



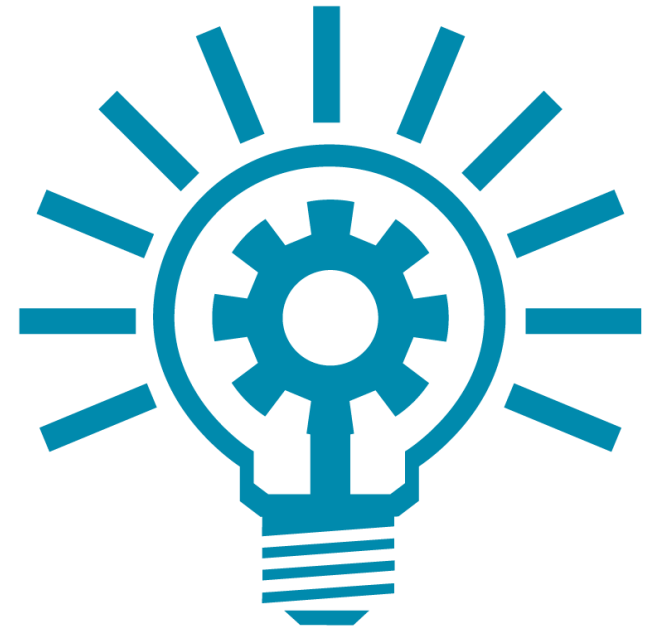
Using innovative tools to improve Minnesota's Point Source Emissions Inventory

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Agenda

- Quick overview of MN Air Emissions Inventory program
- Survey results
- Using new tools to improve data!
 - Training video
 - E-reporting enhancements
 - Tableau
- What's on the horizon? - FYI



MN Emissions Inventory

- Permitted facilities submit criteria air pollutants each year (~1,600 facilities submit data electronically)
 - Criteria Air Pollutants (CAPs): annual reporting, calculate air fees
 - Ammonia (NH₃), Mercury (Hg): annual reporting
 - Greenhouse Gases (GHGs): annual reporting
- Voluntary triennial air toxics inventory
 - HAPs, and other pollutants of concern in MN and to the Great Lakes Commission
 - PFAS



Survey

Goals

1. Assess current air emission inventory reporting guidance and resources for users of the e-Services online reporting system.
2. Identify opportunities for improvement of air emission inventory reporting guidance and resources for users of the e-services online reporting system.



Survey results

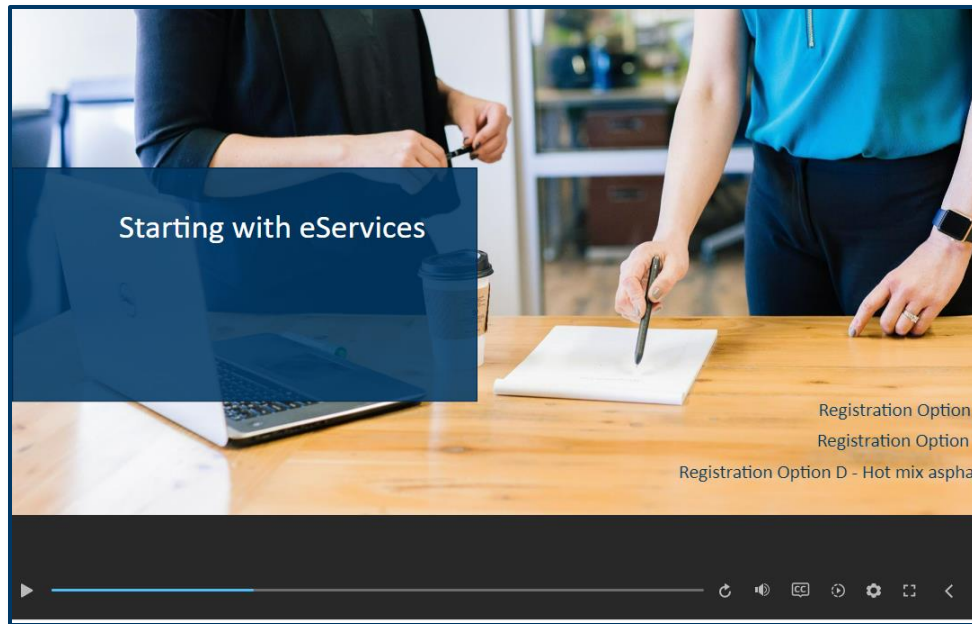
- Help documents, recorded training videos, and assistance by phone/email are preferred
- Enhancements to e-Services would be helpful
- Spreadsheet upload tool would be the most helpful.
- Additional guidance on emissions calculations

"A spreadsheet upload option would be very very helpful especially for air toxic years!"

"A bulk import tool would be helpful, especially for the air toxics report. The current delay and screen shift after a number is entered is also an issue with timely data entry."

"Please allow for spreadsheet uploads rather than requiring manual data entry (for ease and limiting data entry errors!)"

New training video



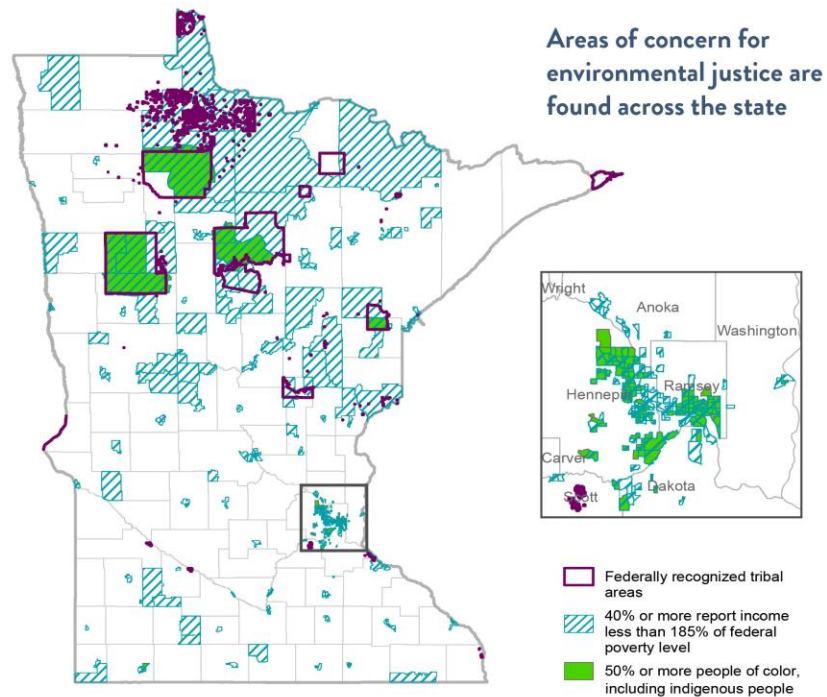
- Coordination with Small Business Environmental Assistance Program
- Training video for small facilities
 - Interactive
 - Step-by-step instructions
 - One-stop-shop
- Guidance on air toxics calculations (future)

Enhancements to e-Services

- Additional real-time QA/QC checks
 - Throughput comparison
 - Emissions comparison
- Uploadable spreadsheet
 - Throughput
 - Emissions
- Improved search functionality of air toxic list



Utilizing Tableau for Data Analysis



- Live connection to data using custom SQL in Tableau
- Easily update/manipulate data
- Table calculations
- Connect to other MPCA data (TEMPO) – permitting, environmental justice, etc.
- Export data/graphs

Utilizing Tableau for Data Analysis

Activity Change by Process

SOURCE ID	SCC CODE	PROCESS ID	MATERIAL CODE	2021	2022	Pct Change
2701900002	30500245	EU001PD001	NATURAL GAS	21.00	13.92	51%
2702700014	30500245	EU001PD001	NATURAL GAS	13.89	14.68	5%
2705300315	30500245	EU002PD001	NATURAL GAS	28.62	32.84	13%
2710500018	30500245	EU001PD001	NATURAL GAS	7.02	6.54	7%
2712300149	30500245	EU001PD001	NATURAL GAS	26.34	22.58	17%
2712300189	30500245	EU001PD001	NATURAL GAS	11.15	9.90	13%
2713700086	30500245	EU003PD001	NATURAL GAS	1.48	1.01	46%
2717100025	30500245	EU005PD001	NATURAL GAS	2.50	2.28	10%

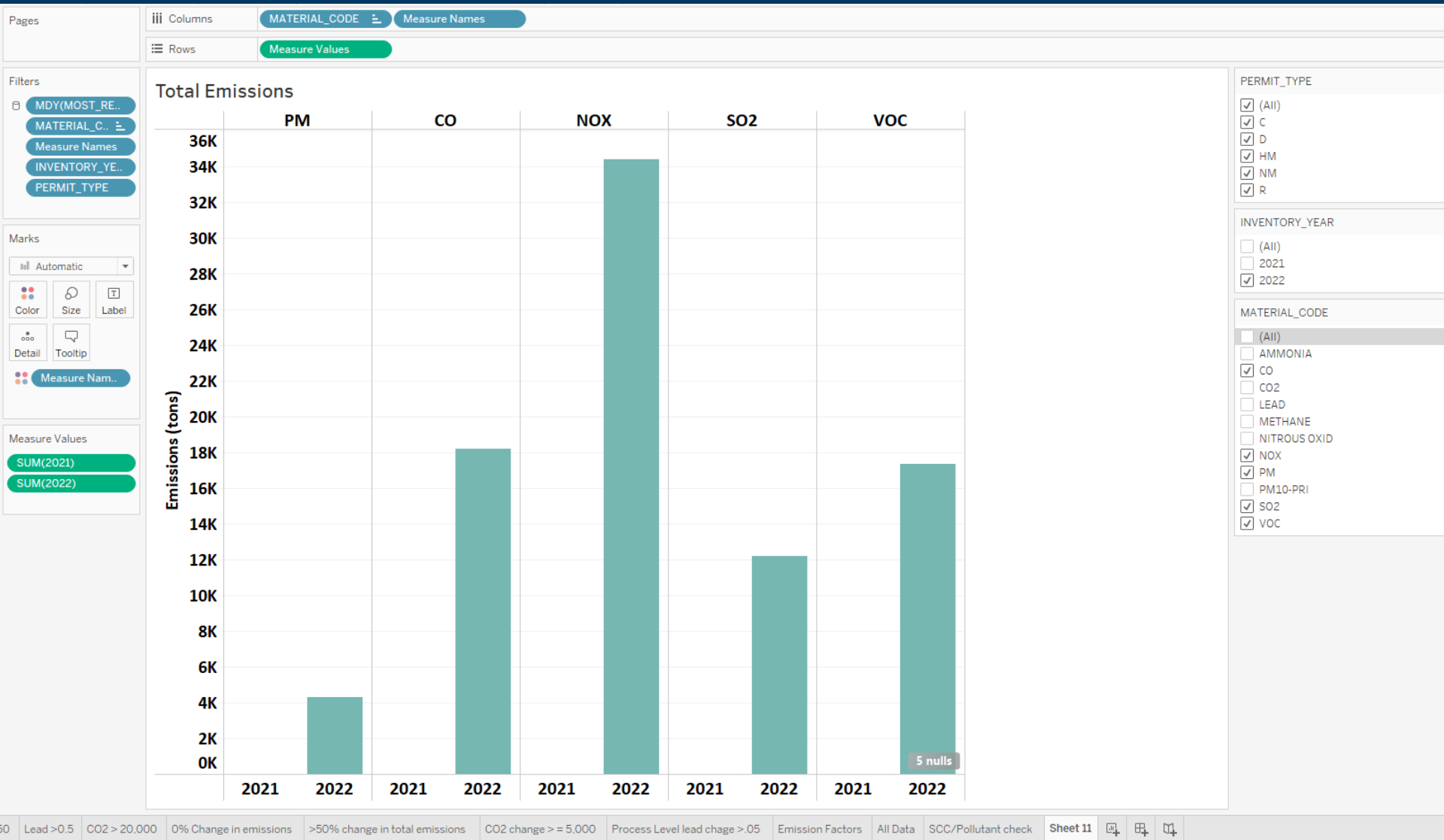
MATERIAL_CODE

- (All)
- DIESEL FUEL
- DISTILLATE O
- DISTILLATE O.
- HOT MIX ASP.
- LPG
- MATERIAL
- NATURAL GAS
- PROPANE
- RESIDUAL OIL

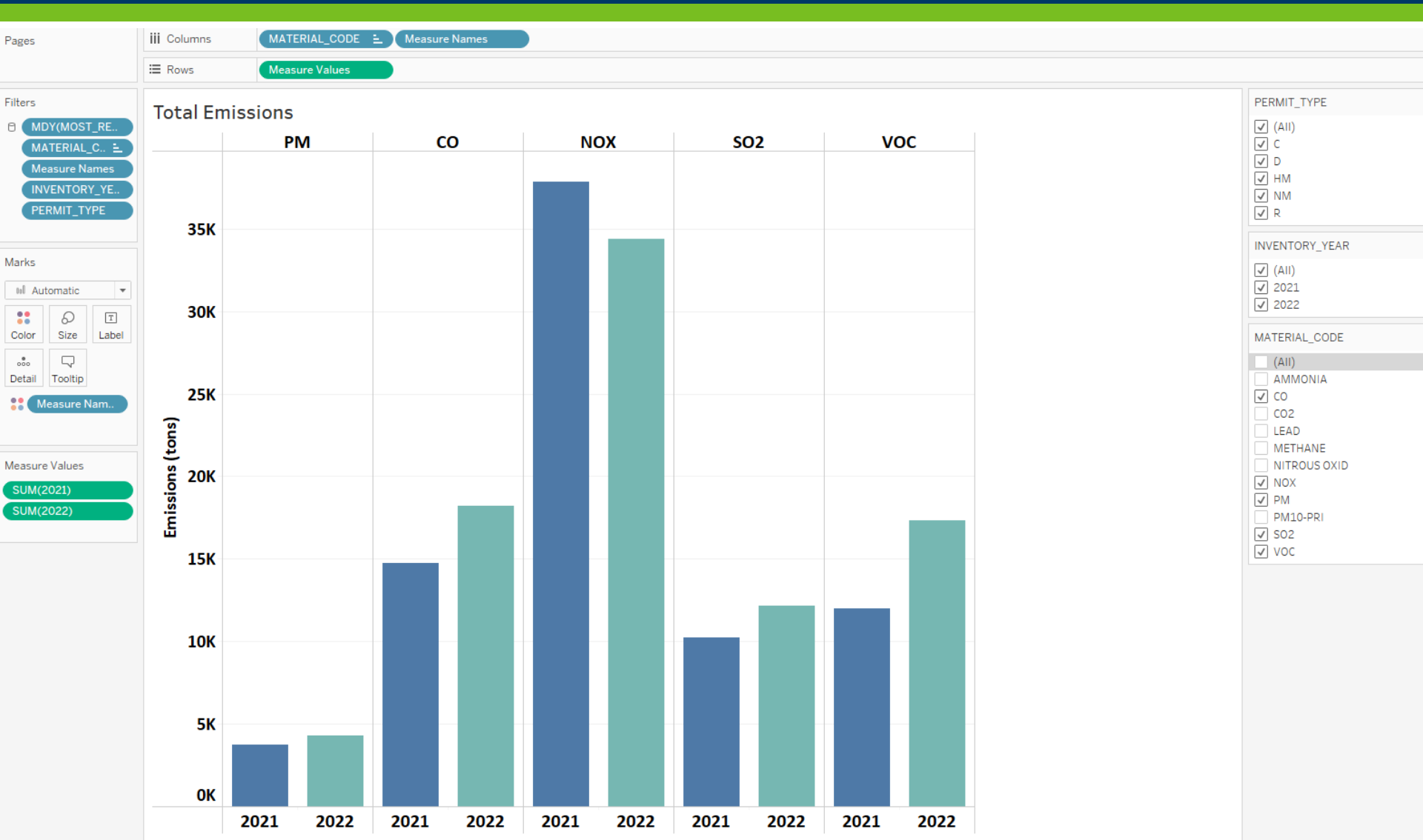
SCC_CODE

- (All)
- 20200102
- 20200401
- 30500206
- 30500208
- 30500209
- 30500213
- 30500214
- 30500245
- 30500246
- 30500247
- 30500254

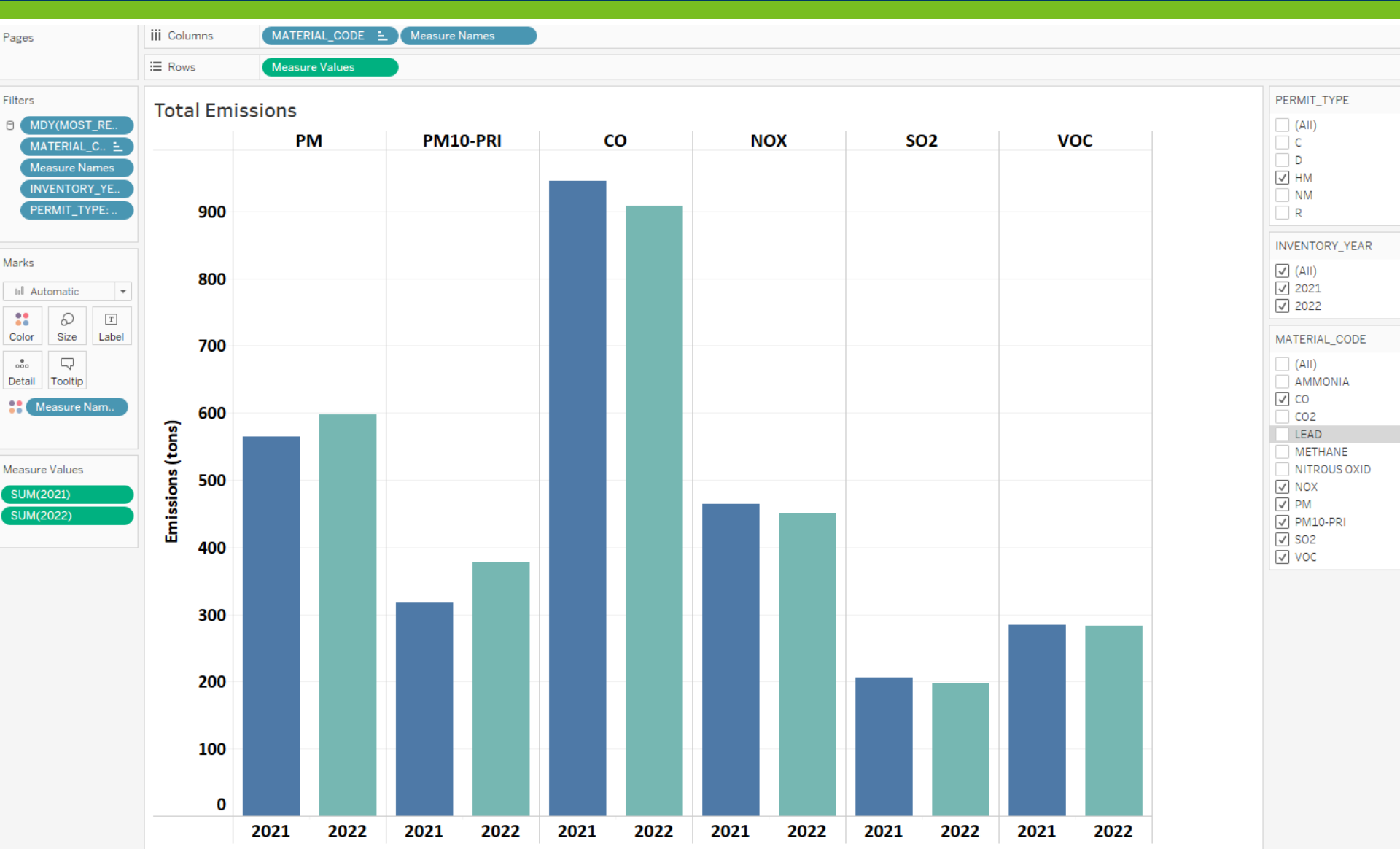
Utilizing Tableau for Data Analysis



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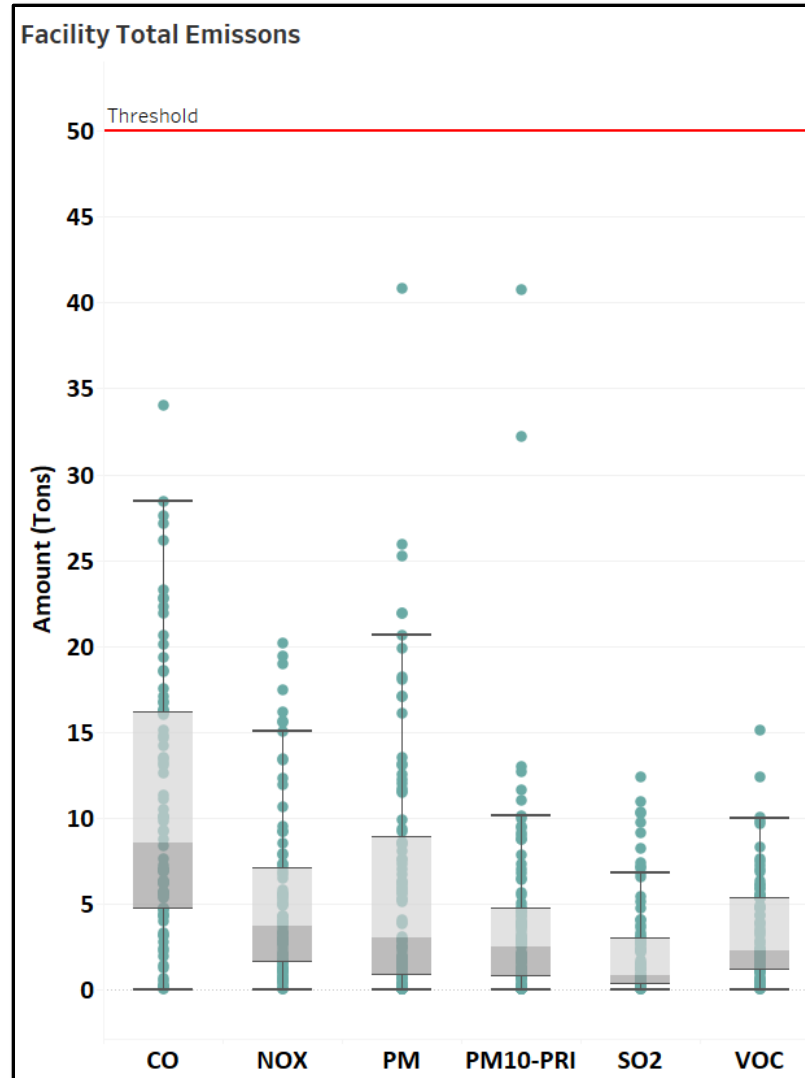
Utilizing Tableau for Data Analysis



Utilizing Tableau for Data Analysis

0% change total emissions			
SOURCE ID	2021	2022	QAQC % Diff
2717100101	7.8	7.8	0.00%
2713100052	4.2	4.2	0.00%
2712900025	16.0	16.0	0.00%
2712700031	553.6	553.6	0.00%
2712300664	0.2	0.2	0.00%
2711900075	215.3	215.3	0.00%
2703700369	0.2	0.2	0.00%
2702500028	75.3	75.3	0.00%

Utilizing Tableau for Data Analysis



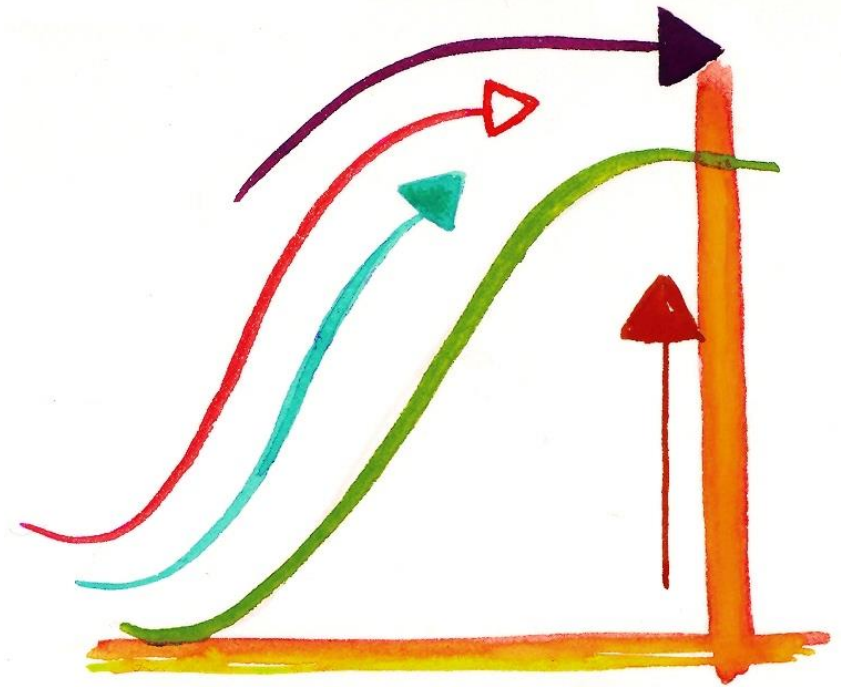
Utilizing Tableau for Data Analysis

- Emissions by process/facility-wide
- Emissions by SCC
- Pollutant specific – including air toxics
- Review emission factors
- Activity data
- And more!



No tool is perfect!

- Requires a license
- Learning curve
- No statistical analysis capabilities
- Explore using additional tools in the future such as R



Summary

- Surveys are helpful to understand needs and justify new enhancements/tools
- Good guidance and training resources are helpful, especially for our smaller facilities
- Tableau is one tool that MPCA has found useful for data analysis
- We need to continue to utilize new tools for data analysis and reporting as more and more data are required

What's on the horizon?



MN Session Law – 2023, Chapter 60, H.F. No. 2310

- Air toxics emissions reporting - Minnesota Session Law – 2023, Article 8, Section 2
- Air toxics regulations - Minnesota Session Law – 2023, Article 8, Section 5
- Cumulative Impacts Analysis for Permit Decisions in Environmental Justice Areas –Article 8, Section 3
- PFAS ban (Amara's Law) - Article 3, Section 21



Thank you!

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