Terra introduces Opus: A road map to eco-friendly concrete

How will the Opus product suite reduce CO_2 emissions in Colorado?

Terra's Opus Reagent is an engineered cementitious material with a much lower carbon footprint than Portland cement. Only 0.187 tons of CO_2 is emitted for manufacturing a ton of Opus Reagent compared to ~0.765 tons of CO_2 per ton of Portland cement (blended hydraulic cements may be lower).

The Opus Reagent is the foundation of all our products. Developing a suite of products allows a gradual increase of Opus content as the world gets ready for a new type of cement. With every step, concrete emissions will be further reduced:

Step 1 - Opus SCM: An easy and established way to improve the environmental performance of concrete is to replace 10-30% of the cement content with a low-CO_2 Supplementary Cementitious Material (SCM). Depending on substitution level (10-30%), Opus SCM offers an **8-23% reduction in CO_2 emissions.**

Step 2 - Opus BCM: Our blended hydraulic cement takes things a step further and allows an increase in cement replacement to 30-60% while maintaining performance and allowing a **27-48% CO_2 reduction.**

Step 3 - Opus ACM: Our proprietary geopolymer cement technology **reduces CO_2 emissions by 50-60+%** with no tradeoffs in performance.

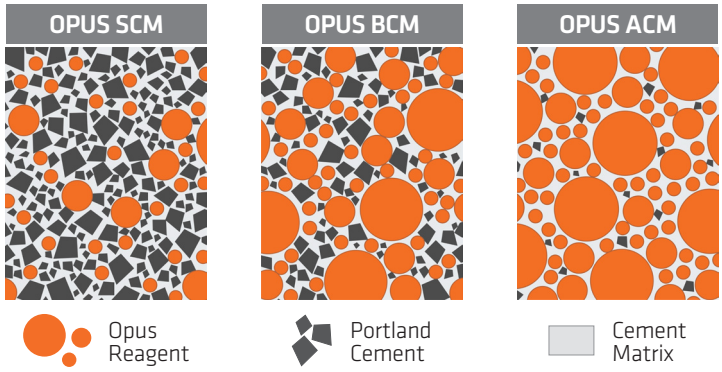
The Opus impact for Colorado further quantified

The bar chart to right illustrates how emissions are reduced with a growing market share. In absolute numbers, for the state of Colorado, this translates to:

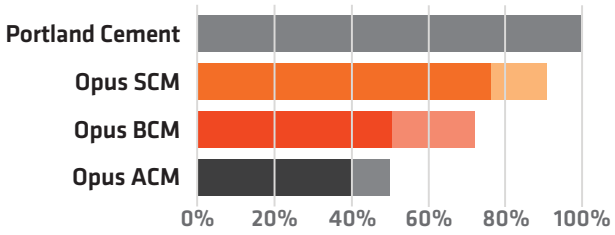
Market Share	CO_2 emission savings (metric tons per year)		
	SCM (@20%)	BCM (@55%)	ACM
10%	28,900	84,150	105,188
25%	72,250	210,375	262,969
50%	144,500	420,750	525,938
80%	231,200	673,200	841,500

Using the **50% uptake** of ACM as reference case, the annual 525,938 metric tons of avoided CO_2 emissions equate to:

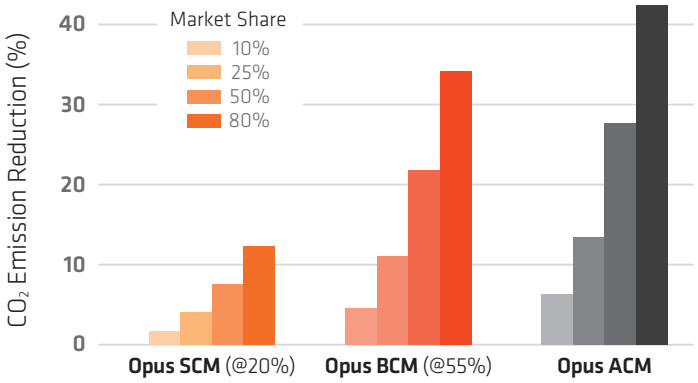
- taking 114,334 cars off the road
- the annual residential energy use of 185,844 people
- decreasing Colorado's cement emissions by 28%
- decreasing Colorado's entire state emissions by 1.1%



The Opus product suite: lowering CO_2 emissions



Opus product adoption & CO_2 reduction



Colorado's cement CO_2 emissions can be significantly reduced with the help of the Opus product suite in the transition away from high Portland cement usage.

For additional information, please contact us:
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