


## Overcoming Obstacles: Funding Your IAQ Management Program



Indoor Air Quality (IAQ)

---

---

---

---

---


---

---

---

### Session Objectives

- Learn how a team-based approach to IAQ management can help to increase sustainable funding streams.
- Learn methods to integrate an IAQ management program into your existing facilities and/or energy management programs at low- to no-cost.
- Discover avenues to access funding through state and local grants, performance contracting, bond issues, etc.
- Discover how to effectively leverage data and research to secure buy-in and funding for an IAQ management program.



Indoor Air Quality (IAQ)

---

---

---

---

---

---

---

---


### Session Speakers

**Moderator**

- Dave Hill, Blue Valley School District (Kan.)

**Speakers**

- Frank Di Nella, Keller Independent School District (Texas)
- Rusty Clifford, West Carrollton School District (Ohio)
- Dana Green, West Carrollton School District (Ohio)



Indoor Air Quality (IAQ)

---

---

---

---

---

---

---

---

## Thinking about Funding

Beyond the establishment of your program, funding (\$\$\$) becomes important to consider to:

- Institutionalize your program.
- Take on certain, big-ticket projects.

BUT...

- We need to remember that we can accomplish **a lot** without additional "IAQ funding".



Indoor Air Quality (IAQ)

---

---

---

---

---

---

---

---

## Three Tips for Funding an IAQ Management Program

- Communicate with the Key Players
- Highlight return on investment
- Link IAQ and Energy Efficiency and Conservation



Indoor Air Quality (IAQ)

---

---

---

---

---

---

---

---

## Communicate with Key Players

Who is on your district's IAQ team?

IAQ Tools for Schools award-winning districts and Faculty **always** have the following key stakeholders at their meetings:

- District CFO or Finance Director
- Facility Manager
- Superintendent
- School Committee Members



Indoor Air Quality (IAQ)

---

---

---

---

---

---

---

---

## ***Highlight Return on Investment***

Demonstrating return on investment will help you win buy-in from decision makers.

- Which data points matter to each stakeholder?
- Return on your investment is not just in dollars.
  - Decreased absenteeism and better classroom performance means healthier and happier students and staff.



Indoor Air Quality (IAQ)

---

---

---

---

---

---

---

---

## ***Link IAQ and Energy Efficiency and Conservation***

- More funding is available for energy efficiency.
  - Federal and state rebate programs are available for upgrades and retrofits.
- Piggybacking on energy (and water) efficiency and conservation programs is one of the best ways to help finance your IAQ management program.
- Use energy or water efficiency savings to offset costs/fund an IAQ management program.



Indoor Air Quality (IAQ)

---

---

---

---

---

---

---

---

## ***Where is the Money?***

*It is in...*

### **The capital budget process.**

- Maintenance and custodial budgets are often determined here.
  - Essential custodial staffing and material needs are funded through this source.
  - Incorporating an IAQ program into this process can be challenging due to competing priorities and taxpayer resistance.



Indoor Air Quality (IAQ)

---

---

---

---

---

---

---

---

## Where is the Money?

*It is in...*

### Rebates and subsidized loans.

- **Available from:**
  - State and local governments.
  - Utility companies.
- **Available for:**
  - Energy efficiency upgrades.
  - HVAC and weatherization upgrades.

Programs often provide 0% interest or very low interest loans.



<http://www.dsireusa.org>

Indoor Air Quality (IAQ)

---

---

---

---

---

---

---

---

---

---

## Where is the Money?

*It is in...*

### A tax-exempt lease.

- Quick and streamlined way to acquire money for “hard assets” or tangible property, including an HVAC system.
  - Can be organized and completed within a few weeks.
  - Not counted as debt on the schools books because the school does not own the IAQ upgrade.

[http://www.energystar.gov/ia/business/government/FINAL\\_Paper.pdf](http://www.energystar.gov/ia/business/government/FINAL_Paper.pdf)  
(see page 4)



Indoor Air Quality (IAQ)

---

---

---

---

---

---

---

---

---

---

## Where is the Money?

*It is in...*

### Performance contracting.

- A common method of project financing that comes with guarantees and a schedule of projected savings.
- A vehicle for reducing energy costs without upfront payments.
- An ESCO performs energy audit first and guarantees savings.



[http://www.energy.ca.gov/reports/efficiency\\_handbooks/400-00-001D.PDF](http://www.energy.ca.gov/reports/efficiency_handbooks/400-00-001D.PDF)

Indoor Air Quality (IAQ)

---

---

---

---

---

---

---

---

---

---

## Where is the Money?

*It is in...*

### Bond Issuance.

- Pairs an IAQ initiative with a larger project.
- Reduces the chances of fallout from weary taxpayers.
- Options include QSCB, QECB and QZAB.
  - All have direct subsidies – federal government refunds the cost of interest back to the district.



<http://www.qzab.org/>  
[http://www1.eere.energy.gov/wip/pdfs/qecb\\_creb\\_primer.pdf](http://www1.eere.energy.gov/wip/pdfs/qecb_creb_primer.pdf)

Indoor Air Quality (IAQ)

---

---

---

---

---

---

---

---

## Where is the Money?

*It is in...*

### Grants.

- Pulls at the heart-strings of foundations because of the impact poor IAQ in learning environments can have on children's overall health and scholarly performance.
- Identify foundations in your area that have a history of giving money for environmental and public health causes.



Indoor Air Quality (IAQ)

---

---

---

---

---

---

---

---

## Where is the Money?

*It is in...*

### Gifts.

- Parents associations or other groups sometimes set up donation funds for specific causes, including IAQ.
- Be sure to frame the effort carefully so as not to produce backlash from the community who think that an IAQ project should be paid for through taxpayer's dollars.



Indoor Air Quality (IAQ)

---

---

---

---

---

---

---

---

District Location: Keller, Texas  
 District Type: Suburban  
 Student Population: 32,500  
 Number of Facilities: 43  
 Facility Age Range: 0 - 65 years  
 Total Facility Square Footage:  
 5.2 million



IAQ Tools for Schools National Awards:

Great Start: 2008  
 Leadership: 2009  
 Excellence: 2009  
 Model of Sustained Excellence:  
 2010



Indoor Air Quality (IAQ)

---

---

---

---

---

---

---

---

---

---

## Getting Started



- 2005 M&O Brought "in-house"  
Cost Reduction & Quality Improvement
- 2006 Switch to Green Seal Certified Products  
Vendor Proposal = **Cost Reduction**
- 2007 Implement Paper Recycling  
Vendor Proposal = **Cost Reduction**
- 2007 Focus on Educational Excellence  
Paradigm Shift in Business Function
- 2007 **Locate EPA Tools for Schools Site**
- 2007 Plan Tools for Schools Implementation  
**Communicate Benefits** to all Departments
- 2008 Board Presentation  
**Buy In**



Indoor Air Quality (IAQ)

---

---

---

---

---

---

---

---

---

---

## IAQ Tools for Schools



- Invested Saving in EPA's Tools for Schools Program  
Test Equipment and Training
- Implemented Single Stream Recycling  
Further **reduced waste cost**
- Communicated to and Educated Department Heads  
Expand buy-in via IAQ Team
- Transition to Microfiber Cleaning – Reduced W/Comp
- Tools for Schools Great Start and Leadership Awards  
**Publicize, Publicize, Publicize**
- 2008 Bond Election
- Identified Building Needs  
Roofing Projects, Flooring Replacement, HVAC Controls



Indoor Air Quality (IAQ)

---

---

---

---

---

---

---

---


---

---

## Funding Sources

**Bonds**

- Capital Projects
  - Roofing
  - Flooring
  - HVAC Controls



**Rebates, From Utility Companies for Reduced Peak Demand**


- Use Rebates from New Construction to Upgrade Existing Facilities
- 1 New School Provides Funds to Update Lighting in 2 ½ Facilities

**Grants**

- State of Texas Grant to Reduce Emission on School Busses

**Department Budgets**

- Board Goals Influence Department Spending



**Indoor Air Quality (IAQ)**

---

---

---

---

---

---

---

---

---

---

## Building Momentum

**A Singular, Purpose Focused Message**


- IAQ Contributes to **Educational Excellence** for all KISD KIDS
- Educational Excellence is the Reason KISD Exists

**Trustees, Administrators, Educators, Parents, Tax Payers and Reporters "Get That"**

**IAQ Team Promoted and Educated Internally With EPA Publications and Success Sharing**

**The IAQ Coordinator Sits on the School Health Advisory Council (SHAC) consisting of Parents, Local Health Providers and KISD Administrators.**

**KISD has Partnered with Cook Children's Medical Center and the American Lung Association to Develop and Conduct Asthma Management Training for Students, Parents and KISD Staff**



**Indoor Air Quality (IAQ)**

---

---

---

---

---

---

---

---

---

---

## The Culture Changes

**Cross Functional IAQ Team's Impact**

- All Department Heads Exposed to IAQ Program Benefits
- Core of the Business, Educational Excellence

**Business Functions Focused on Educational Excellence**


- Functions Becomes Part of the Educational System

**Board Includes Green Initiatives in 5 Year Strategic Plan**

- Buy-in at The Highest Level
- IAQ becomes Over-arching Umbrella for all "Green Initiatives"


**Test Scores Increase Annually**

- Widespread Improvement Across the District
- Publicize, Publicize, Publicize



**Spending Patterns Change**

- Departments Seek Cost Effective "Green Solutions"



**Indoor Air Quality (IAQ)**

---

---

---

---

---

---

---

---

---

---

# Cost Effective Solutions



## Standard Processes & Controls

Maintenance and Cleaning Procedures

## Energy Management

- Last out Lights Out
- Remove Personal Appliances
- HVAC Control Upgrades
- Lighting Retrofits

## Waste Management

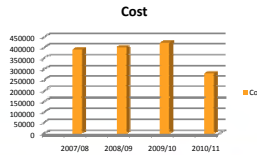
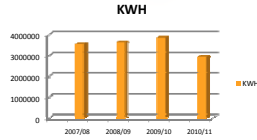
- Single Stream Recycling
- Washable Cafeteria Trays

## Water Management

- Retention Pond Irrigation

## Efficient Building Systems

- LEED Certification
- Geothermal HVAC
- Light Harvesting, Etc



Indoor Air Quality (IAQ)

---

---

---

---

---

---

---

---

---

---

# Educational Excellence



## Test Scores Increased

2005	2006	2007	2008	2009	2010	% INC
75	79	82	85	87	88	14.8%

## Scholarships Increased (in millions)

2005	2006	2007	2008	2009	2010	% INC
\$12.7	\$16.9	\$24.3	\$30.7	\$37.2	\$40.2	68.4%

## Enrollment Increased

2005	2006	2007	2008	2009	2010	% INC
23756	25873	27905	29458	30299	31569	32.9%

## Reduced Cost per Sq Ft (Operations)

2005	2006	2007	2008	2009	2010	% INC
NA	\$.234	\$.243	\$.227	\$.232	\$.232	.008%



Indoor Air Quality (IAQ)

---

---

---

---

---

---

---

---

---

---

# Big Picture



## It Takes a District, Not Just a Department

- Sell The Benefits, Build Collaboration
- Educate Your Staff

## Tools for Schools Funding Framework Applies to Funding Too

- Assess, Plan, Act and Evaluate Spending
- Make Good Product Selections

## Due Diligence With Funding

- Focused Product Selection
- Re-invest Savings

## Involve Your Vendors

- If They Want Your Business Make Them Find Cost Effective Solutions

## Promote Your Successes



Indoor Air Quality (IAQ)

---

---

---

---

---

---

---

---

---

---



## West Carrollton School District

District Location: West Carrollton, Ohio

District Type: Suburban, near Dayton

Student Population: 3,750

Number of Facilities: 7

Facility Age Range: 42 – 97 years

Total Facility Square Footage: 614,901

IAQ TFS Excellence Award: 2003

IAQ TFS National Mentorship Award: 2006



Indoor Air Quality (IAQ)

---

---

---

---

---

---

---

---

## IAQ Management Plan Funding

Preventative Maintenance

Capital Improvement Levy

Using Projected Energy Savings  
(Ohio HB 264)



Indoor Air Quality (IAQ)

---

---

---

---

---

---

---

---

## Preventive Maintenance

Set Schedule

Keep Schedule

Periodic building walkthroughs

Takes less time & expense to  
maintain than to repair.



Indoor Air Quality (IAQ)

---

---

---

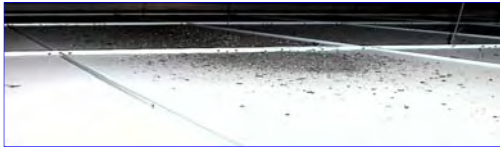
---

---

---

---

---



Areas above ceiling tile are cleaned to avoid problems



Indoor Air Quality (IAQ)

---

---

---

---

---

---

---

---

Ventilation grills and ceiling pads are replaced as a result of building walkthroughs.



Indoor Air Quality (IAQ)

---

---

---

---

---

---

---

---

### Capital Improvement Levy

Passed initially in 1996

Passed permanently in 2006

Generates 2.5 mills = \$900,000 annually

Must be used for items that have life of 5 years or more

Used to address a myriad of IAQ issues



Indoor Air Quality (IAQ)

---

---

---

---

---

---

---

---

HVAC grills redesigned and replaced to avoid air intake problems.



Indoor Air Quality (IAQ)

---

---

---

---

---

---

---

---

## Using Projected Energy Savings

Ohio allows school districts to borrow for energy conservation projects that have a payback of 15 years or less.

Must be able to demonstrate energy savings are less than cost of project.

I.E., HVAC, windows, boilers, etc. meet both energy and IAQ needs.



Indoor Air Quality (IAQ)

---

---

---

---

---

---

---

---

HVAC & boiler replacements financed by lighting retrofits and energy control modification programs.



Energy savings pays for loan if spread over a 10 to 15 year period.

IAQ items included in project and still reduce annual expenditures.



---

---

---

---

---

---

---

---

## Getting & Maintaining Buy-in

### Survey Occupants & Keep Ear to the Ground

WCSD uses staff surveys to collect information on the health of the facility and assess staff satisfaction annually.

### Walk the Talk - Walk the Grounds

EH&S team (maint. staff, prin., health dept., CO admin.) conduct walkthroughs annually to identify sources or potential contributors to IAQ problem.

### Keep the Customers Satisfied

WCSD takes concerns seriously – builds confidence in program - treats occupants as partners in IAQ monitoring.



Indoor Air Quality (IAQ)

---

---

---

---

---

---

---

---

## Getting Positive Results

### Use Technology to Make it Easier

WCSD uses a Q-Trak to simplify assessments & accommodates establishing facility performance baselines.

Air quality measurements of CO, CO<sub>2</sub>, temperature and relative humidity are taken in classrooms, monthly or as needed.



Indoor Air Quality (IAQ)

---

---

---

---

---

---

---

---

## Getting Positive Results

### Establishing Your Baseline

Monitor progress with monthly assessments.  
Track severity and length of time to solve problems over time to identify room for improvement.

### Prevention Today Means Savings Tomorrow

Preventative maintenance and assessments throughout year will reduce risk of problems and save time and money.



Indoor Air Quality (IAQ)

---

---

---

---

---

---

---

---

## Points of Contact

### Blue Valley

Dave Hill, Executive  
Director of Facilities and  
Operations

913-239-4143

[DHill@bluevalleyk12.org](mailto:DHill@bluevalleyk12.org)



### Keller ISD

Frank Di Nella, Director,  
Operations and Distribution

817-744-3950

[Frank.dinella@kellerisd.net](mailto:Frank.dinella@kellerisd.net)

### West Carrollton

Dana Green, Business Manager

937-859-5121 x1116

[dgreen@wcsd.k12.oh.us](mailto:dgreen@wcsd.k12.oh.us)

Indoor Air Quality (IAQ)

---

---

---

---

---

---

---

---

## Resources Recap

### Rebates

<http://www.dsireusa.org>

### Tax exempt leases

[http://www.energystar.gov/ia/business/government/FINAL\\_Paper.pdf](http://www.energystar.gov/ia/business/government/FINAL_Paper.pdf)

(see page 4)

### Performance contracts

[http://www.energy.ca.gov/reports/efficiency\\_handbooks/400-00-001D.PDF](http://www.energy.ca.gov/reports/efficiency_handbooks/400-00-001D.PDF)

### Bonds

<http://www.qzab.org/>

[http://www1.eere.energy.gov/wip/pdfs/gecb\\_creb\\_primer.pdf](http://www1.eere.energy.gov/wip/pdfs/gecb_creb_primer.pdf)



Indoor Air Quality (IAQ)

---

---

---

---

---

---

---

---