

Imagine a World
Where People
Breathe Equally the
Same Air



GO AQS

GLOBAL OPEN AIR QUALITY STANDARDS

1st Virtual Session

January 2025



Global Open Air Quality Standards (**GO AQS**)

Agenda

- Updates
- GO IAQS Index
 - Discussions
- TVOC
- Working Groups
- Open Discussion



Global Open Air Quality Standards (**GO AQS**)

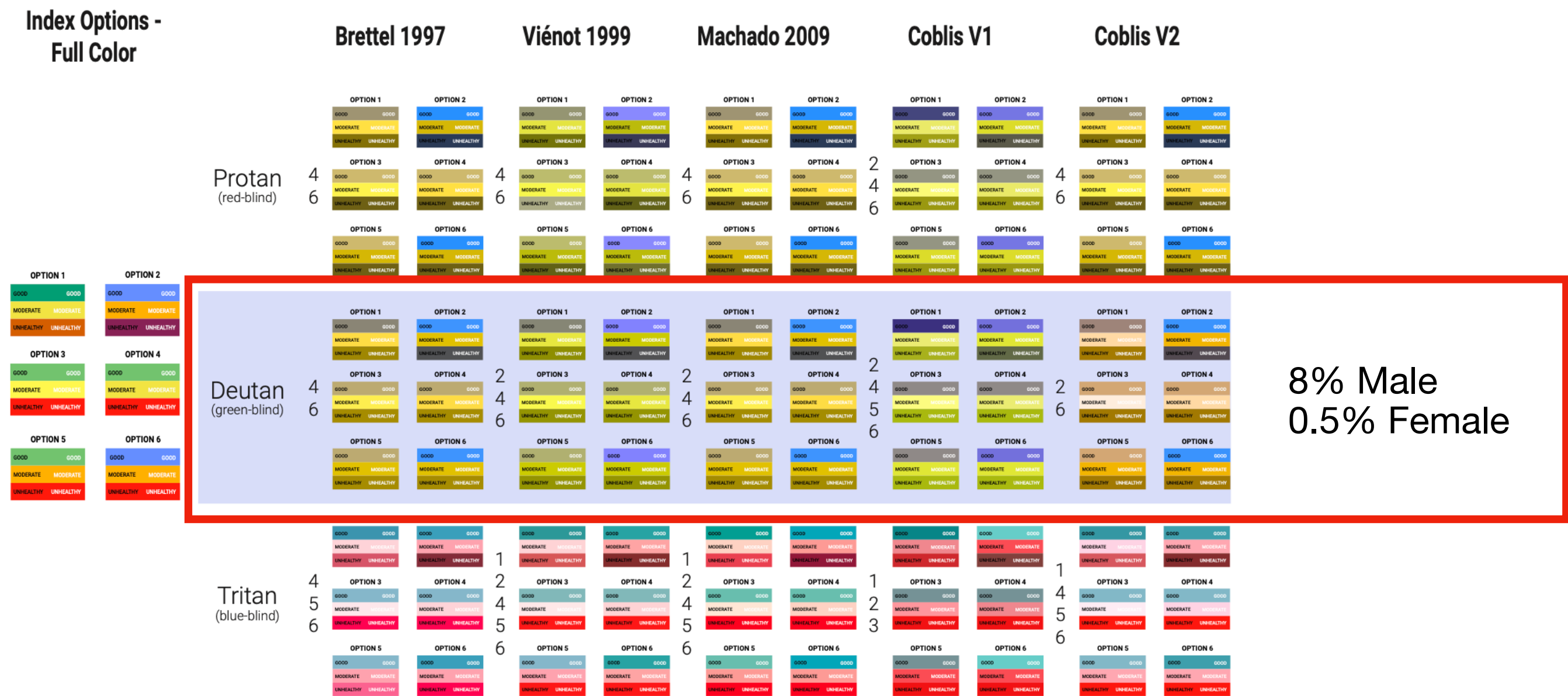
Updates

- Working on v0.12 white paper
- USGBC, RESET, WELL...
- Non-Profits
- Conferences

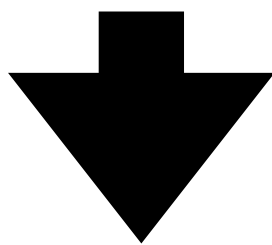


Global Open Air Quality Standards (GO AQS)

GO IAQS Index

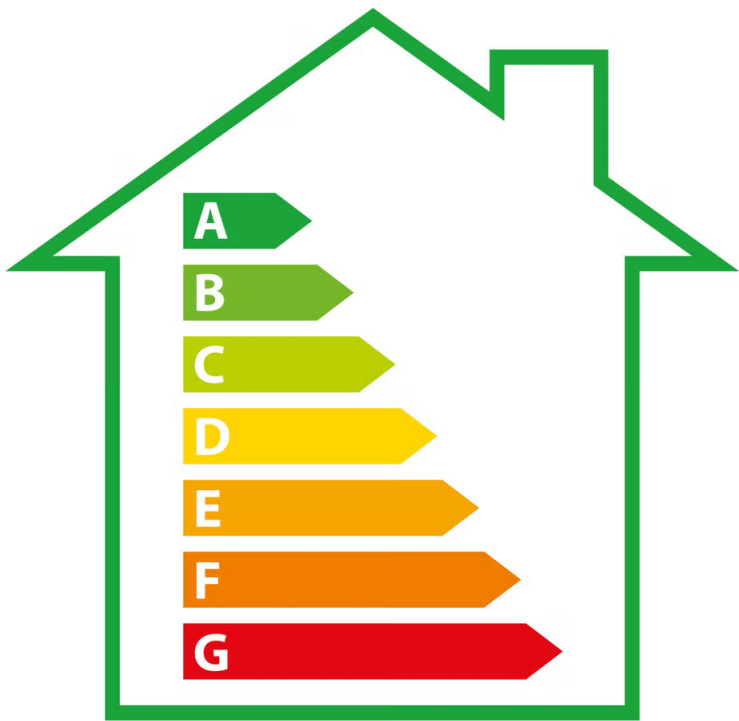


CVD AQI Matrix



Description	Number Score	Letter Score	Health advice
Good	10 - 8	A	Ideal air quality - Enjoy activities
Moderate	7 - 5	B	Reduce sources of pollution. Cut back or reschedule strenuous activities indoors. Ventilate if possible.
Unhealthy	4 - 0	C	Avoid all physical activities (wear N95/FFP3 masks and use personal or central air filtration systems in case of particle pollution or high

GO IAQS Index



EPC/Energy



ColorAdd system



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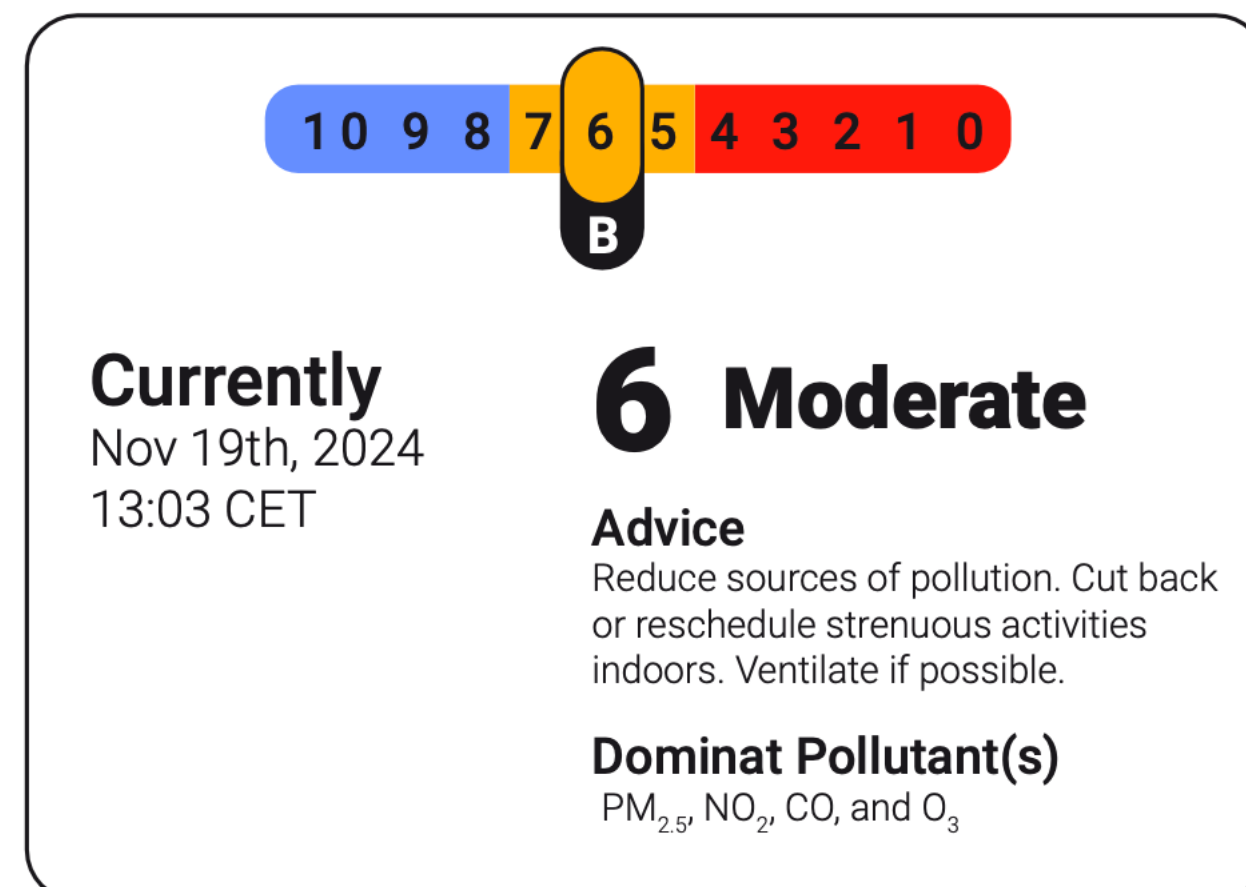
10 Good Air Quality

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0 Unhealthy Air Quality

VS

0 (Good) - 100 (Unhealthy)



- Integer numbers
- Good, Moderate, and Unhealthy
 - “Not good-Good-Enhanced,” “Low Risk, Moderate Risk, High Risk,” “Acceptable, Moderate, Poor,” or “Good health, Moderate Health, Unhealthy”, “Poor” or “High Risk”
- A, B, and C
 - “B- A-APlus”, Latin Alphabet
- Weight Factors



Global Open Air Quality Standards (GO AQS)

GO IAQS Index

Appendix B - GO IAQ Index Playground

Pollutant	Weight Factor Moderate & Unhealthy	AQI 1 w/o WF	AQI 1 w/ WF	Experiment 1 Low	AQI 2 w/o WF	AQI 2 w/ WF	Experiment 2 Mid	AQI 3 w/o WF	AQI 3 w/ WF	Experiment 3 High	AQI 4 w/o WF	AQI 4 w/ WF	Experiment 4 Mix	AQI 5 w/o WF	AQI 5 w/ WF	Experiment 5 Mix	AQI 6 w/o WF	AQI 6 w/ WF	Experiment 6 Mix	AQI 7 w/o WF	AQI 7 w/ WF	Experiment 7 Equal	AQI 8 w/o WF	AQI 8 w/ WF	Experiment 8 High PM	AQI 9 w/o WF	AQI 9 w/ WF	Experiment 9 High Rn
PM _{2.5} (µg/m³)	1.20	8.5	8.5	6	5.2	4.3	25	2.3	1.9	100	8.8	8.8	5	4.0	3.3	35	6.9	5.7	10	5.5	4.6	22	1.8	0.1	150	8.5	8.5	6
CO ₂ (ppm)	1.00	8.9	8.9	650	5.6	5.6	1100	2.8	2.8	1600	3.3	3.3	1800	6.5	6.5	950	6.7	6.7	900	5.5	5.5	1125	8.9	8.9	650	8.9	8.9	650
PCN _{0.3} (p/cm³)	1.20	8.8	8.8	15	6.0	5.0	50	2.9	2.4	110	9.2	9.2	10	5.2	4.3	45	5.2	4.3	45	5.5	4.6	63	1.1	0.0	350	8.8	8.8	15
PCN _{0.5} (p/cm³)	1.20	8.8	8.8	15	6.0	5.0	50	2.9	2.4	110	9.2	9.2	10	5.2	4.3	45	5.6	4.7	35	5.5	4.6	63	1.5	0.0	300	8.8	8.8	15
O ₃ (µg/m³)	1.00	9.0	9.0	40	6.0	6.0	100	2.9	2.9	160	9.0	9.0	40	9.0	9.0	40	3.9	3.9	100	5.5	5.5	110	9.0	9.0	40	9.0	9.0	40
CH ₂ O (µg/m³)	1.10	8.8	8.8	30	4.9	4.4	100	2.8	2.6	140	4.9	4.4	100	8.8	8.8	30	2.8	2.6	140	5.5	5.0	85	8.8	8.8	30	8.8	8.8	30
CO (mg/m³)	1.10	9.8	9.8	1.0	5.5	5.0	10	2.6	2.3	20	9.3	9.3	2	2.6	2.3	20	8.9	8.9	3	5.5	5.0	10	9.8	9.8	1.0	9.8	9.8	1.0
NO ₂ (µg/m³)	1.20	9.0	9.0	20	4.9	4.1	150	2.9	2.4	210	9.0	9.0	20	9.0	9.0	20	2.9	2.4	210	5.5	4.6	120	9.0	9.0	20	9.0	9.0	20
Radon (Bq/m³)	1.10	9.0	9.0	40	4.0	3.6	150	0.6	0.5	350	6.2	5.6	100	9.0	9.0	40	9.0	9.0	40	5.5	5.0	115	9.0	9.0	40	0.0	0.0	400
Best AQI		10	10		6	6		3	3		9	9		9	9		9	9		6	6		10	10		10	10	
Average AQI		9	9		5	5		3	2		8	8		7	6		6	5		6	5		7	6		8	8	
Worst AQI		9	9		4	4		1	1		3	3		3	2		3	2		6	5		1	0		0	0	
Dutch AQI		9			4			1			3			3			3			5			1			0		
US EPA AQI		9			4			1			3			3			3			6			1			0		
GO IAQS Index			9			4			1			3			2			2			4				0		0	
Notes		Low concentrations of the pollutants			Moderate concentrations of the pollutants			High concentrations of the pollutants			High concentration of CO2 and Moderate for some other gases that may be accumulated while high CO2 indoors			High concentration of CO and Moderate for some other pollutants related to combustion indoors			Random values for testing purposes			Equally moderate values to test the Dutch AQI logic			Very high particle pollution which may be common issue			Very high radon concentration which may be common issue		

WF - Weight Factor

Pollutant	Good <i>C</i> low- <i>C</i> high	Moderate <i>C</i> low- <i>C</i> high	Unhealthy <i>C</i> low- <i>C</i> high
PM _{2.5} (µg/m³)	0-8	9-35	36-400
CO ₂ (ppm)	400-850	851-1400	1401-5000
PCN _{0.3} (p/cm³)	0-25	26-100	101-500
PCN _{0.5} (p/cm³)	0-25	26-100	101-500
O ₃ (µg/m³)	0-80	81-140	141-600
CH ₂ O (µg/m³)	0-50	51-120	121-500
CO (mg/m³)	0.5-5	6-14	15-50
NO ₂ (µg/m³)	0-40	41-200	201-600
Radon (Bq/m³)	0-80	81-150	151-400

Scale	Index Number	Scale	<i>I</i> high- <i>I</i> low
Good	10 - 8	A	0 - 2
Moderate	7 - 4	B	3 - 6
Unhealthy	3 - 0	C	7 - 10

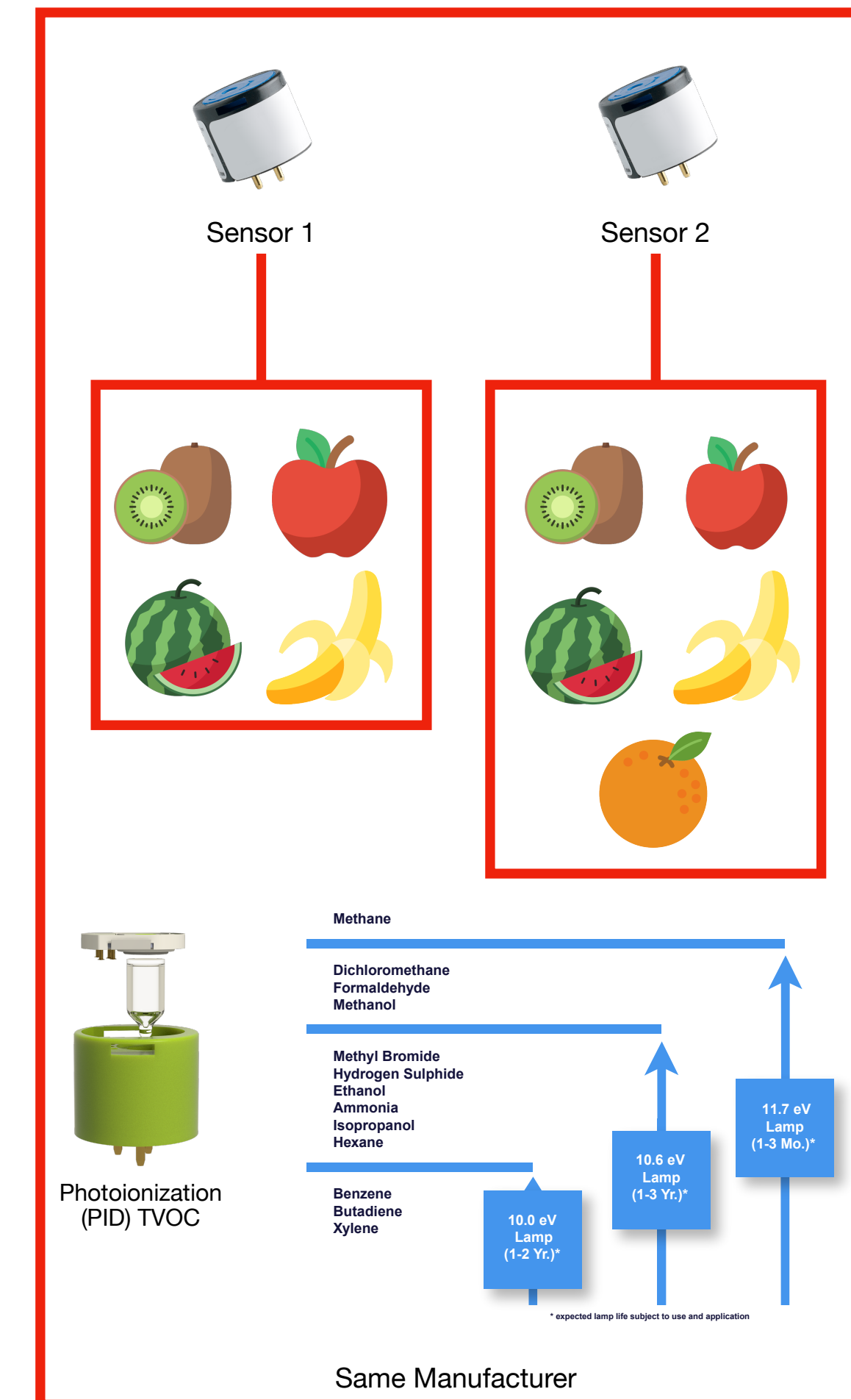
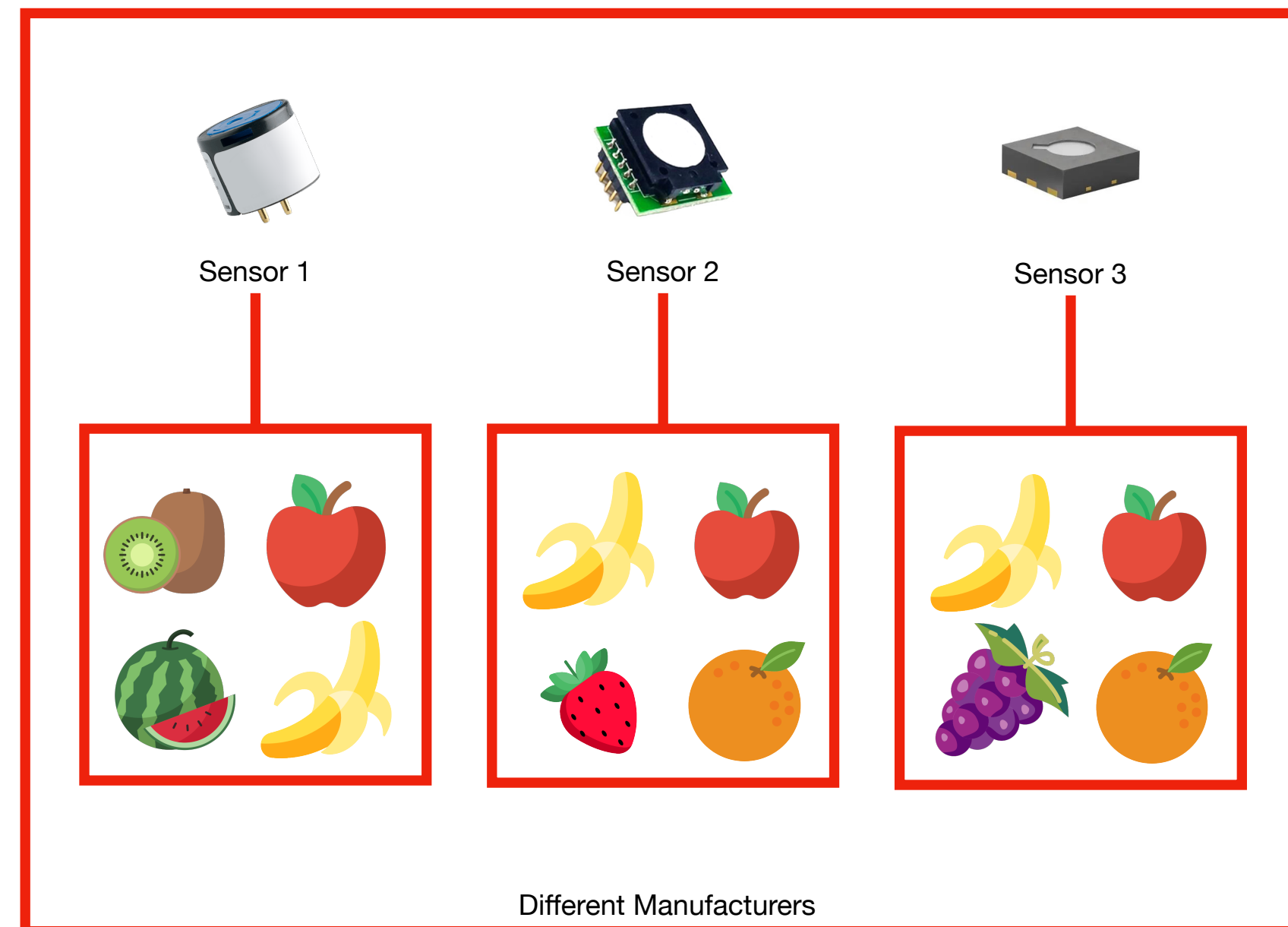
$$I = 10 - \left(\frac{I_{high} - I_{low}}{C_{high} - C_{low}} (C - C_{low}) + I_{low} \right)$$

$$I = \frac{10 - \left(\frac{I_{high} - I_{low}}{C_{high} - C_{low}} (C - C_{low}) + I_{low} \right)}{WF}$$



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TVOC



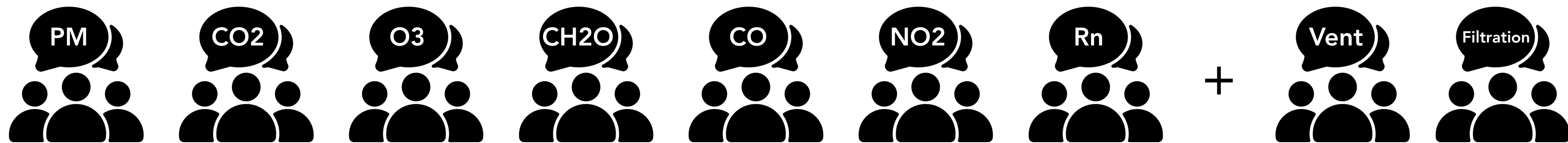
Working group (VDI/VDE 3518) is trying to bring TVOC sensor manufacturers together
(3S, Bosch Sensortec, Infineon, Renesas, Sciosense, Sensirion, UST).



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Working Groups

GO AQS members from the Main Committee and Advisory Expert groups will be asked to join the working groups of their interest.

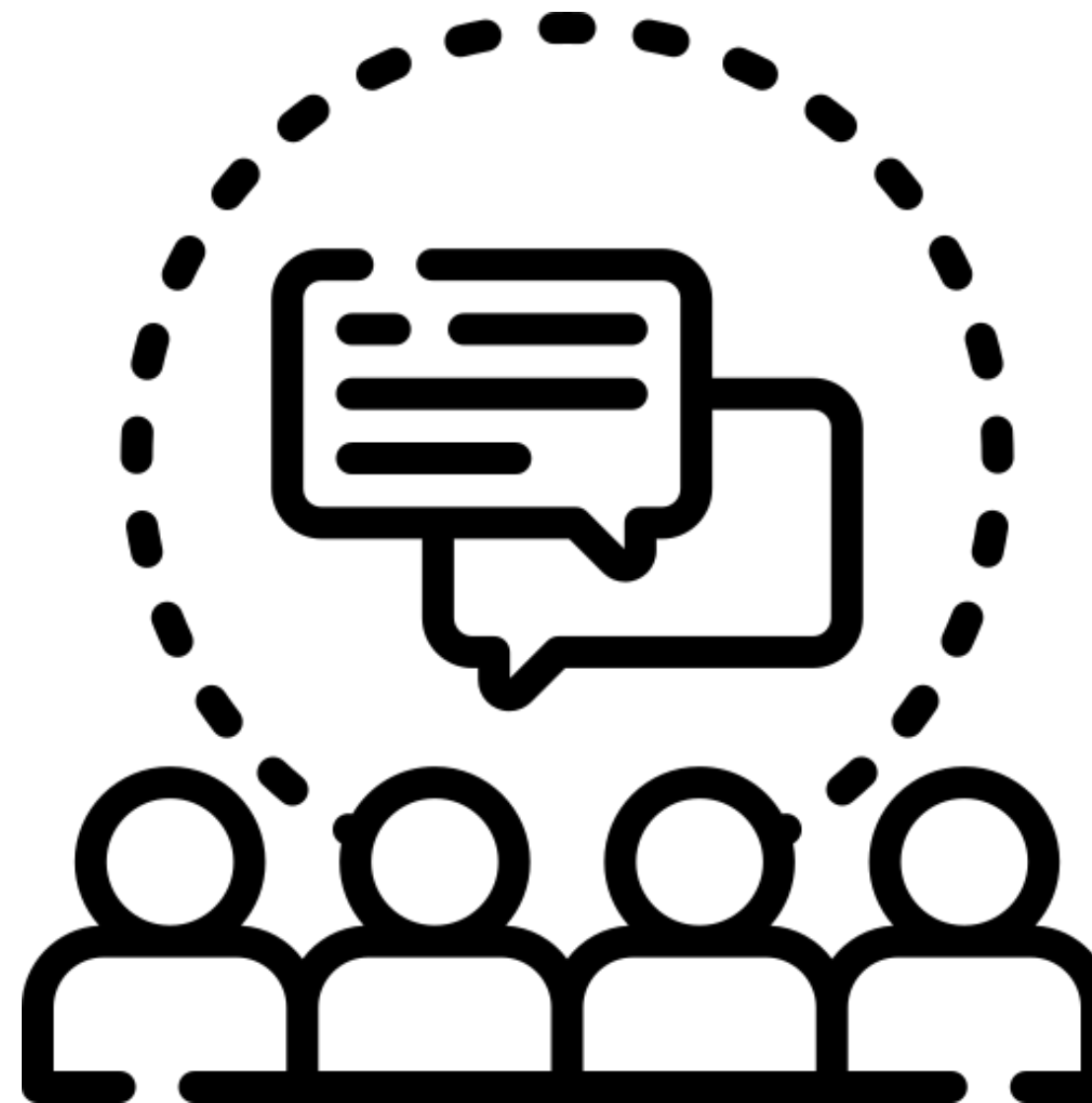


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Global Open Air Quality Standards (**GO AQS**)

Open Discussion



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where everyone
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clean air



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