

ORAL PRESENTATION BY MICHAEL WOELK AT EPA'S
APRIL 16, 2009 PUBLIC HEARING ON THE PROPOSED MANDATORY GREENHOUSE
GAS REPORTING RULE

Good morning.

I'm Michael Woelk, President and Chief Executive Officer of Picarro, a California-based instrument manufacturer wholly dedicated to enabling high precision measurements of greenhouse gases in air and in process emissions.

We know that the world continues to warm and carbon emissions continue to climb. The US EPA is set to regulate carbon emissions and establish cap and trade programs that could approach trillion dollar scales in just a few years. Let's think of this process simply as putting a ton of carbon dioxide equivalents (product) in a box, and trading it. The faster the supply is reduced, the greater the increase in price. While the world's nations and communities must act rapidly to arrest climate change, we absolutely must objectively certify the true content of these "carbon boxes", or else get ready for the mother of all bubbles.

There are basically two approaches: calculation-based emissions factors and instrument measurements. The questions for the agency to consider are: 1) Which approach is more credible and transparent; 2) which approach is more convenient, and 3) which approach is more cost effective.

#1 CREDIBILITY: At the recent First International Greenhouse Gas Measurement Symposium in March, a powerful scientific argument was made that the best-case average spread between calculated and measured emissions was 17%, and in every case, the measured value was higher than the calculated value! Furthermore, other studies have shown that calculation-based reported emissions can have accuracy errors exceeding 90%, whereas well-calibrated, measurement-based reported emissions are typically accurate to a fraction of 1%.

So what does this mean? It means that carbon exchanges will broker bogus trades, and that buyers and sellers of carbon commodities will have no assurance that the underlying asset has value. Corporate boards will become familiar with the term "toxic carbon asset." The American public will lose faith in our policy makers, regulators and programs. They will see parallels with the current mortgage debacle. Massive litigation will erupt and finally, carbon trading instruments will implode. Credibility is absolutely essential to the sustainability of the program, and so we must relentlessly pursue quality within the EPA program. At an absolute minimum, any calculation-based approach must require that emissions uncertainty be understood via scientific measurements. Continuous measurements are the best option, and must be the first option.

#2 CONVENIENCE: With the simplicity of today's greenhouse gas measurement technology, quite literally anyone in this room can install and operate a device in less than 10 minutes. Our state-of-the-art instruments are intentionally designed that way, despite the fact that many of the world's most sophisticated and noteworthy scientists use our analyzers. They use them to monitor greenhouse gases on completely unattended mountaintops, polar

ice caps, in forests, cities, corn fields, telecommunication towers, and from portable watercraft, automobile, and aircraft platforms. The very same technology is ideally suited to measure fugitive and anthropogenic sources such as landfills, carbon sequestration sites, pipelines, water treatment plants and concentrated animal feeding operations, for example. By contrast, to model and "calculate" reasonably credible emissions factors, operators must conduct exhaustive QA/QC due diligence, routine and unannounced site audits, and actually do periodic measurements anyway to validate the model.

#3 COST: Human involvement is minimal with modern greenhouse measurement instruments. Regardless of where gases are measured, data acquisition is completely automated and typically transported by modem, wireless or internet connection to individuals anywhere in the world 24/7. As such, these modern solutions are scalable and enable enterprise wide and agency wide operational synergies.

So now imagine an average coal powered plant that emits 4 million tons of CO₂ equivalents per year, and apply a round number price of a \$100 per ton. That's \$400 million worth of carbon emissions -- get this -- give or take 17%, 83 cents on the dollar or \$68 million! Medium and large scale businesses will be well served by institutionalizing continuous measurement solutions.

The good news is that that the technology to measure and regulate greenhouse gases with total confidence at global, continental, regional, local, point source and sink scales is commercially available, and from American companies like Picarro.

Consider that the scientific community has been using this technology for years to measure atmospheric greenhouse gases. I urge the EPA to consider that American instrument manufacturers, as well as our scientific customers, stand ready to help the EPA in any meaningful way with case studies and on-site technology demonstrations.

Let's not repeat the mistakes from the 1970's era toxic air regulations, when facilities were allowed to report default emission factors, which were later discredited for under-reporting the truth. Emissions factors are simply not good enough for many real-world applications with unpredictable upsets, startups, shutdowns, leaks, etc.

I urge the EPA to take advantage of American technology companies, our scientific leaders, and build a regulatory framework based on credibility, convenience, and reasonable cost constraints beginning with high quality measurements that are objective and can withstand the highest scrutiny.

Thank you,

Michael Woelk
President and Chief Executive Officer
Picarro, Inc.