ribbon
  - Can Customize!


File
Home
Insert
Page Layout
Formulas
Data
Review
View
Paste
Cut
Copy
Format Paint
Clipboard
Calibri
11
Alignment
Add Group to Quick Access Toolbar
Customize Quick Access Toolbar...
Show Quick Access Toolbar Below the Ribbon
Customize the Ribbon...
Collapse the Ribbon
A
B
G
1
2


Excel Options

Customize the Quick Access Toolbar.

Choose commands from: Popular Commands

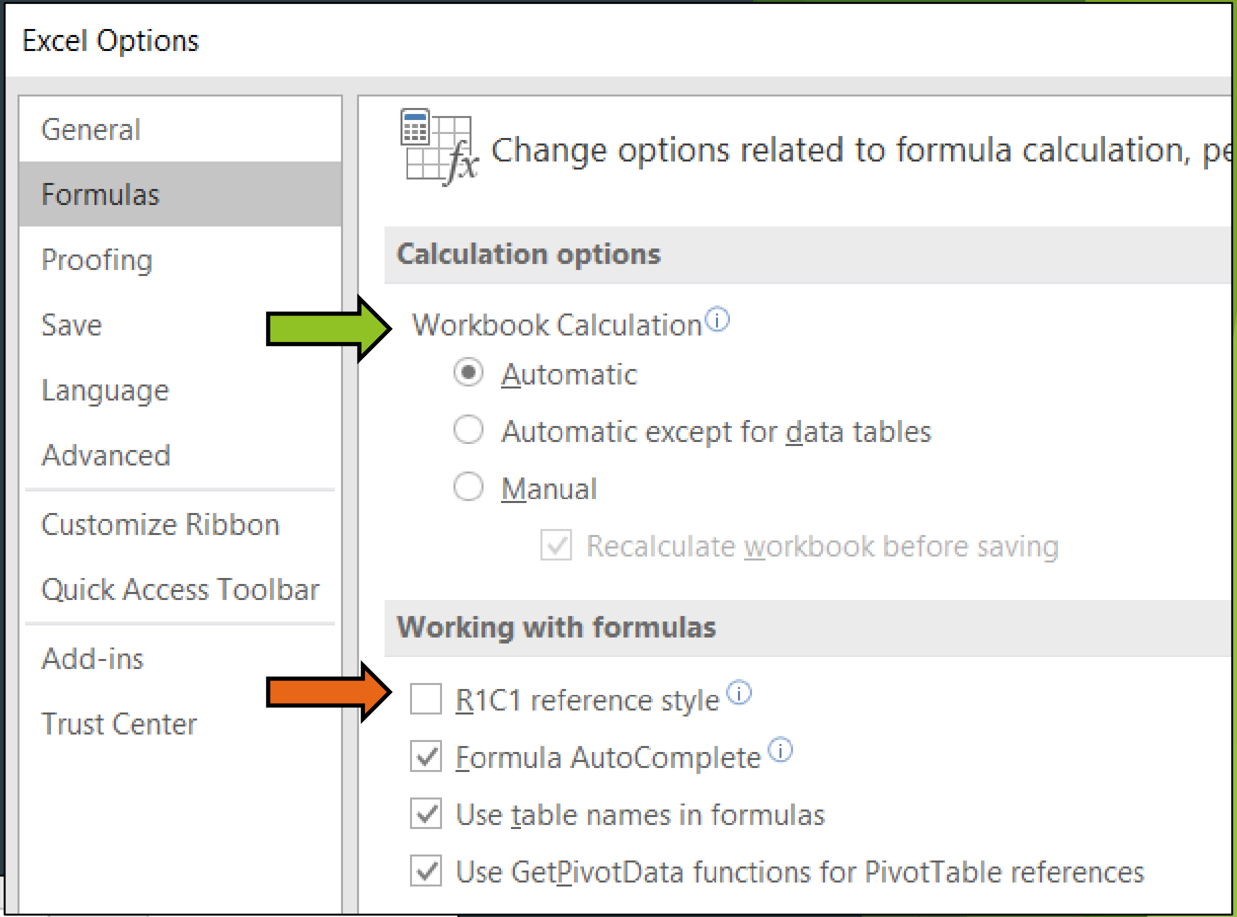
Customize Quick Access Toolbar: For all documents (default)

?
General
Formulas
Proofing
Save
Language
Advanced
Customize Ribbon
Quick Access Toolbar
Add-ins
Trust Center
<Separator>
Add or Remove Filters
Borders
Calculate Now
Center
Conditional Formatting
Copy
Create Chart
Custom Sort...
Cut
Decrease Font Size
Delete Cells...
Delete Sheet Columns
Delete Sheet Rows
Add >>
<< Remove
Save
Undo
Redo
Print Preview and Print
Quick Print
Email

- Quick Access Toolbar
  - Make sure it appears above Ribbon
  - Add useful items
    - Print Preview
    - Quick Print
    - Save

More Settings

- Formula Excel Options
  - Workbook Calculation
    - Sometimes can get turned off
- Why are my Column headers now numbers?
  - (R1C1 style)
    - make sure it's unchecked (A1 style)!


Excel Options

General
Formulas
Proofing
Save
Language
Advanced
Customize Ribbon
Quick Access Toolbar
Add-ins
Trust Center

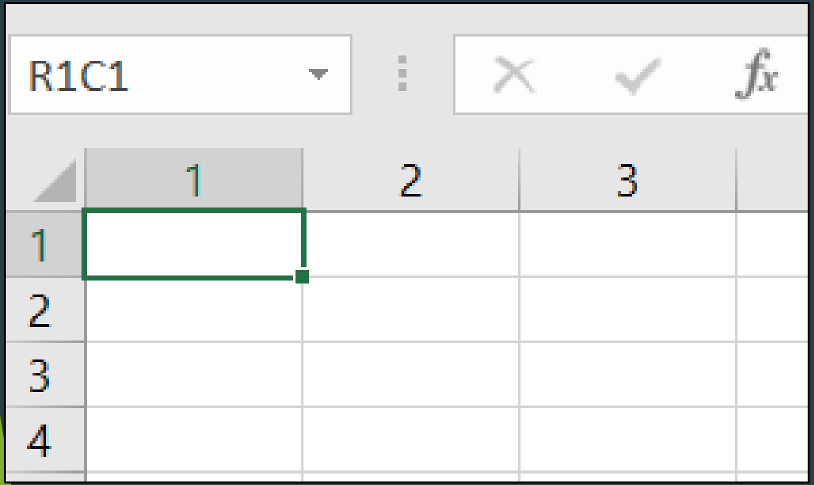
Change options related to formula calculation, pe

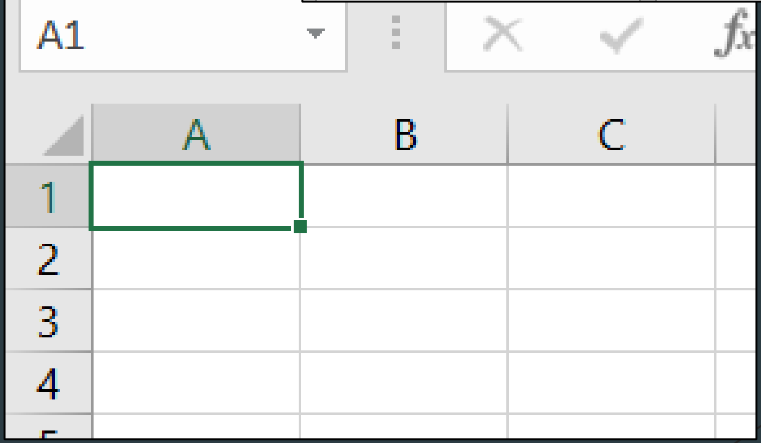
Calculation options

Workbook Calculation
- ● Automatic
- ○ Automatic except for data tables
- ○ Manual
  - ☑ Recalculate workbook before saving

Working with formulas

- ☐ R1C1 reference style
- ☑ Formula AutoComplete
- ☑ Use table names in formulas
- ☑ Use GetPivotData functions for PivotTable references

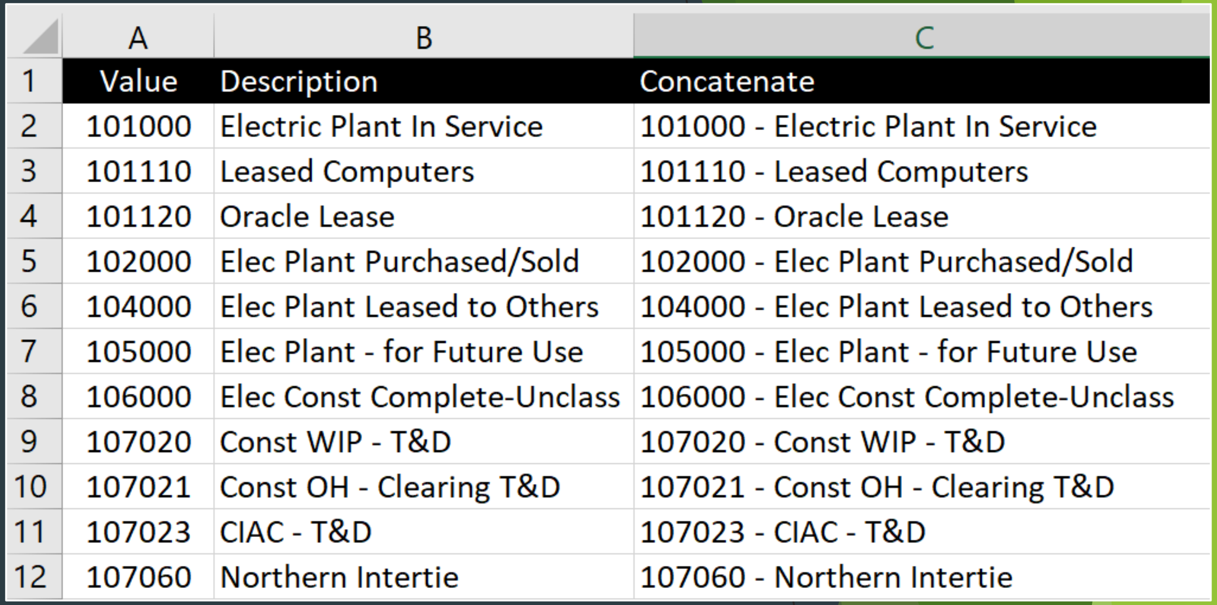

R1C1
fx
1
2
3
1
2
3
4


A1
fx
A
B
C
1
2
3
4

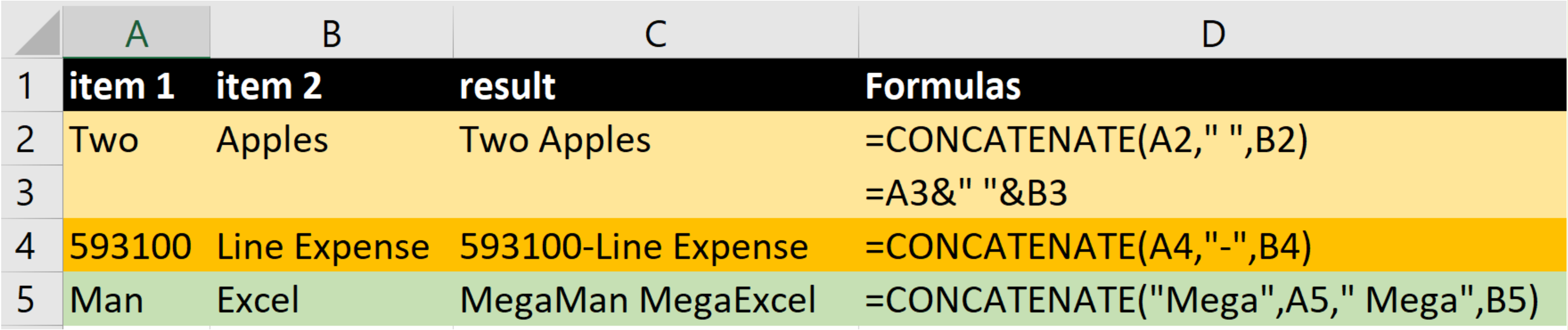
Concatenate

Easy way to combine 2 more cells into one

- =concatenate(item1,item2,etc)
- = item1&" "&item2   (faster way: no commas or typing concatenate!)
  - Can use text as well
    - “ – “ adds some space between joined items
    - Can add words as well such as “Mega –”



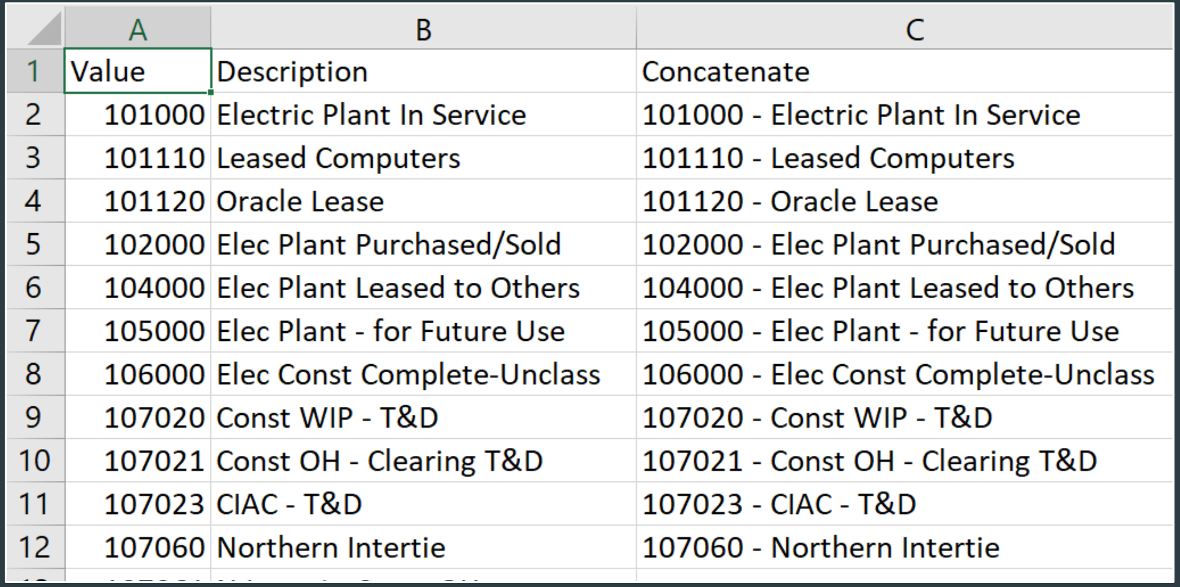
	A	B	C
1	Value	Description	Concatenate
2	101000	Electric Plant In Service	101000 - Electric Plant In Service
3	101110	Leased Computers	101110 - Leased Computers
4	101120	Oracle Lease	101120 - Oracle Lease
5	102000	Elec Plant Purchased/Sold	102000 - Elec Plant Purchased/Sold
6	104000	Elec Plant Leased to Others	104000 - Elec Plant Leased to Others
7	105000	Elec Plant - for Future Use	105000 - Elec Plant - for Future Use
8	106000	Elec Const Complete-Unclass	106000 - Elec Const Complete-Unclass
9	107020	Const WIP - T&D	107020 - Const WIP - T&D
10	107021	Const OH - Clearing T&D	107021 - Const OH - Clearing T&D
11	107023	CIAC - T&D	107023 - CIAC - T&D
12	107060	Northern Intertie	107060 - Northern Intertie



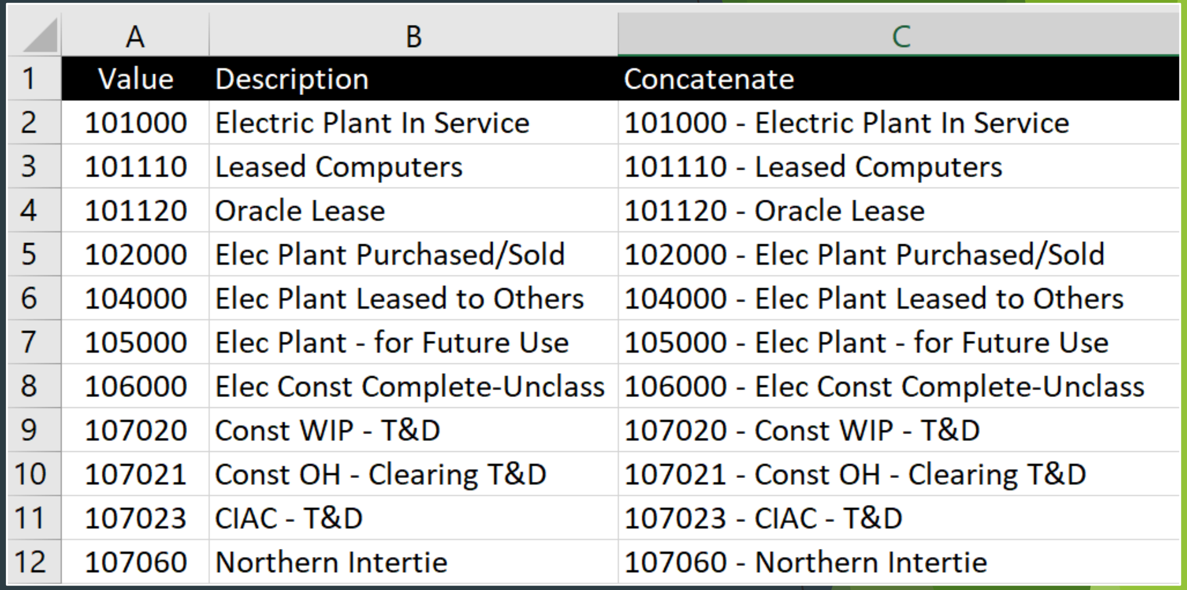
	A	B	C	D
1	**item 1**	**item 2**	**result**	**Formulas**
2	Two	Apples	Two Apples	=CONCATENATE(A2," ",B2)
3				=A3&" "&B3
4	593100	Line Expense	593100-Line Expense	=CONCATENATE(A4,"-",B4)
5	Man	Excel	MegaMan MegaExcel	=CONCATENATE("Mega",A5," Mega",B5)

Contrasting Headers

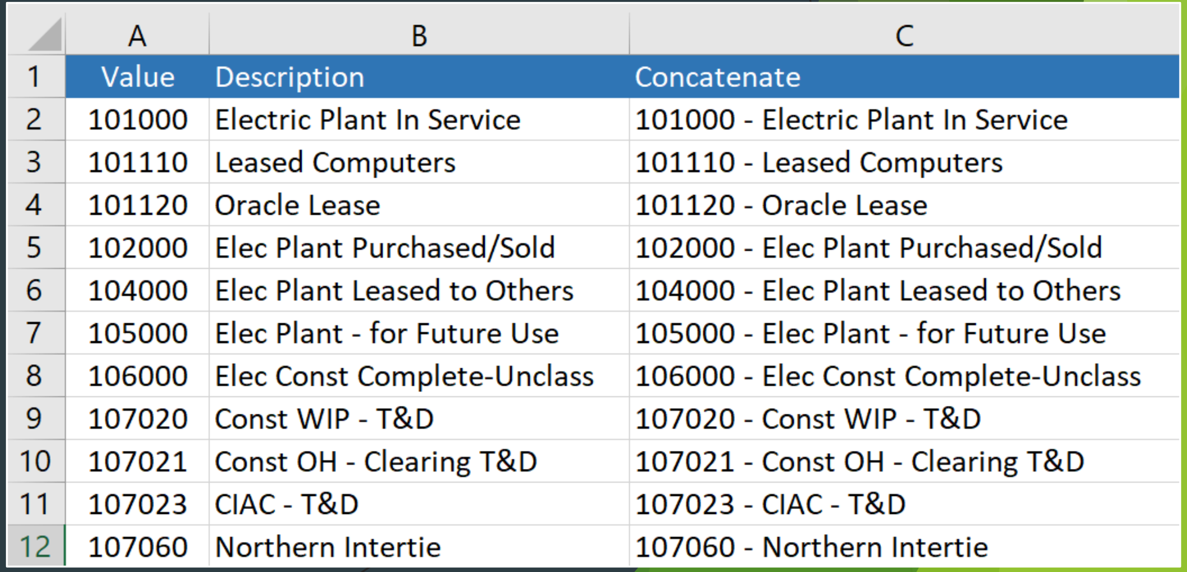
- Adds much better visual impacts to reports



	A	B	C
1	Value	Description	Concatenate
2	101000	Electric Plant In Service	101000 - Electric Plant In Service
3	101110	Leased Computers	101110 - Leased Computers
4	101120	Oracle Lease	101120 - Oracle Lease
5	102000	Elec Plant Purchased/Sold	102000 - Elec Plant Purchased/Sold
6	104000	Elec Plant Leased to Others	104000 - Elec Plant Leased to Others
7	105000	Elec Plant - for Future Use	105000 - Elec Plant - for Future Use
8	106000	Elec Const Complete-Unclass	106000 - Elec Const Complete-Unclass
9	107020	Const WIP - T&D	107020 - Const WIP - T&D
10	107021	Const OH - Clearing T&D	107021 - Const OH - Clearing T&D
11	107023	CIAC - T&D	107023 - CIAC - T&D
12	107060	Northern Intertie	107060 - Northern Intertie



	A	B	C
1	Value	Description	Concatenate
2	101000	Electric Plant In Service	101000 - Electric Plant In Service
3	101110	Leased Computers	101110 - Leased Computers
4	101120	Oracle Lease	101120 - Oracle Lease
5	102000	Elec Plant Purchased/Sold	102000 - Elec Plant Purchased/Sold
6	104000	Elec Plant Leased to Others	104000 - Elec Plant Leased to Others
7	105000	Elec Plant - for Future Use	105000 - Elec Plant - for Future Use
8	106000	Elec Const Complete-Unclass	106000 - Elec Const Complete-Unclass
9	107020	Const WIP - T&D	107020 - Const WIP - T&D
10	107021	Const OH - Clearing T&D	107021 - Const OH - Clearing T&D
11	107023	CIAC - T&D	107023 - CIAC - T&D
12	107060	Northern Intertie	107060 - Northern Intertie



	A	B	C
1	Value	Description	Concatenate
2	101000	Electric Plant In Service	101000 - Electric Plant In Service
3	101110	Leased Computers	101110 - Leased Computers
4	101120	Oracle Lease	101120 - Oracle Lease
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6	104000	Elec Plant Leased to Others	104000 - Elec Plant Leased to Others
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8	106000	Elec Const Complete-Unclass	106000 - Elec Const Complete-Unclass
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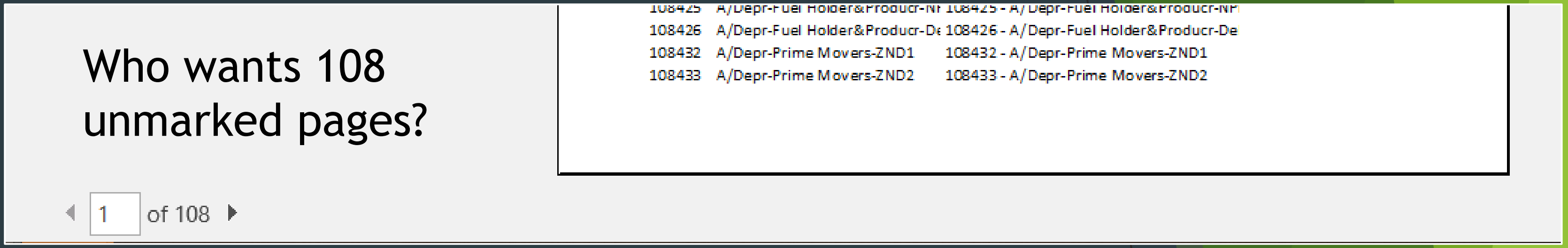
10	107021	Const OH - Clearing T&D	107021 - Const OH - Clearing T&D
11	107023	CIAC - T&D	107023 - CIAC - T&D
12	107060	Northern Intertie	107060 - Northern Intertie

Setting up to print

- Use Footers for Multiple Pages

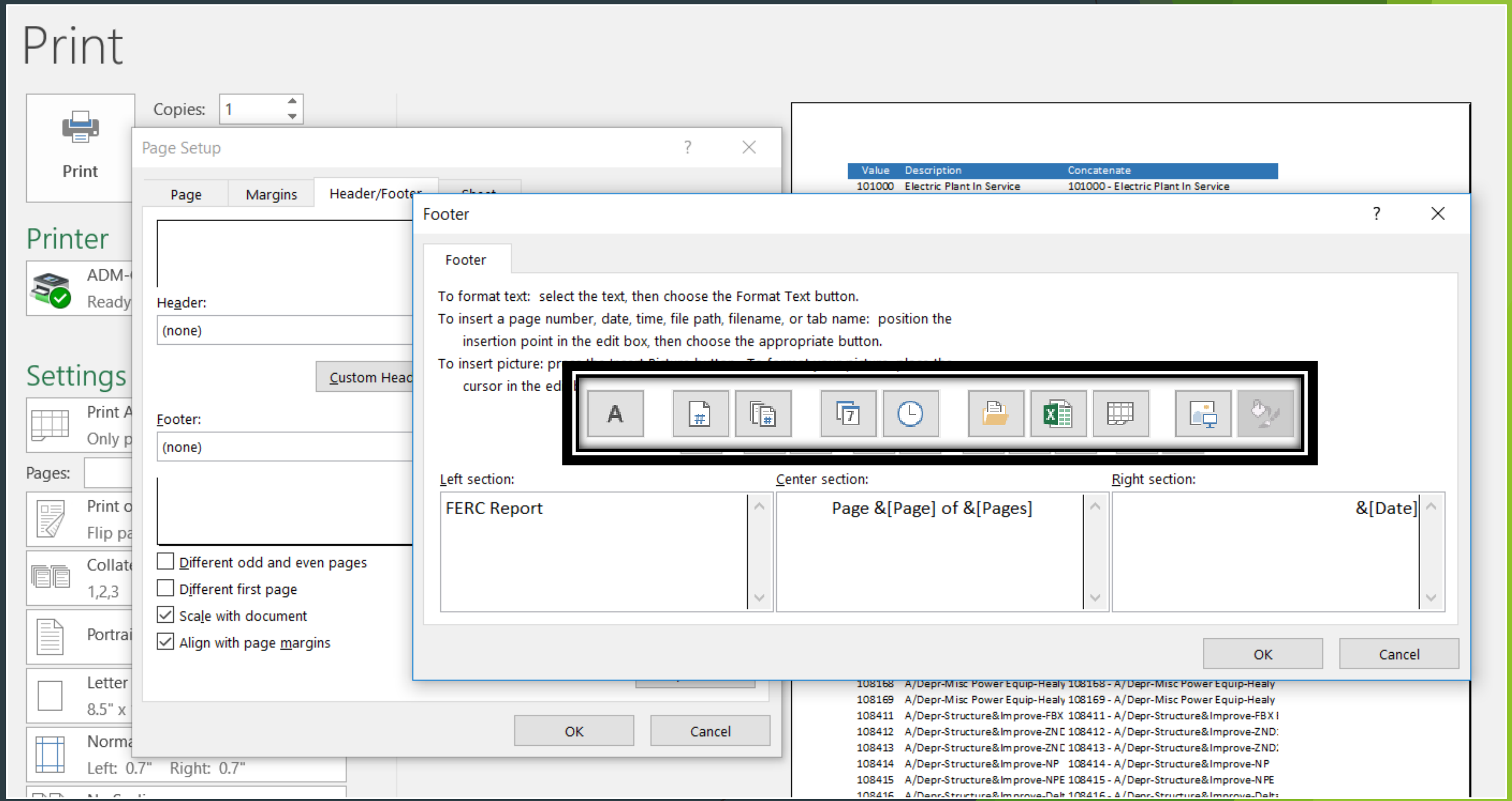


Who wants 108 unmarked pages?

108426	A/Depr-Fuel Holder&Producr-De	108426 - A/Depr-Fuel Holder&Producr-De
108432	A/Depr-Prime Movers-ZND1	108432 - A/Depr-Prime Movers-ZND1
108433	A/Depr-Prime Movers-ZND2	108433 - A/Depr-Prime Movers-ZND2

1 of 108

- Page Setup, Header/Footer
  - Use custom!
  - “Page “(button)” of “(button2)
  - Report name and Date?



Copies: 1

ADM-
Ready

Print A
Only p

Pages:

Print o
Flip pa

Collate
1,2,3

Portrai

Letter
8.5" x

Norma
Left: 0.7" Right: 0.7"

Header: (none)

Footer: (none)

☐ Different odd and even pages
☐ Different first page
☑ Scale with document
☑ Align with page margins

To format text: select the text, then choose the Format Text button.

To insert a page number, date, time, file path, filename, or tab name: position the insertion point in the edit box, then choose the appropriate button.

To insert picture: pr
cursor in the ed

Left section: FERC Report

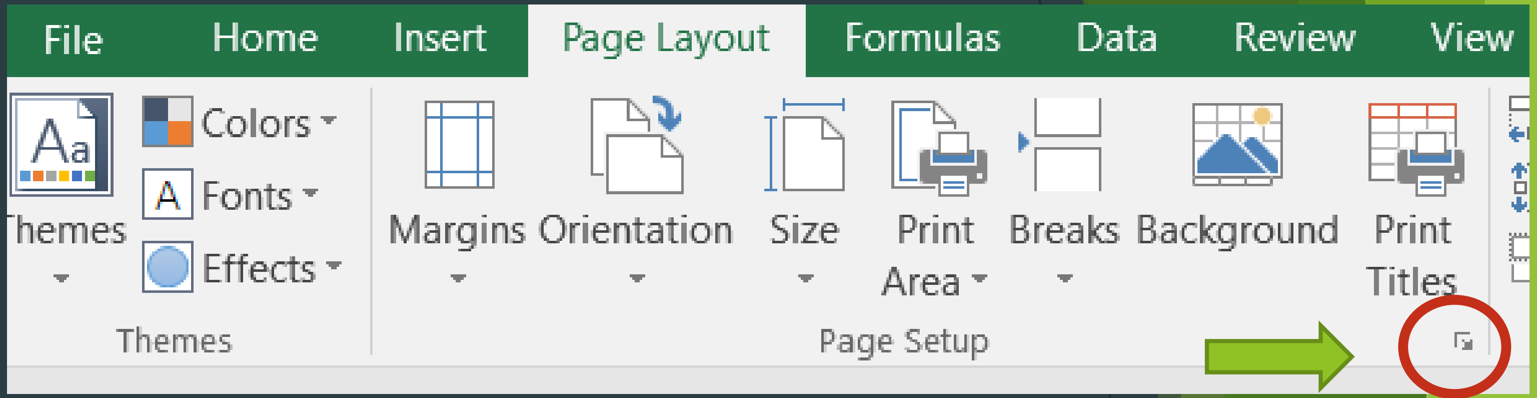
Center section: Page &[Page] of &[Pages]

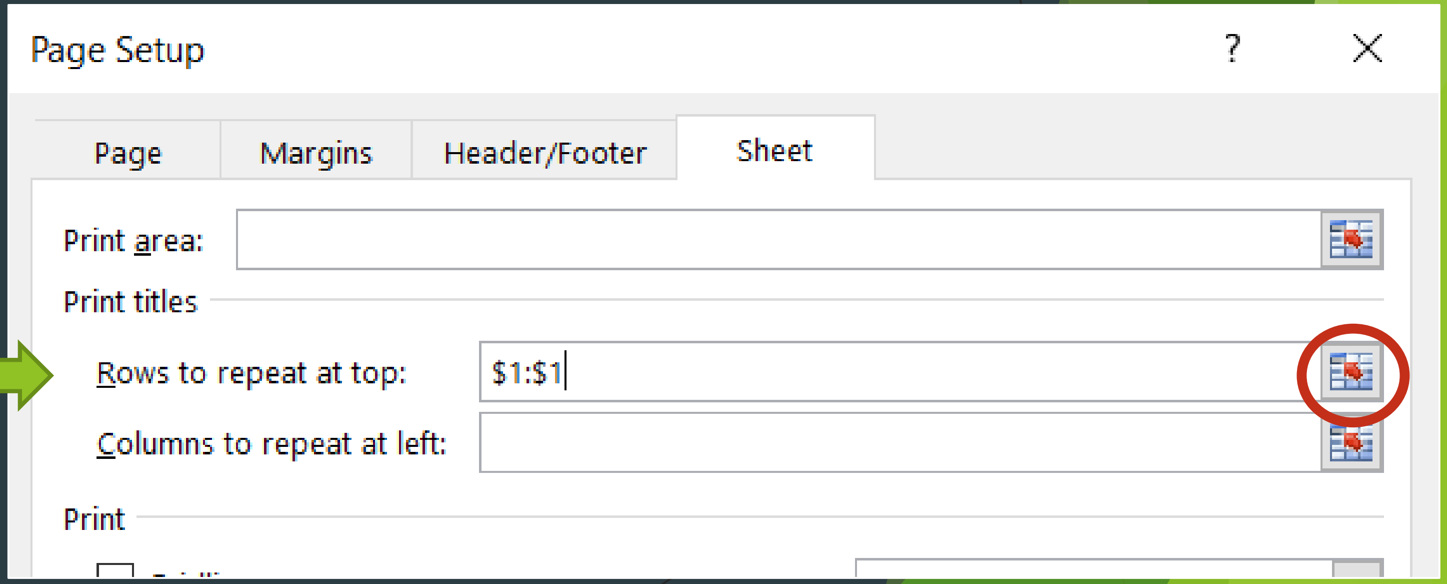
Right section: &[Date]

Value	Description	Concatenate
101000	Electric Plant In Service	101000 - Electric Plant In Service
108169	A/Depr-Misc Power Equip-Healy	108169 - A/Depr-Misc Power Equip-Healy
108411	A/Depr-Structure&Improve-FBX	108411 - A/Depr-Structure&Improve-FBX I
108412	A/Depr-Structure&Improve-ZND	108412 - A/Depr-Structure&Improve-ZND
108413	A/Depr-Structure&Improve-ZND	108413 - A/Depr-Structure&Improve-ZND
108414	A/Depr-Structure&Improve-NP	108414 - A/Depr-Structure&Improve-NP
108415	A/Depr-Structure&Improve-NPE	108415 - A/Depr-Structure&Improve-NPE

Setting up to print

- Setup Rows to Repeat
  - Page Layout Ribbon
    - Box on Page Setup
    - Sheet Tab
    - Click in Icon at end and select the row(s) you want and each page of the report to repeat


File
Home
Insert
Page Layout
Formulas
Data
Review
View
Themes
Colors
Fonts
Effects
Margins
Orientation
Size
Print Area
Breaks
Background
Print Titles
Themes
Page Setup

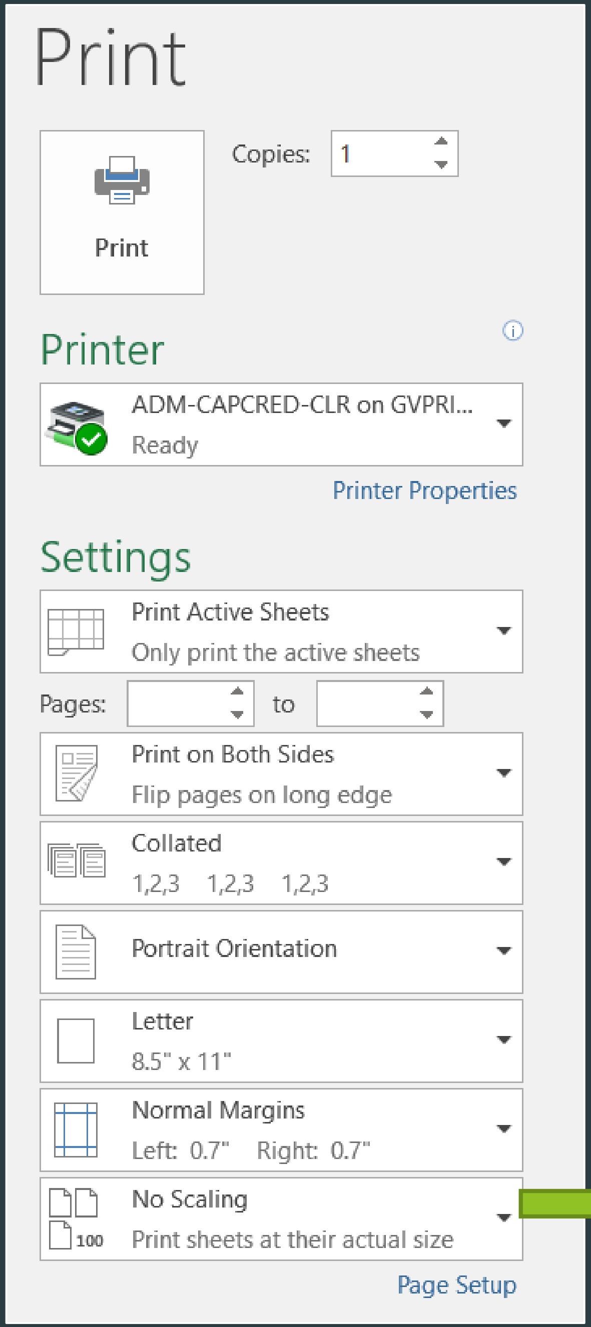

Page Setup
?
Page
Margins
Header/Footer
Sheet
Print area:
Print titles
Columns to repeat at left:
Print

Rows to repeat at top: $1:$1

* Can Make total report longer

Printing setup

- Look at Scaling under print preview
    - Are all your columns on one page?
- Landscape or Portrait?



Print

Print

Copies: 1

Printer

ADM-CAPCRED-CLR on GVPRI...
Ready

Printer Properties

Settings

Print Active Sheets
Only print the active sheets

Pages: to

Print on Both Sides
Flip pages on long edge

Collated
1,2,3 1,2,3 1,2,3

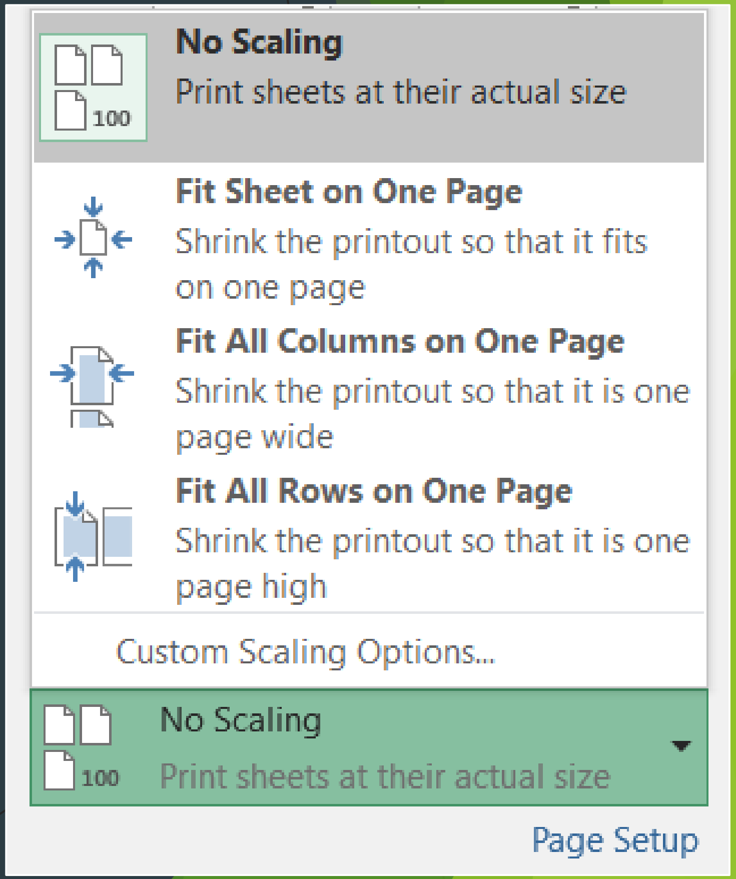
Portrait Orientation

Letter
8.5" x 11"

Normal Margins
Left: 0.7" Right: 0.7"

No Scaling
Print sheets at their actual size

Page Setup



No Scaling
Print sheets at their actual size

Fit Sheet on One Page
Shrink the printout so that it fits on one page

Fit All Columns on One Page
Shrink the printout so that it is one page wide

Fit All Rows on One Page
Shrink the printout so that it is one page high

Custom Scaling Options...

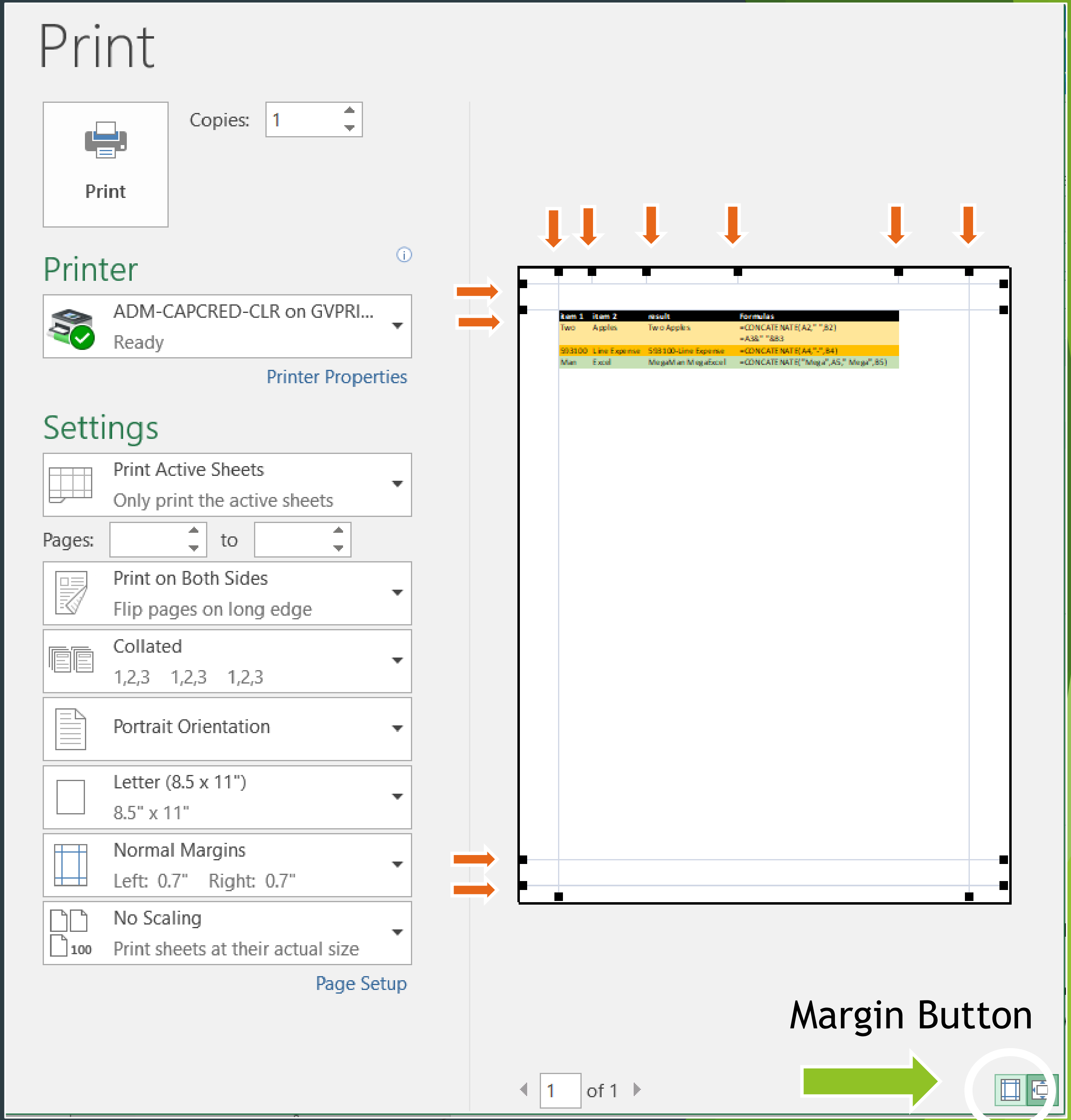
No Scaling
Print sheets at their actual size

Page Setup

Margins

Adjust Margins!

- Easier to Read
- Looks Better
- Can reduce report size



Print

Print

Copies: 1

Printer

ADM-CAPCRED-CLR on GVPRI...
Ready

Printer Properties

Settings

Print Active Sheets
Only print the active sheets

Pages: to

Print on Both Sides
Flip pages on long edge

Collated
1,2,3 1,2,3 1,2,3

Portrait Orientation

Letter (8.5 x 11")
8.5" x 11"

Normal Margins
Left: 0.7" Right: 0.7"

No Scaling
Print sheets at their actual size

Page Setup

item 1	item 2	result	Formulas
Two	Apples	Two Apples	=CONCATENATE(A2," ",B2)
			=A3&" "&B3
593100	Line Expense	593100-Line Expense	=CONCATENATE(A4,"-",B4)
Man	Excel	MegaMan MegaExcel	=CONCATENATE("Mega",A5," Mega",B5)

1 of 1

Margin Button

Final Report Look

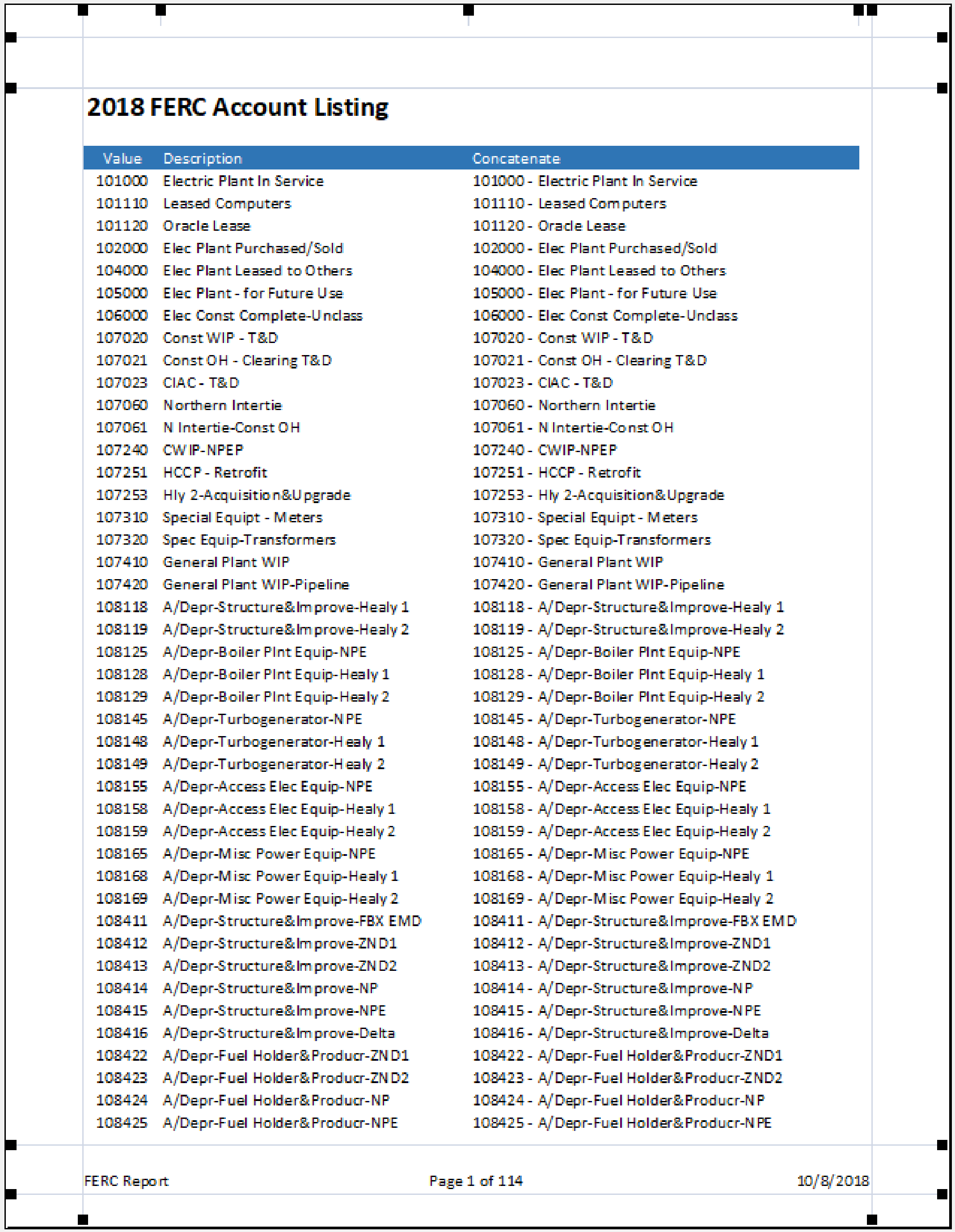
- Results
  - Good Spacing
  - Report has Title on each page
  - Page numbers
  - Date of report
  - Contrasting Header

Report Title

Column Headers

Data Spacing

Page Footer



2018 FERC Account Listing

Value	Description	Concatenate
101000	Electric Plant In Service	101000 - Electric Plant In Service
101110	Leased Computers	101110 - Leased Computers
101120	Oracle Lease	101120 - Oracle Lease
102000	Elec Plant Purchased/Sold	102000 - Elec Plant Purchased/Sold
104000	Elec Plant Leased to Others	104000 - Elec Plant Leased to Others
105000	Elec Plant - for Future Use	105000 - Elec Plant - for Future Use
106000	Elec Const Complete-Unclass	106000 - Elec Const Complete-Unclass
107020	Const WIP - T&D	107020 - Const WIP - T&D
107021	Const OH - Clearing T&D	107021 - Const OH - Clearing T&D
107023	CIAC - T&D	107023 - CIAC - T&D
107060	Northern Intertie	107060 - Northern Intertie
107061	N Intertie-Const OH	107061 - N Intertie-Const OH
107240	CWIP-NPEP	107240 - CWIP-NPEP
107251	HCCP - Retrofit	107251 - HCCP - Retrofit
107253	Hly 2-Acquisition&Upgrade	107253 - Hly 2-Acquisition&Upgrade
107310	Special Equipt - Meters	107310 - Special Equipt - Meters
107320	Spec Equip-Transformers	107320 - Spec Equip-Transformers
107410	General Plant WIP	107410 - General Plant WIP
107420	General Plant WIP-Pipeline	107420 - General Plant WIP-Pipeline
108118	A/Depr-Structure&Improve-Healy 1	108118 - A/Depr-Structure&Improve-Healy 1
108119	A/Depr-Structure&Improve-Healy 2	108119 - A/Depr-Structure&Improve-Healy 2
108125	A/Depr-Boiler Plnt Equip-NPE	108125 - A/Depr-Boiler Plnt Equip-NPE
108128	A/Depr-Boiler Plnt Equip-Healy 1	108128 - A/Depr-Boiler Plnt Equip-Healy 1
108129	A/Depr-Boiler Plnt Equip-Healy 2	108129 - A/Depr-Boiler Plnt Equip-Healy 2
108145	A/Depr-Turbogenerator-NPE	108145 - A/Depr-Turbogenerator-NPE
108148	A/Depr-Turbogenerator-Healy 1	108148 - A/Depr-Turbogenerator-Healy 1
108149	A/Depr-Turbogenerator-Healy 2	108149 - A/Depr-Turbogenerator-Healy 2
108155	A/Depr-Access Elec Equip-NPE	108155 - A/Depr-Access Elec Equip-NPE
108158	A/Depr-Access Elec Equip-Healy 1	108158 - A/Depr-Access Elec Equip-Healy 1
108159	A/Depr-Access Elec Equip-Healy 2	108159 - A/Depr-Access Elec Equip-Healy 2
108165	A/Depr-Misc Power Equip-NPE	108165 - A/Depr-Misc Power Equip-NPE
108168	A/Depr-Misc Power Equip-Healy 1	108168 - A/Depr-Misc Power Equip-Healy 1
108169	A/Depr-Misc Power Equip-Healy 2	108169 - A/Depr-Misc Power Equip-Healy 2
108411	A/Depr-Structure&Improve-FBX EMD	108411 - A/Depr-Structure&Improve-FBX EMD
108412	A/Depr-Structure&Improve-ZND1	108412 - A/Depr-Structure&Improve-ZND1
108413	A/Depr-Structure&Improve-ZND2	108413 - A/Depr-Structure&Improve-ZND2
108414	A/Depr-Structure&Improve-NP	108414 - A/Depr-Structure&Improve-NP
108415	A/Depr-Structure&Improve-NPE	108415 - A/Depr-Structure&Improve-NPE
108416	A/Depr-Structure&Improve-Delta	108416 - A/Depr-Structure&Improve-Delta
108422	A/Depr-Fuel Holder&Producr-ZND1	108422 - A/Depr-Fuel Holder&Producr-ZND1
108423	A/Depr-Fuel Holder&Producr-ZND2	108423 - A/Depr-Fuel Holder&Producr-ZND2
108424	A/Depr-Fuel Holder&Producr-NP	108424 - A/Depr-Fuel Holder&Producr-NP
108425	A/Depr-Fuel Holder&Producr-NPE	108425 - A/Depr-Fuel Holder&Producr-NPE

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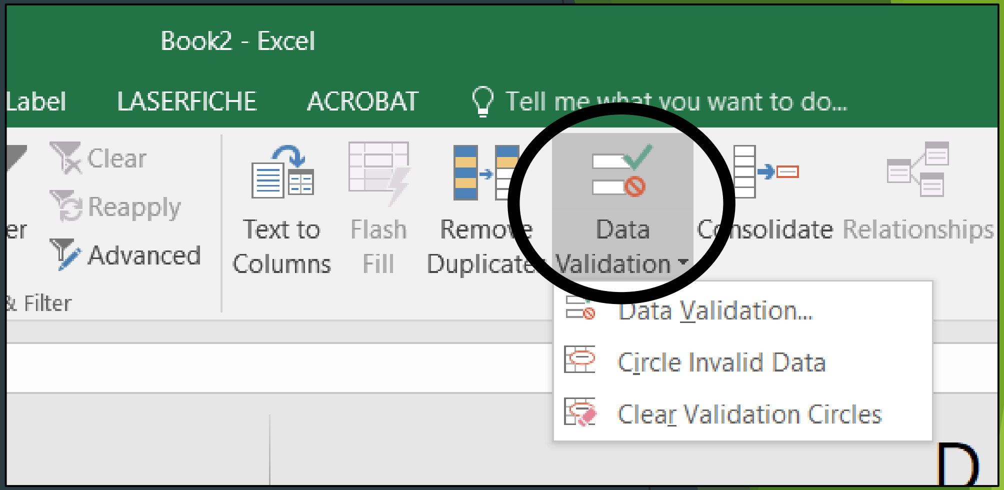
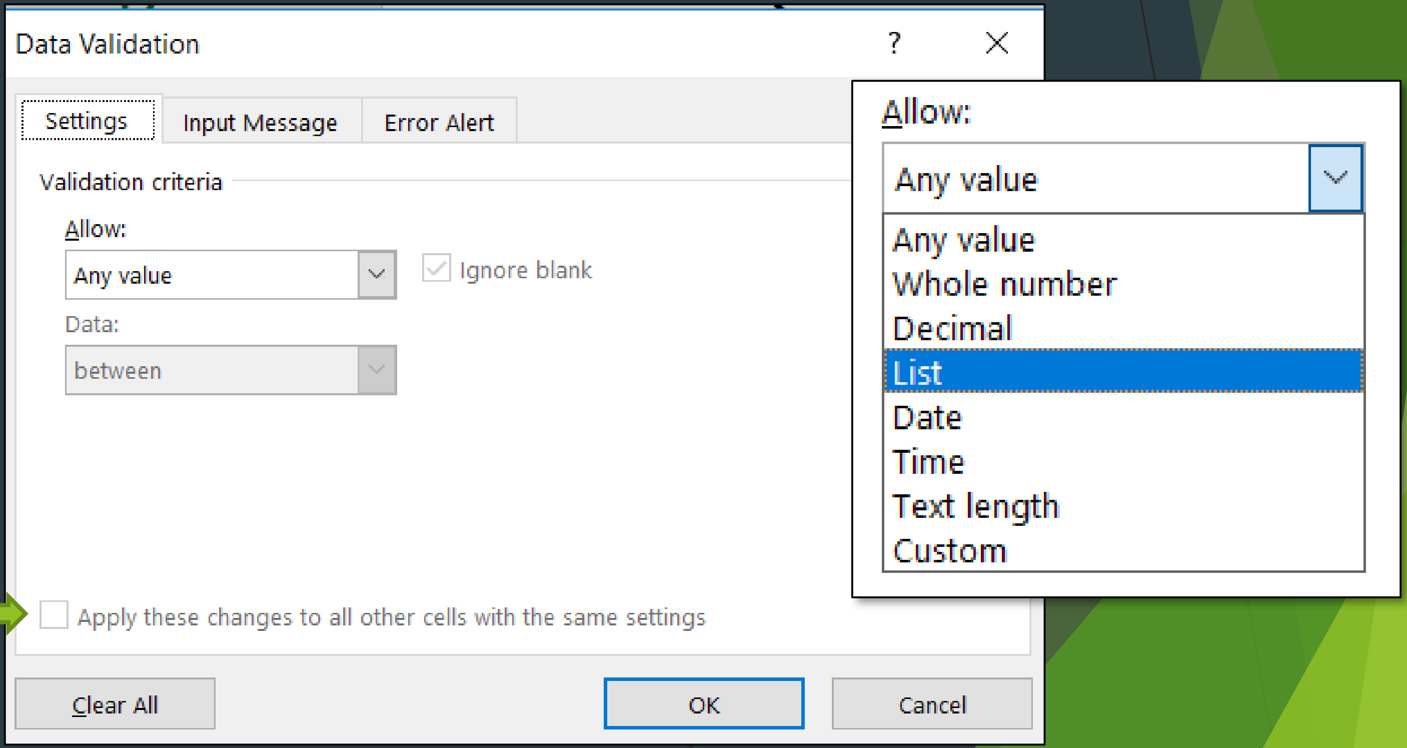
Data Validation

- Found under Data Ribbon
- Use when you want a specific value entered
- Versatile Tool
  - Can make drop down with values
  - Can make error messages
  - Can set input ranges

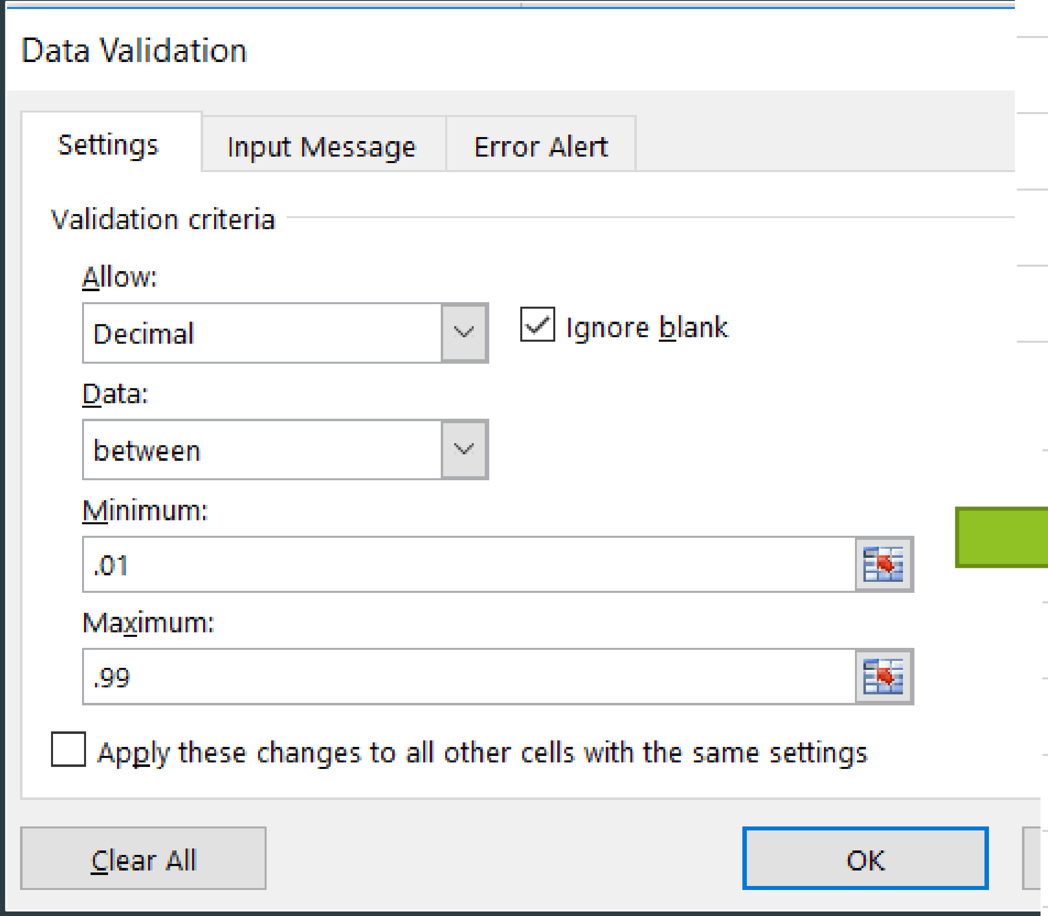

Book2 - Excel
Label
LASERFICHE
ACROBAT
Tell me what you want to do...
Clear
Reapply
Advanced
er
& Filter
Text to Columns
Flash Fill
Remove Duplicates
Data Validation
Consolidate
Relationships
Data Validation...
Circle Invalid Data
Clear Validation Circles
D

Check “Apply” if you have many other cells that need this validation


Data Validation
?
Settings
Input Message
Error Alert
Validation criteria
Allow:
Any value
Data:
between
☑ Ignore blank
☐ Apply these changes to all other cells with the same settings
Clear All
OK
Cancel
Allow:
Any value
Any value
Whole number
Decimal
List
Date
Time
Text length
Custom

Validation Examples

Setup Range



Data Validation

Settings
Input Message
Error Alert

Validation criteria

Allow: Decimal

☑ Ignore blank

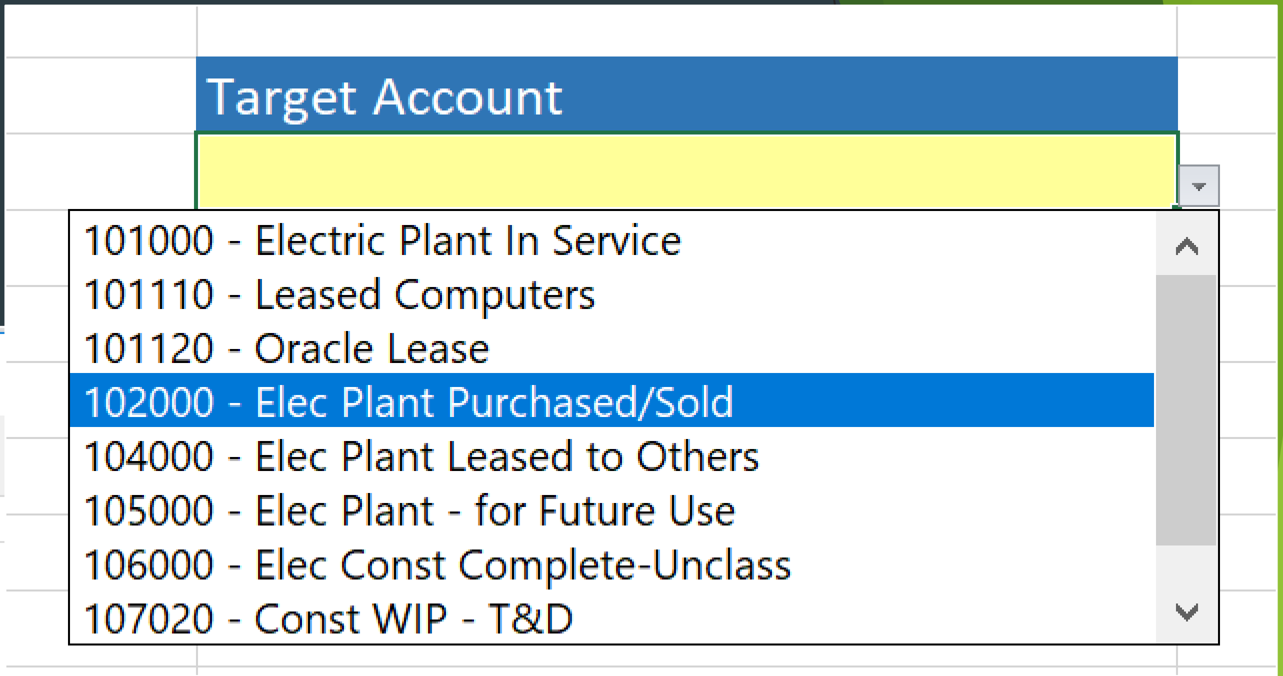
Data: between

Minimum: .01

Maximum: .99

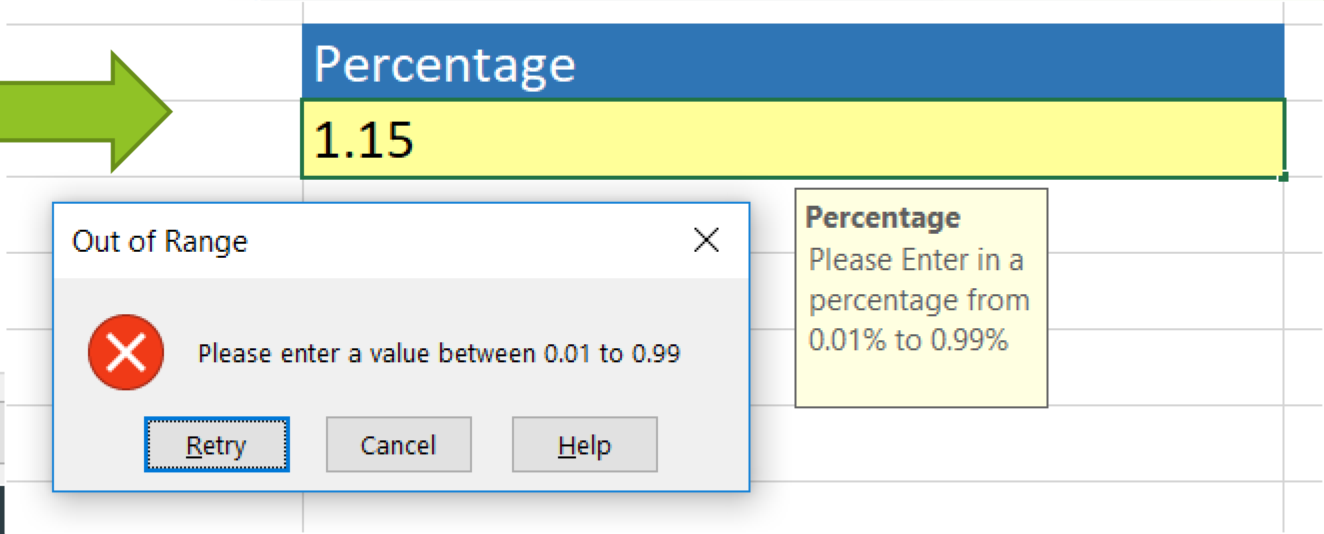
☐ Apply these changes to all other cells with the same settings

Clear All
OK



Target Account

101000 - Electric Plant In Service
101110 - Leased Computers
101120 - Oracle Lease
102000 - Elec Plant Purchased/Sold
104000 - Elec Plant Leased to Others
105000 - Elec Plant - for Future Use
106000 - Elec Const Complete-Unclass
107020 - Const WIP - T&D



Percentage

1.15

Out of Range

Please enter a value between 0.01 to 0.99

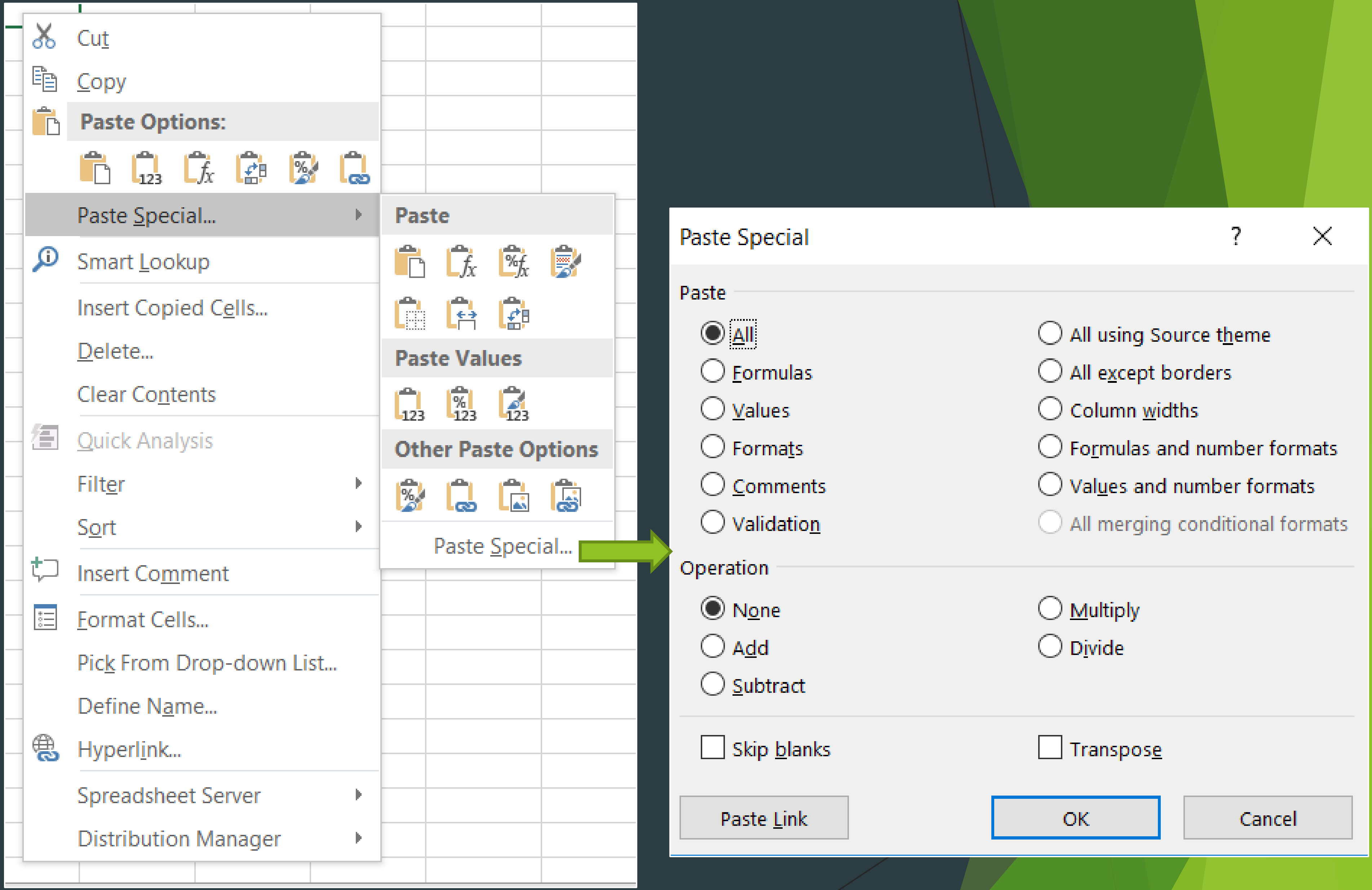
Retry
Cancel
Help

Percentage
Please Enter in a percentage from 0.01% to 0.99%

Paste Special

Lots of Options

- Right click/home menu
  - Paste special
- Can paste with changing formats
- Can paste just formats
- Can Multiply!
  - -1 Trick
- Transpose to switch columns and rows
- Values!


Cut
Copy
Paste Options:
Paste Special...
Smart Lookup
Insert Copied Cells...
Delete...
Clear Contents
Quick Analysis
Filter
Sort
Insert Comment
Format Cells...
Pick From Drop-down List...
Define Name...
Hyperlink...
Spreadsheet Server
Distribution Manager
Paste
Paste Values
Other Paste Options
Paste Special...

Paste Special

Paste

● All
○ Formulas
○ Values
○ Formats
○ Comments
○ Validation
○ All using Source theme
○ All except borders
○ Column widths
○ Formulas and number formats
○ Values and number formats
○ All merging conditional formats

Operation

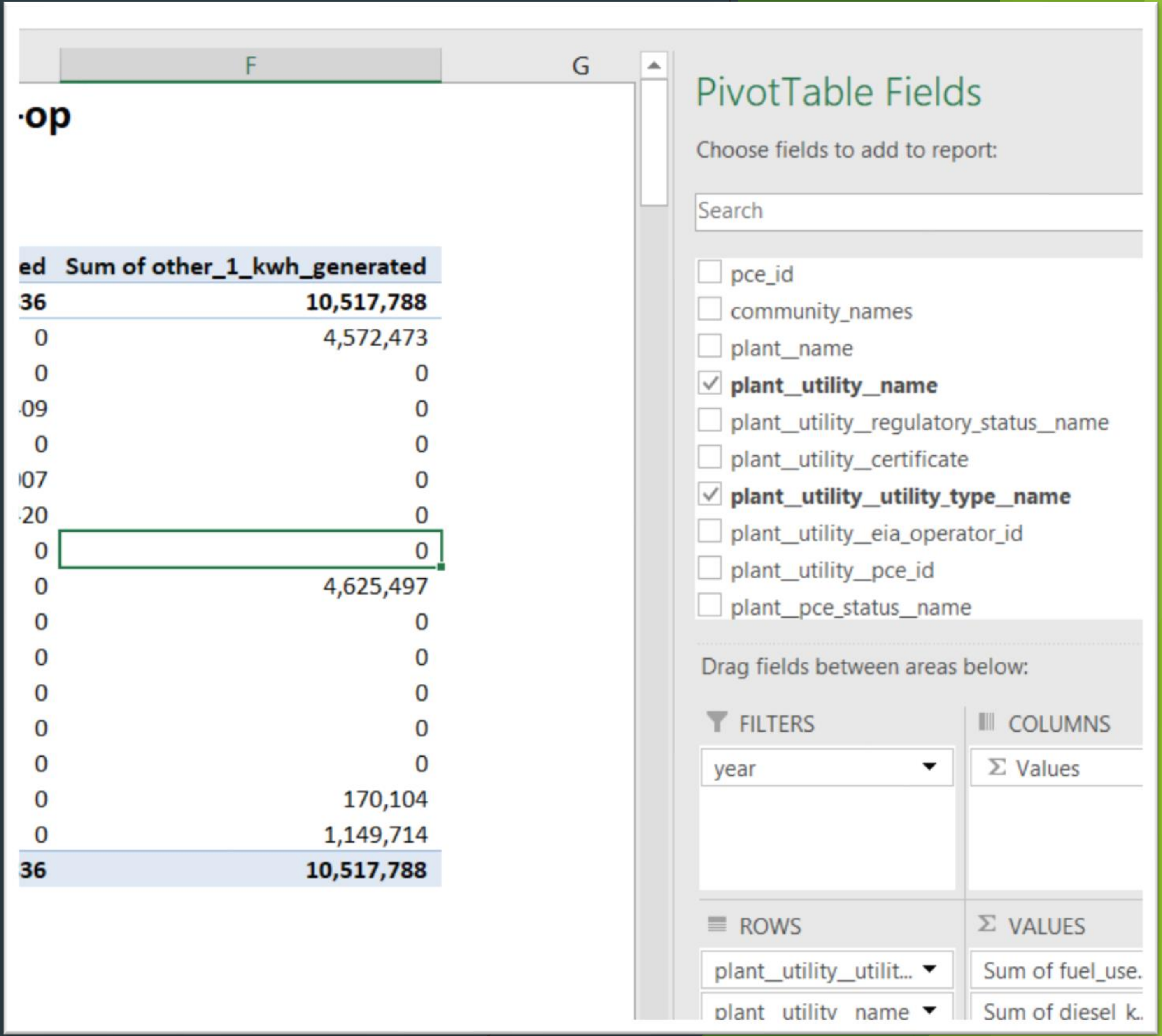
● None
○ Add
○ Subtract
○ Multiply
○ Divide

☐ Skip blanks
☐ Transpose

Paste Link
OK
Cancel

Pivot Tables

- What are they?
  - Advanced Analysis tool in MS Excel
- Why use them
  - To find meaning in data
  - Summarize Vast amounts of data fast
  - Easily change view of summary
- Relevance to Electric Utilities?
  - Accounting\Treasury
  - Dispatch\Power Plants
  - Member Services\Capital Credits
  - Many more



ed	Sum of other_1_kwh_generated
36	**10,517,788**
0	4,572,473
0	0
09	0
0	0
07	0
20	0
0	0
0	4,625,497
0	0
0	0
0	0
0	0
0	0
0	170,104
0	1,149,714
36	**10,517,788**

PivotTable Fields

Choose fields to add to report:

Search

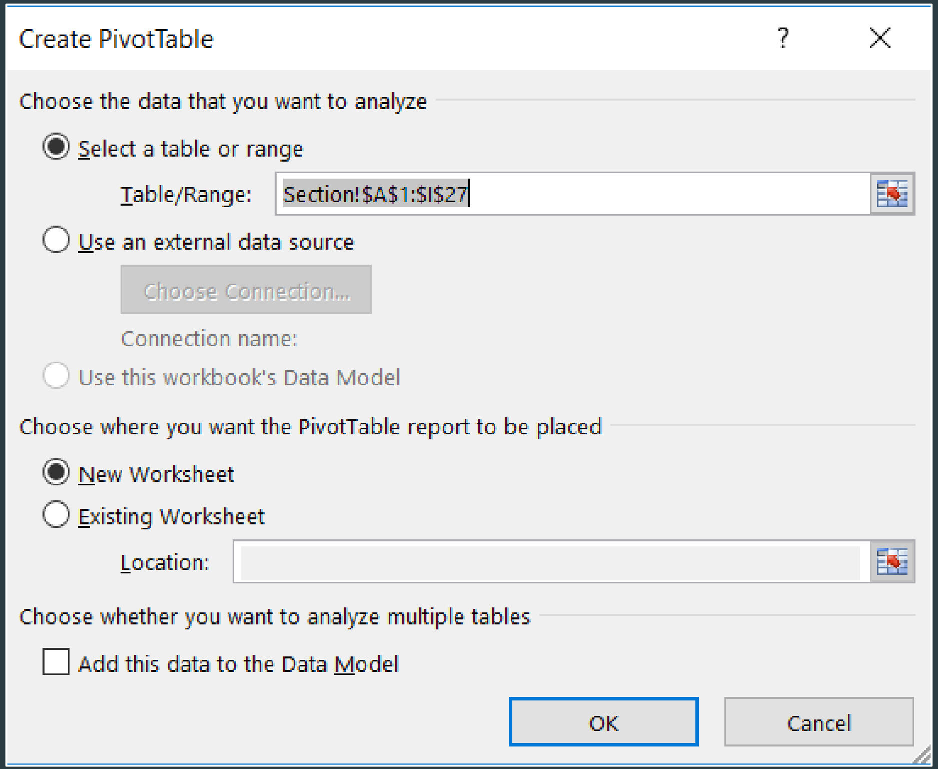
☐ pce_id
☐ community_names
☐ plant_name
☑ **plant_utility_name**
☐ plant_utility_regulatory_status_name
☐ plant_utility_certificate
☑ **plant_utility_utility_type_name**
☐ plant_utility_eia_operator_id
☐ plant_utility_pce_id
☐ plant_pce_status_name

Drag fields between areas below:

FILTERS: year
COLUMNS: Σ Values
ROWS: plant_utility_utilit…, plant_utility_name
VALUES: Sum of fuel_use., Sum of diesel k.

Pivot Table Basics

- Data Table Format
  - All columns must have headers
  - Highlight the Data you want in Pivot Table
    - Insert Ribbon, Pivot Table
    - Data subtotals - exclude



Create PivotTable

Choose the data that you want to analyze

● Select a table or range

Table/Range: Section!$A$1:$I$27

○ Use an external data source

Choose Connection...

Connection name:

○ Use this workbook's Data Model

Choose where you want the PivotTable report to be placed

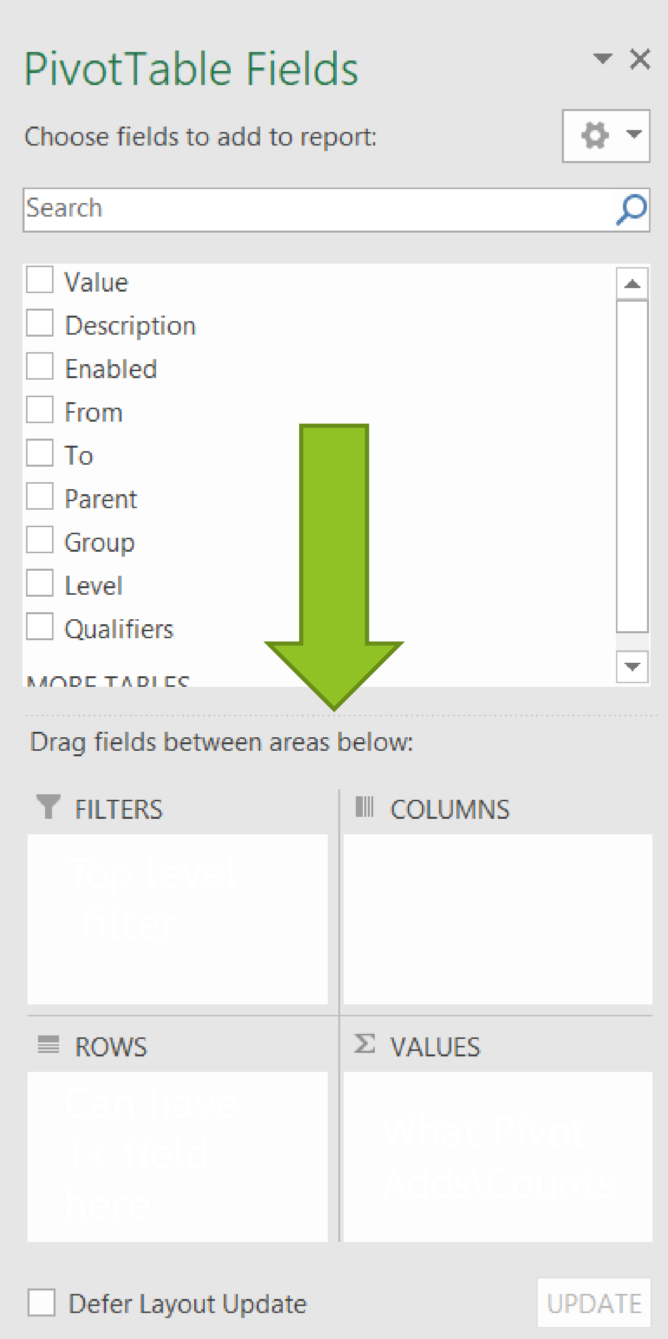
● New Worksheet

○ Existing Worksheet

Location:

Choose whether you want to analyze multiple tables

☐ Add this data to the Data Model



PivotTable Fields

Choose fields to add to report:

Search

☐ Value
☐ Description
☐ Enabled
☐ From
☐ To
☐ Parent
☐ Group
☐ Level
☐ Qualifiers

MORE TABLES

Drag fields between areas below:

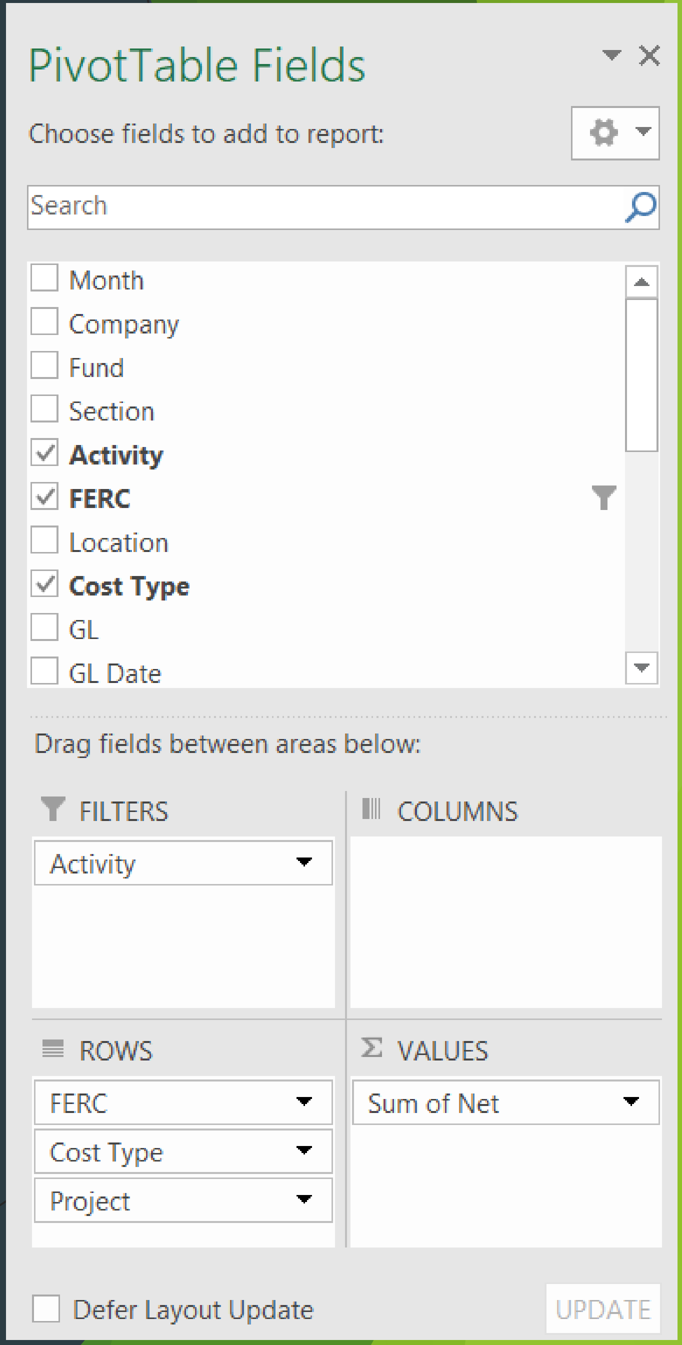
FILTERS: Top level filter

COLUMNS

ROWS: Can have 1+ field here

VALUES: What Pivot Adds\Counts

☐ Defer Layout Update



PivotTable Fields

Choose fields to add to report:

Search

☐ Month
☐ Company
☐ Fund
☐ Section
☑ **Activity**
☑ **FERC**
☐ Location
☑ **Cost Type**
☐ GL
☐ GL Date

Drag fields between areas below:

FILTERS: Activity

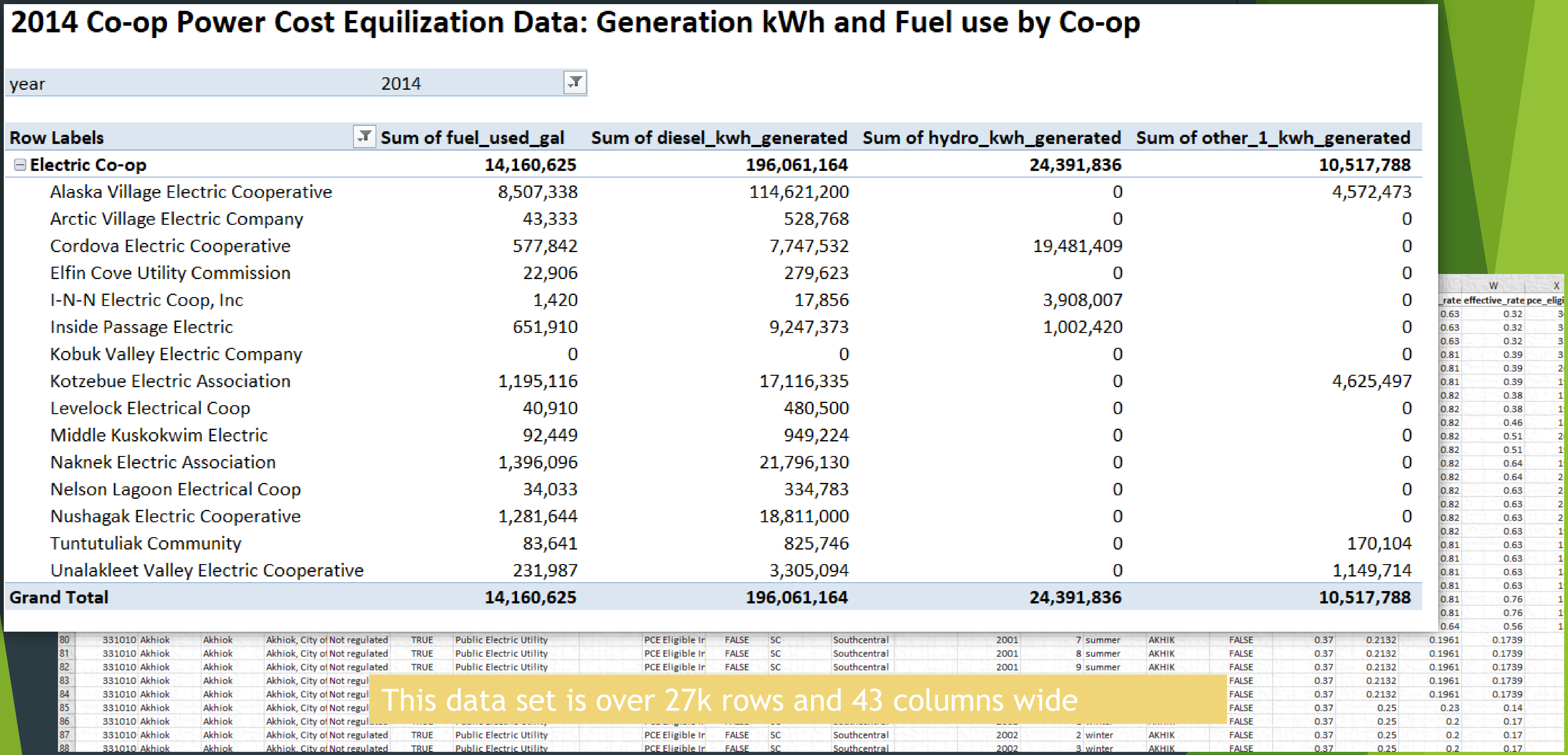
COLUMNS

ROWS: FERC, Cost Type, Project

VALUES: Sum of Net

☐ Defer Layout Update

Example



2014 Co-op Power Cost Equilization Data: Generation kWh and Fuel use by Co-op

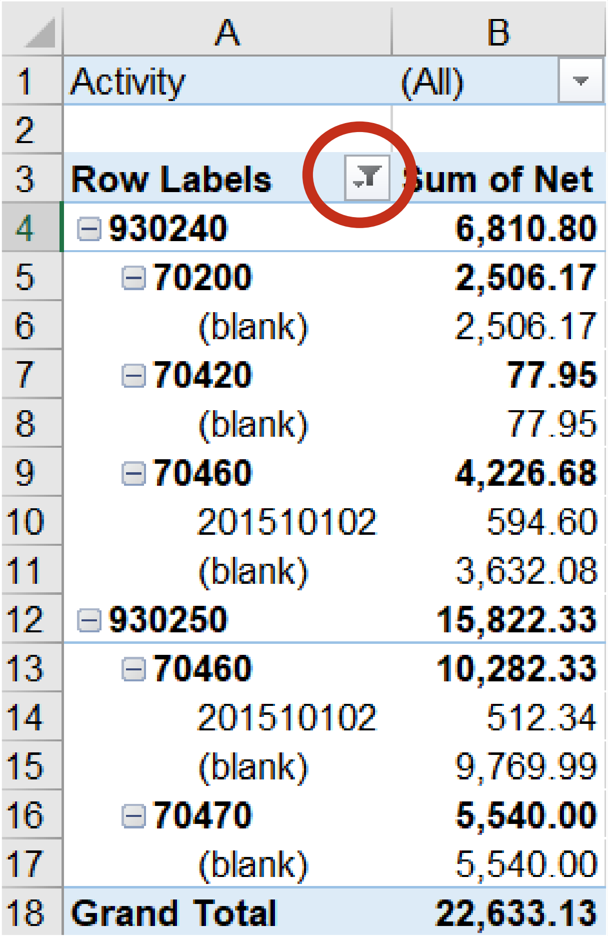
year 2014

Row Labels	Sum of fuel_used_gal	Sum of diesel_kwh_generated	Sum of hydro_kwh_generated	Sum of other_1_kwh_generated
⊟ Electric Co-op	**14,160,625**	**196,061,164**	**24,391,836**	**10,517,788**
Alaska Village Electric Cooperative	8,507,338	114,621,200	0	4,572,473
Arctic Village Electric Company	43,333	528,768	0	0
Cordova Electric Cooperative	577,842	7,747,532	19,481,409	0
Elfin Cove Utility Commission	22,906	279,623	0	0
I-N-N Electric Coop, Inc	1,420	17,856	3,908,007	0
Inside Passage Electric	651,910	9,247,373	1,002,420	0
Kobuk Valley Electric Company	0	0	0	0
Kotzebue Electric Association	1,195,116	17,116,335	0	4,625,497
Levelock Electrical Coop	40,910	480,500	0	0
Middle Kuskokwim Electric	92,449	949,224	0	0
Naknek Electric Association	1,396,096	21,796,130	0	0
Nelson Lagoon Electrical Coop	34,033	334,783	0	0
Nushagak Electric Cooperative	1,281,644	18,811,000	0	0
Tuntutuliak Community	83,641	825,746	0	170,104
Unalakleet Valley Electric Cooperative	231,987	3,305,094	0	1,149,714
Grand Total	**14,160,625**	**196,061,164**	**24,391,836**	**10,517,788**

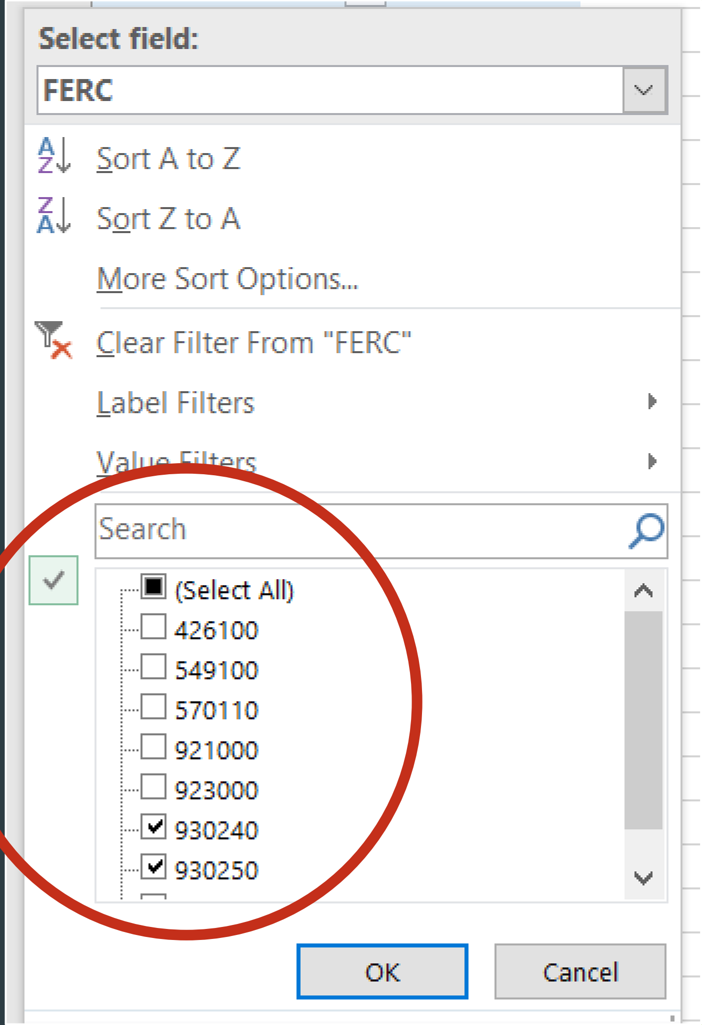
This data set is over 27k rows and 43 columns wide

Pivot Table Tips

- Watch for Filters, they can help
  - Can check/uncheck some values
- Experiment
- Calculated Fields
- Can Turn Totals on\off
  - Rows\Columns
- REFRESH!
- Can link to cells in a pivot



	A	B
1	Activity	(All)
2		
3	**Row Labels**	**Sum of Net**
4	**⊟930240**	**6,810.80**
5	**⊟70200**	**2,506.17**
6	(blank)	2,506.17
7	**⊟70420**	**77.95**
8	(blank)	77.95
9	**⊟70460**	**4,226.68**
10	201510102	594.60
11	(blank)	3,632.08
12	**⊟930250**	**15,822.33**
13	**⊟70460**	**10,282.33**
14	201510102	512.34
15	(blank)	9,769.99
16	**⊟70470**	**5,540.00**
17	(blank)	5,540.00
18	**Grand Total**	**22,633.13**

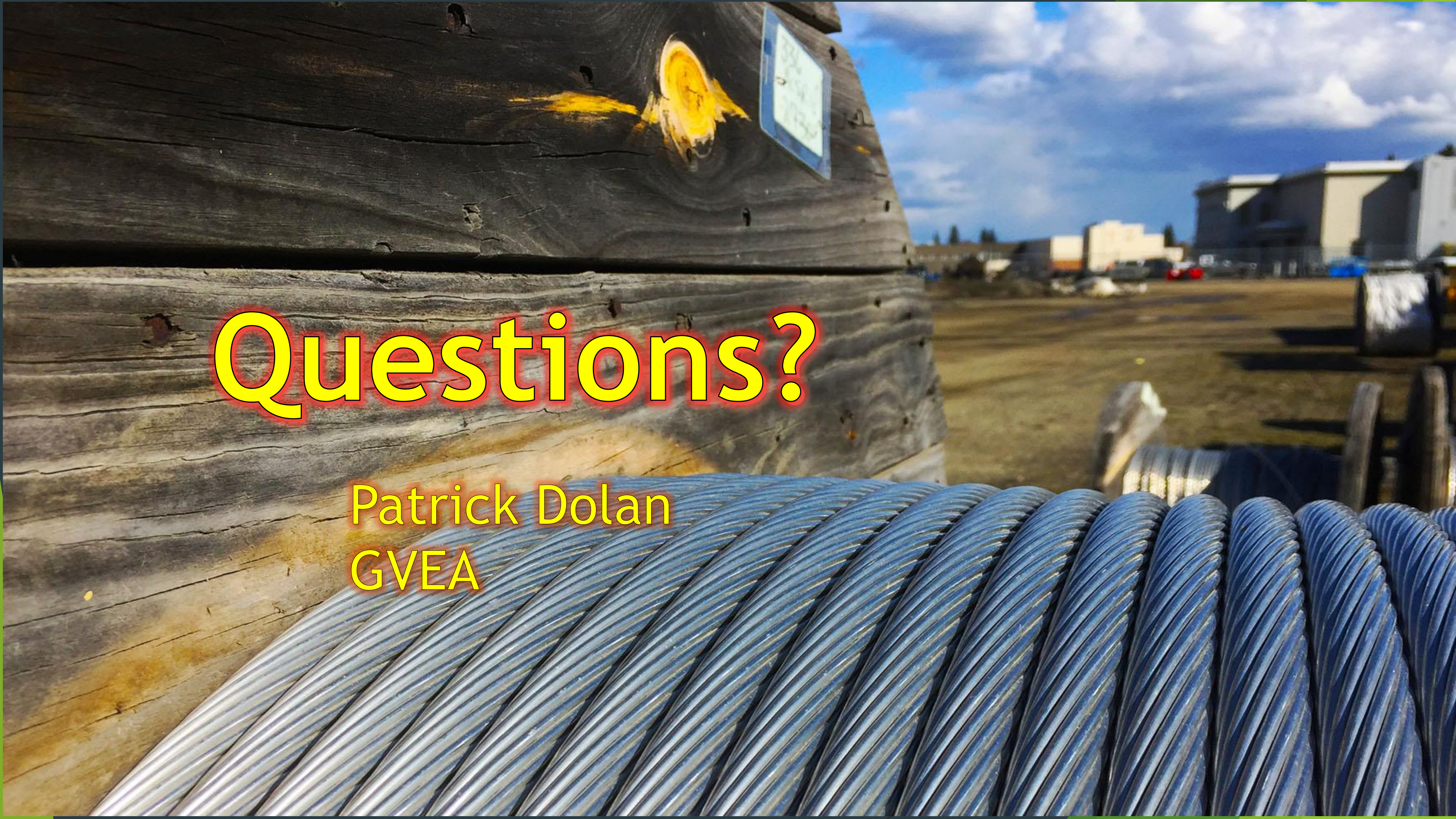


Select field: FERC

Sort A to Z
Sort Z to A
More Sort Options...
Clear Filter From "FERC"
Label Filters
Value Filters
Search

■ (Select All)
☐ 426100
☐ 549100
☐ 570110
☐ 921000
☐ 923000
☑ 930240
☑ 930250

OK
Cancel



Questions?

Patrick Dolan
GVEA