

Contributing to Realize Low-Carbon Society by Good Practices



His passion for environment preservation and energy-saving is influential.



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What is the policy for energy-saving, CO2 reduction, sustainability at Obayashi Corporation?

We are construction company and we have civil-engineering, development, realestate, and many other group companies. Mid-term management plan is shared with those group companies and it is the emphasis on “conserving environment.” One of the activities is “contributing to low-carbon society by good practices.” We are struggling to stop global warming. Japanese government is taking challenging path to realize the “Kyoto Protocol”. We are asked to cooperate with the plan.

We are not only actively proposing environmentally friendly solutions but also persuing environmentally friendly construction practices. As shown in the figure, these are global warming, construction waste, chemicals, ecosystem preservation, and green supply. Energy-saving is not only CO2 reduction but running-cost reduction, too. Therefore, it is highly interested by all constructors.

How do you use FlowDesigner in your daily duties. What do you think about FlowDesigner?

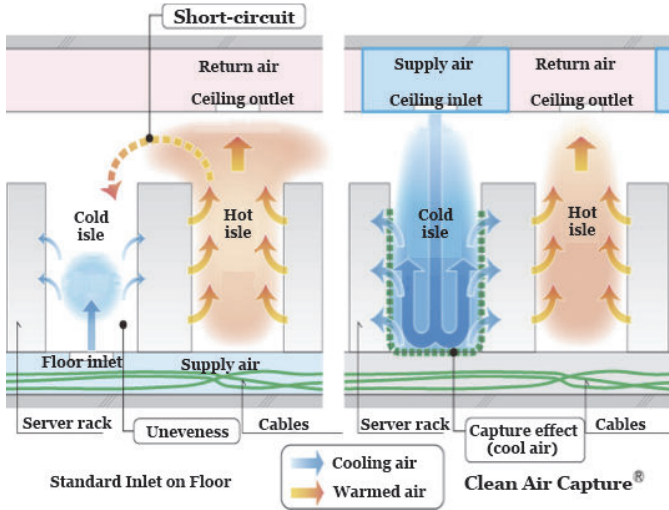
Proposals in environment concerns including energy-saving tend to be with texts and numbers. It is hard to make intuitive. However, CFD results could be visualized. FlowDesigner is easy to use and we are using often. Analysis on energy-sadvng solutions for data centers, natural convection, air flow in atrium, ventillation efficiency, avoiding short-circuit with outdoor units are some of the examples.

We developed “Cool Air Capture®” for energy-saving for data centers. This is a new idea. Most data center cooling system were cooling air come from uonder floor. However, there are many cables to block the air flow. As result, there are some spots do not get sufficient air and cause “short-circuit.” To avoid this problem, most system oversize the cooling capacities.

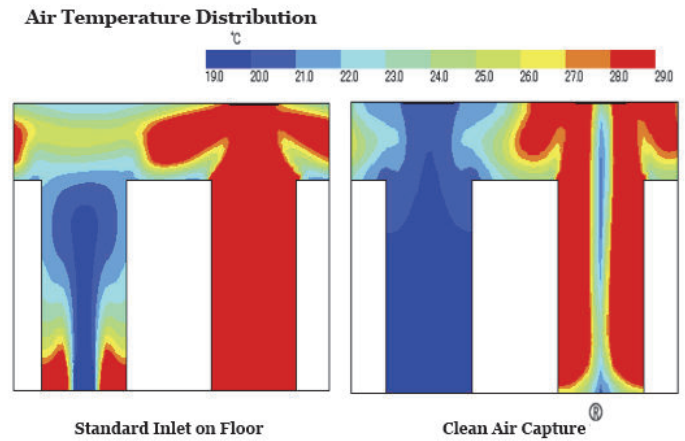
We revolutionalized the approach; air flow from the ceiling. It is easy to locate the inlets right above the heating spots and, as we all know, cool air naturally flow down. Hot air goes up and captured to the system.

It is “Egg of Columbus.” People knows hot air goes up and cold one does down. But sorting problems and facts together and come up with a solution, it is not that simple. Visualization helps to understand and sort the numerous informations together to come up a solution.

CFD is a powerful tool but there are many pit holes. Knowing the software well is important.



<Cleanroom air controls - scheme>



<Cleanroom air controls - simulated>

What are you planning for energy-saving, CO2 reduction, sustainability in daily duties?

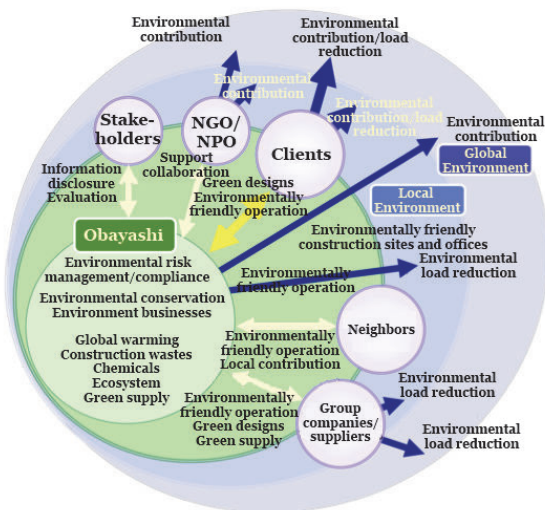
Energy-saving has been to sacrifice comfort. However, with intelligent productivity, energy-saving and CO2 reduction can be comfortable. Many technologies and tools are now available and how to mix and make it to work requires most ingenuity.

We are utilizing Building Information Modeling (BIM). New capability of FlowDesigner to import CAD model and analyze enables us to utilize the information quickly without introducing chances of errors.

Please give us comment.

One of the benefit to use CFD for “visualization” is to get consensus from colleagues. Another important one is “discovery.” People tend to streotype. But visualization of CFD can easily make people realize that the view was distorted. “Cool Air Capture” described earlier was the case.

Everyone is trying to make good products. We need to appeal the good ideas clearly and convincingly. If we found something wrong, we should fix it quickly. In order to realize low-carbon society and to improve environment, we will utilize CFD more.



<Obayashi and Environment>