

AIA 2030 COMMITMENT
SUSTAINABLE ACTION PLAN
NICHOLSON KOVALCHICK ARCHITECTS



NK FIRM PHILOSOPHY

NK MISSION STATEMENT:

Nicholson Kovalchick Architects strives to improve the urban fabric through environmentally responsive design and development. By focusing development in urban areas, we work to improve the density and livability of our cities.

We work to reduce the overall impact of the built environment through the incorporation of durable building materials and building systems into all of our projects. To us, durability means materials and systems with a long life cycle, that are reusable and recyclable. We also strive to eliminate the use of excessive materials and mechanical systems that are not necessary for the use of the building.

As the population increases, the best solution for housing a growing city is to increase the density of the urban core, thereby reducing the need to sprawl development. We address this need through our focus on urban infill housing and adaptive renovation / reuse.

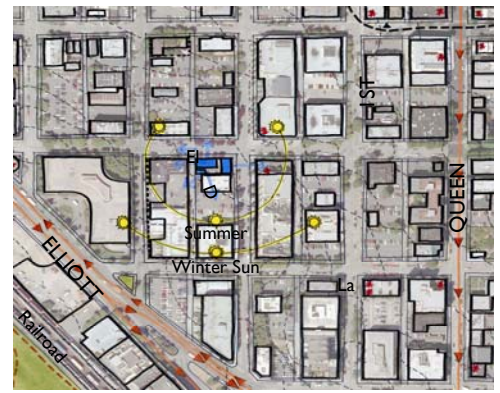
NK WORK APPROACH:

Nicholson Kovalchick Architects is dedicated to preserving the natural environment while enhancing the built environment. Our goal is to design efficient and durable buildings that meet our clients' ambitions and strengthen the viability of their project. Projects follow an integrated process where both financial and green objectives are clearly delineated from the start, allowing maximum value to be achieved throughout every phase of the project.

We define sustainability by utilizing existing resources efficiently to reduce waste and conserve energy for the entire life cycle of a building. We extend this definition to guide development at every scale: from the technical details, to building systems, to the overall building form, to the planning of the neighborhoods, to city and regional development.

We design buildings that reduce energy intensiveness in a cost neutral way. Our general approach to design is to offset the cost of sustainable strategies through savings that are realized by the elimination of traditional systems and infrastructure.

We integrate sustainable principles into every project that we design. At the most basic level, for example, we strive to maximize the efficiency in the arrangement and use of space in every one of our projects. While these principles inform our basic design decisions, we also encourage our clients to incorporate sustainable design in a more intentional manner as a stated goal of their projects. We are working to produce dense, livable, urban buildings that provide a realistic and complete grounding for families and individuals.



NK SUSTAINABILITY GOALS

NK ULTIMATE GOAL: *Passive Urban Structures*

Our ultimate goal is to design carbon neutral buildings that incorporate passive strategies. We will work to achieve the ultimate goal of the 2030 challenge, which is to become carbon neutral by the year 2030. This will be accomplished through the design of buildings that maximize urban density, reduce overall energy consumption, produce their own energy, and give excess energy back to the city.

The following steps will bring us closer to this goal:

- Advocate for energy-related legislation that requires buildings to improve in energy-efficiency and density.
- Advocate for building and land use codes to mandate a particular sustainable solution.
- Perform post-occupancy studies so we can use the building as a tool to inform the design of future buildings.
- Find a way to measure the specific occupant energy use vs. the total building energy use.
- Find a metric to measure/understand the total life impact of the building.
- Use density as a criteria to allow us to choose the projects that we design.
- Create a network of clients and people who share these values.
- Position ourselves to win the work that requires us to achieve these goals.
- Become our best client: with Nic-Chick and Euclid as our in-house development teams, we are in a unique position to be our best client and we will allow ourselves to “break the box”.

NK SHORT-TERM GOAL:

- Evaluate and measure the buildings that NK has designed thus far.

NK MID-TERM GOAL:

- Develop a prototype model of the ideal building form to meet the goals listed above.

NK LONG-TERM GOAL:

- Realize this prototype model by building this model.



NK SUSTAINABILITY APPROACH

PLANNING: *Density*

Density reduces our networks of carbon.

Sprawl



Density



Density is the first step toward sustainability. We target projects in dense, urban areas to utilize existing public infrastructure and transportation systems. We maximize the efficiency and use of space in all of our projects.

SYSTEMS: *Simplification & Reduction*

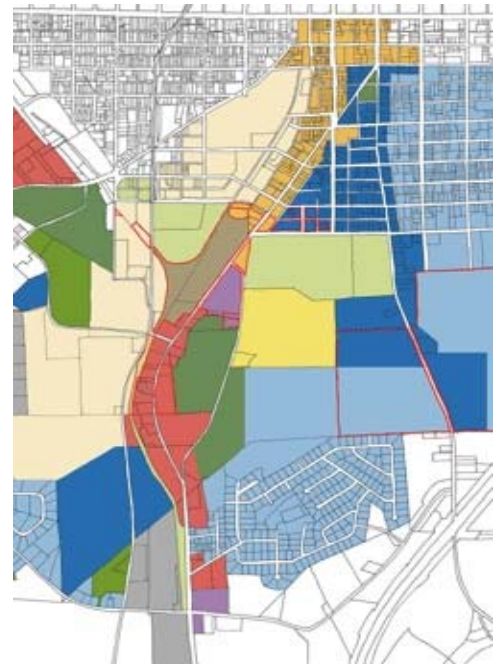
The reduction of unnecessary mechanical systems eliminates the excess carbon production required to produce, install, and maintain complex systems. We simplify or eliminate mechanical systems by rethinking basic assumptions about building form and site layout. This reduces the overall cost of the building, making it more affordable to trade traditional technologies for more ambitious ones.

BUILDING DESIGN & EVALUATION: *Space Efficiency & Durability*

Maximizing the amount of space devoted to active uses of the building results in the reduction of building area dedicated to inactive uses of the building. We work with the client to ensure that a minimum amount of space is devoted to resource-intensive and non-income generating uses like parking, circulation, and mechanical systems. We consider the lifecycle of a building throughout the entire design process. We design buildings that are built to last by selecting non-toxic and durable materials. On the exterior of our buildings, we use a durable palette of cladding materials. This palette includes metal siding, phenolic resin panels, cementitious siding, ceramic siding, and local alternatives to tropical hardwoods. The materials require less labor to install and involve significantly less maintenance over the life of the building.

ADVOCACY:

As an office, we raise awareness and support positive changes to increase density in the building and land use codes. In recent years, we have advocated for improvements to the land use and building codes, we have been active participants in the City of Seattle Design Review Process, and we have championed for better urban design throughout the city.



SUSTAINABILITY APPROACH



NK DESIGN

2010: where we are now

We have accomplished the following:

PLANNING:

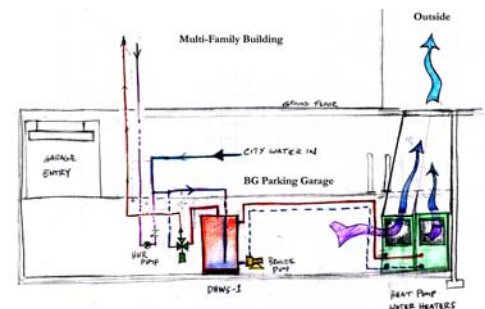
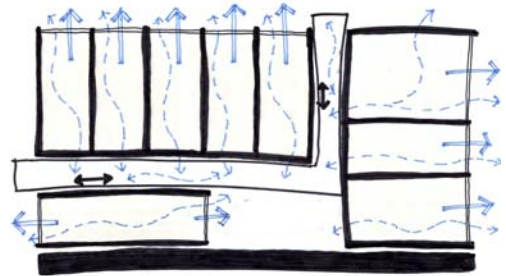
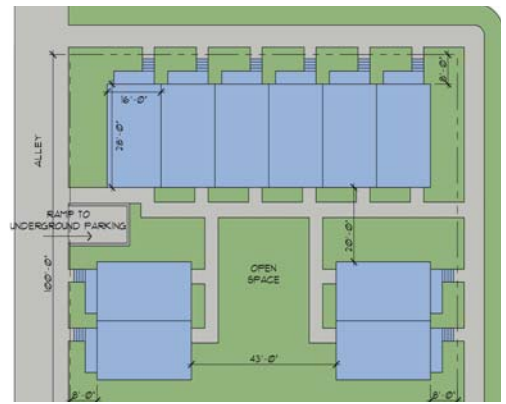
- **Land Use Code:**
NK Architects worked with the City of Seattle and others in the design and development community to influence the direction of the recent changes to the commercial, low-rise, and mid-rise portions of the Land Use Code. As a result of this ongoing and multi-year effort, important reforms have been incorporated into the final version that was passed by the City Council this year, allowing for higher densities near urban cores and transit zones. Certain parking requirements have also been eliminated from the code.

SYSTEMS:

- **Exterior Walkways:**
Several of our projects use exterior walkways to eliminate the need for typical interior corridor mechanical conditioning, pressurization, and added interior finish materials. These walkways provide cross ventilation and additional natural light to residential units while eliminating corridor mechanical ventilation and reducing the corridor lighting load.
- **Ventilation:**
Units are designed to allow for natural ventilation and require a minimal amount of mechanical ventilation. In most of our projects, only a continuous whole house fan, located in the bathroom, is used for unit ventilation.
- **Heat Exchangers:**
An air-to-water heat exchanger is being used in our 6th Avenue Mixed-Use Project. This exchanger uses the modulated ambient temperatures of the air in the parking garage to heat nonpotable water for the entire building.
- **Low-Flow Fixtures:**
Low-flow plumbing fixtures such as low-flow showerheads, aerators on faucets, energy efficient appliances, and dual flush toilets are specified in a variety of our projects.

BUILDING DESIGN & EVALUATION:

- **Wall Assembly Design and Research:**
We work with building envelope consultants to research, design, and implement the best strategies to improve the insulation of the exterior building envelope, while allowing the building to breathe.
- **Specifications:**
We are working on specifications for a LEED-H Midrise Pilot project. This specification manual is tailored for the LEED-H Midrise Pilot rating system.
- **Materials:**
We have eliminated the use of hazardous materials on the interior and exterior of buildings to reduce the need for excess ventilation and clean air exchange. We also obtained Seattle's first approval and use of non-ventilated, closed-cell, spray-applied foam insulation in a roof cavity.
- **Evaluation:** We work with a variety of Green standards and rating systems.



DESIGN: 2010



NK DESIGN

2011: where we are going
We commit to the following:

PLANNING:

- **Land Use Code:**
Participate in neighborhood planning.
Advocate for higher densities with the city planning department.

SYSTEMS:

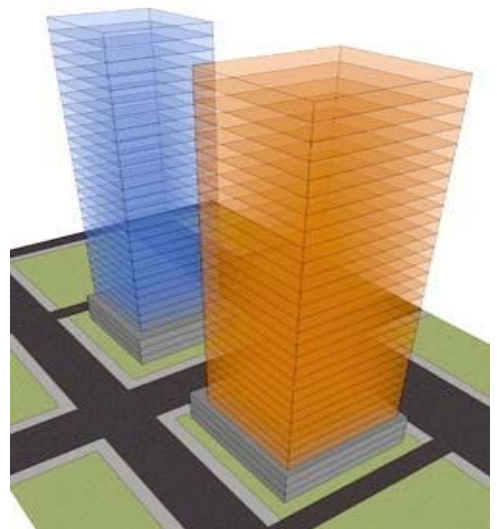
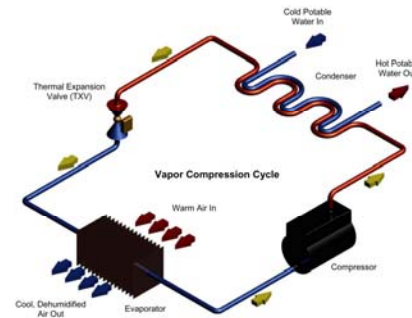
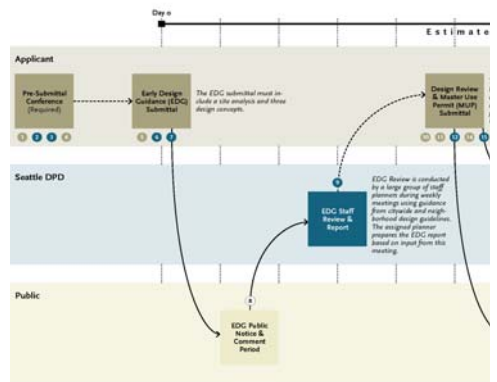
- **Evaluation:**
Evaluate our existing projects by finding the actual EUI of the following built NK projects:
 1. Salveo
 2. Westlake
 3. 222 View
- **Measurement & Verification:**
Develop a standard way to measure our built projects. Due to privacy concerns regarding individual unit metering and the decentralized nature of the energy use systems in residential buildings, this is a challenging task. We will develop a standard of measurement through the following ways:
 1. Consider expanding scope to include embodied energy.
 2. Work with utility providers to measure accurate building energy used.
- **Documentation:**
Expand our marketing format of documentation to a case study format with consistent criteria, so that we may track progress of our built work in a way that is standardized.

BUILDING DESIGN & EVALUATION:

- **BIM:**
Integrate and phase-in Revit. Incorporating proper systems into the office and training staff will be a challenging process, but we plan to slowly and realistically phase the program into the office this year.
- **Energy Modeling:**
Incorporate early energy modeling into our projects. By creating a living energy model early into the project and allowing it to grow with the project, we can make informed energy conservation decisions.

Option 1: Apply Existing Administrative Design Review

Option 1 would require all In-house projects to undergo the existing Administrative Design Review (ADR) process. The existing ADR process outlined below "mirrors" the format of the city's typical Design Review process, with staff planners conducting the review in lieu of the appointed neighborhood Design Review Boards. A separate and distinct staff-level design review process specifically for Administrative Design Review has not yet been created in Seattle.



NK OFFICE

2010: where we are now

We have accomplished the following:

OFFICE OPERATIONS:

- **Waste:**
 - We implemented a composting system through which over 1/2 of our waste is composted.
 - We recycle all paper, glass, cardboard, and acceptable plastics.
- **Energy Usage:**
 - We tracked and recorded our energy bills since NK Architects first inhabited the current office. We will continue to track this information and note areas of change on a per capita basis. See Appendix A: NK Office Energy Usage.
 - We switched all incandescent light bulbs to fluorescent light bulbs.
 - We are making efforts to turn off all computers and power strips at the end of the day.
 - As an office, we agreed to turn off the air conditioning completely during the summer months. Windows and fans are used for cooling and ventilation.
- **Water Use Reduction:**

The only toilet in the office is dual flush.
- **Paper Use Reduction:**

We are switching from paper-based agenda/schedule to laptop projected materials for staff meetings.
- **Supplies:**

We created a document that lists environmentally responsible purchasing strategies.
- **Teleconferencing:**

Conference calls are frequently used to reduce travel.

STAFF TRAINING:

- **LEED:**

The majority of our staff is LEED Accredited. The firm supports the cost for the LEED testing.
- **AIA 2030 Team:**

We established an in-house 2030 Team to help us meet the goals of the AIA 2030 Commitment.
- **AIA 2030 Seattle Pilot Class:**

Several staff members attended the monthly 2010 AIA 2030 Seattle Pilot Classes.
- **AIA 2030 Roundtable:**

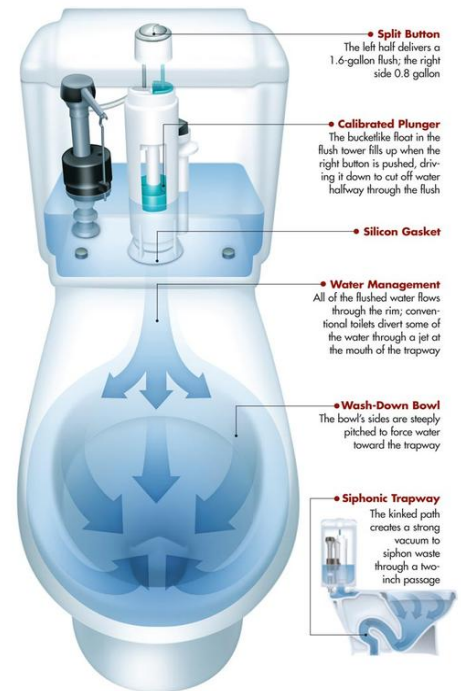
NK is involved in the Seattle AIA 2030 Roundtable lunch discussion meeting, which occurs every month at GGLO.

compost.

throw your used paper towels here.

trash.

this goes to the landfill.



NK OFFICE

2011: where we are going
We commit to the following:

OFFICE OPERATIONS:

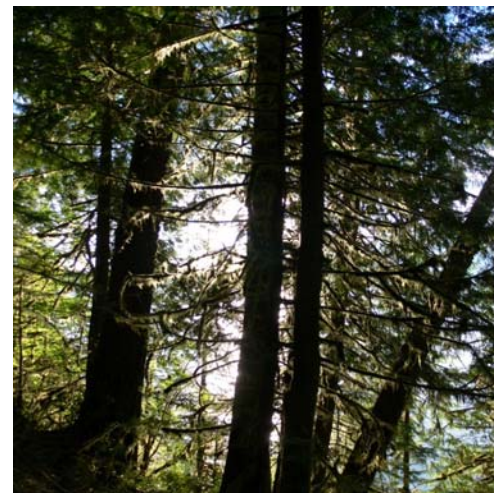
- **Waste:**
 - Awareness of the ratio between trash, recycle, and compost.
- **Energy Usage:**
 - Purchase energy monitor to track our daily energy usage.
 - Develop a per staff measurement of energy usage per week.
 - Install motion sensor lighting controls in the conference room and kitchen.
- **Transportation:**
Implement a subsidy or benefit to encourage sustainable transportation like walking, biking, or riding the bus.
- **Partnership:**
Join the Seattle Climate Partnership to gain tools and information to track carbon emissions from the firm. This partnership is an organization of "Seattle-Area Employers Working Together to Reduce Greenhouse Gas Emissions and Improve Quality of Life".

STAFF TRAINING:

- **LEED:**
Encourage and reimburse employees to test and train for the new LEED BD+C and LEED H Accreditations.
- **BIM & Energy Modeling:**
Train employees to use Revit competently in the office. Eventually, we hope to utilize the Revit plug-in for Energy Modeling into all projects in the office.
- **Giving Back:**
Organize a "Plant a Tree" day for the office to physically give back by planting trees.



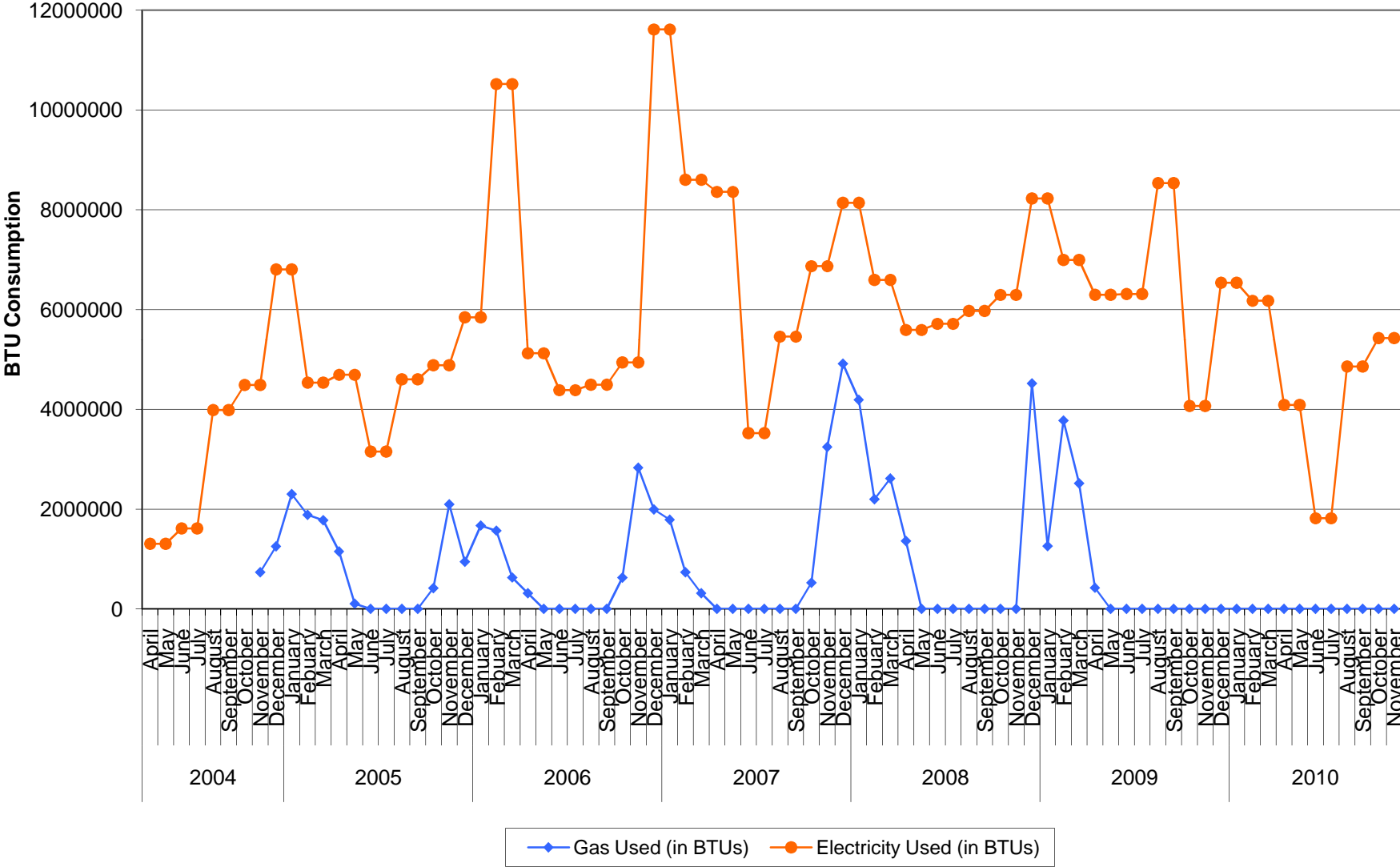
OFFICE: 2011



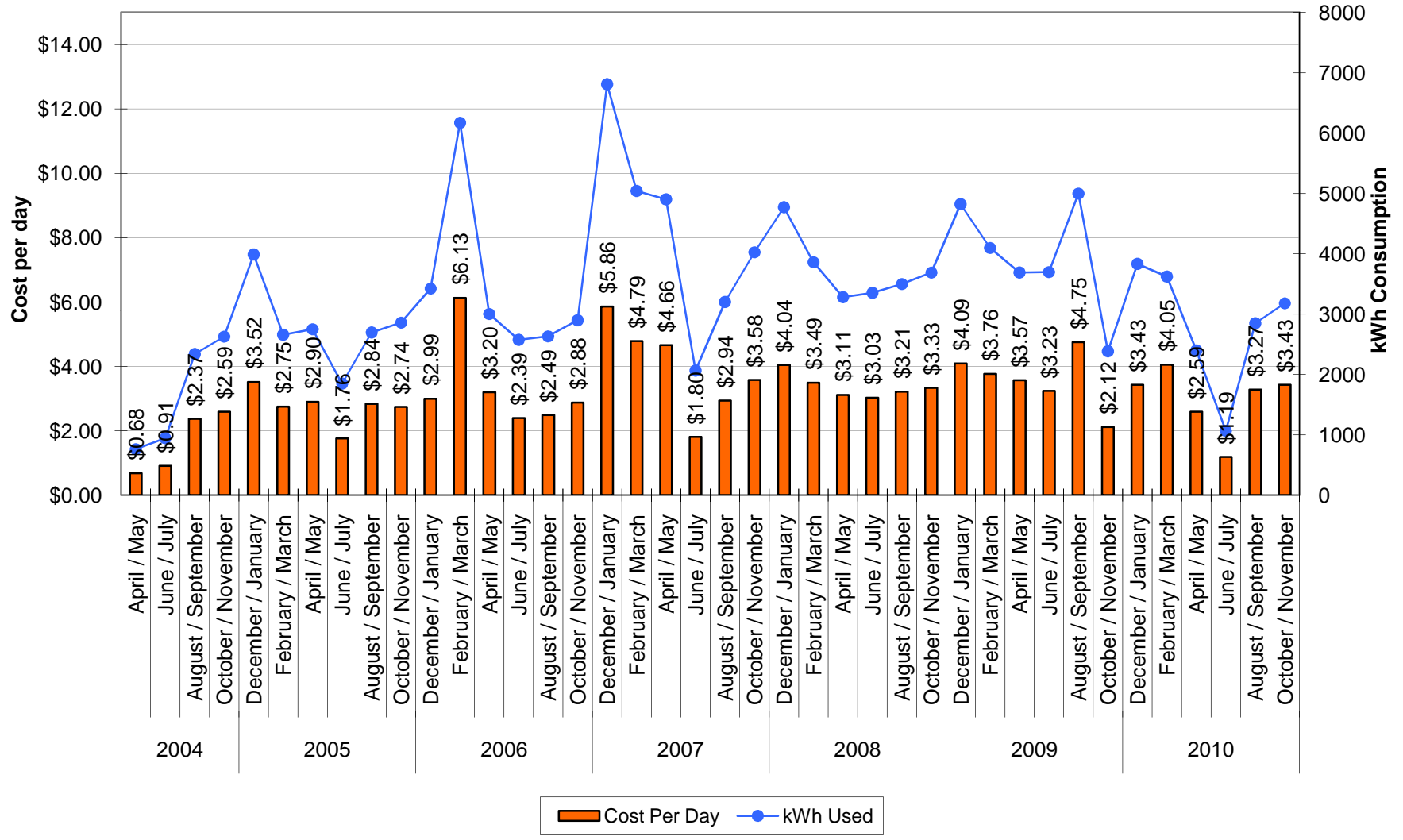
APPENDIX A:

NK OFFICE ENERGY USEAGE:

NK Office Energy Usage Electricity versus Gas



NK Office Energy Usage Electricity versus Cost per Day



NK Office Energy Usage Total Energy Consumption versus Number of Employees

