

Energy Tax Aspects of Chicago's \$7.2 Billion Building Program

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Charles R. Goulding, Charles G. Goulding and Gary Savell provide an overview of Chicago's recently announced program to retrofit city buildings and improve infrastructure.

Chicago Mayor Rahm Emanuel has announced a major \$7.2 billion infrastructure improvement and municipal building energy reduction initiative. The City of Chicago is commencing a project to retrofit their buildings and infrastructure through the creation of the Chicago Initiative Trust. This project allows the city to raise both public and private capital funding of about \$1.7 billion without dipping into tax revenue. The entire project, called "Building a New Chicago," weighs in at about \$7.2 billion and attempts to fix a large portion of Chicago's aging infrastructure, ranging from sewers to roads to airports. More specifically,

- More than 100 Chicago Transit Authority stations, Chicago's rail system, will be repaired.

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- \$1.1 billion will be spent on the infrastructure educational improvements.
- \$1.4 billion will be spent improving Chicago's O'Hare International Airport. Airports are of particular interest due to their ability to create a local economy around the airport itself.¹
- In addition, \$250 million has been already allocated to "Retrofit Chicago," with the goal of transforming Chicago-owned buildings into energy-efficient models for other municipalities in the United States to follow.

Additive Project Funding

This Chicago initiative is a public-private partnership where the funding for this massive project will be additive, including:

- **Energy Cost Savings**—Energy costs saved from today's generation of energy-efficient products are substantial. Energy-efficient lighting can reduce electric costs by 50 percent or more, and energy-efficient HVAC can reduce costs by 20 percent or more.

- **Local Utility Rebates**—Utility companies, including ComEd, Nicor and DSIRE, typically offer rebates for energy-efficient lighting and all HVAC. See footnote for rebate details.²
- **The Clinton Initiative**—As part of a goal for climate change, former President Bill Clinton has established the Clinton Climate Initiative where financing can be achieved for retrofit projects such as the one in Chicago. President Clinton has supported the Chicago Infrastructure Trust and even announced a retrofit project with Mayor Emanuel. This united announcement illustrates the ability of Mayor Emanuel to get connected with high-powered individuals in the federal government.
- **Private Sources which will presumably include ESCO-Provided Energy Performance Contracting and On-Bill Utility Financing**—ESCO is short for Energy Service Company. ESCOs are the companies who provide the energy equipment installation services. In this case, the contracted ESCO will finance the project themselves. Then, the ESCO is paid back through future cost savings, which means the building owner or primary designer does not have to worry about the potential cost savings. The ESCO usually requires a contract of up to 10 years to guarantee a return on investment. On-Bill Financing allows the City of Chicago to finance the initiative by paying off the principle and interest of the investment through their monthly utility bill. Due to the cost savings of the improvements, the utility bill should decrease making ongoing payments less, while paying off the cost of the initiative at the same time.
- The \$1.7 billion of public and private capital funding is described above.

Jump Starting the Chicago Economy

Chicago, America's third largest city, has been challenged by mediocre economic results. In contrast, New York City, the largest city in the United States, has benefited from a resilient economy along with Houston from a faster growing economy. Among major metropolitan areas in the world, Chicago has the fourth largest economy in the world ranking behind Tokyo, New York and Los Angeles. This initiative project creates jobs, which should spur the economy, while the Chicago infrastructure gets improved along the way.

To remain a competitive member of the big four cities, Chicago must reduce its municipal building energy costs. New York City has mandatory energy benchmarking for buildings sized 50,000 square feet or greater. See Table 1 for a detailed comparison between Chicago and New York. Los Angeles has a more rigorous building energy code, too, and also uses mandatory energy usage benchmarking. Houston has embarked on a major initiative to reduce municipal building energy use including energy-efficient lighting, HVAC and building envelope as part of what it calls "ReBuild Houston."³

Table 1. Comparing Chicago to New York

	Chicago	New York
Population	9,461,105 (Metro Area)	19,378,102 (Metro Area)
Economic Output	\$500 Billion	\$1.1 Trillion
Unemployment Rate	9% (Metro Area)	9.5%
Change in Population Between 2000 and 2010	Decrease by 6.9%	Increase by 2.1%
Change in Tourism Between 2000 and 2010	Decrease by 16%	Increase by 35%

Source: Chicago data from *Getting Chicago to Grow*, Bloomberg Markets, June 2012
 New York data from US Census, New York State Department of Labor, and NYC Go

Major building renovation is a labor-intensive activity requiring architects, engineers, project managers, other consultants, electricians, HVAC contractors, carpenters and other construction laborers. This job creating initiative will stimulate the local economy.

The EPAct Government Building Tax Incentive

The EPAct government building designer tax incentive provides substantial tax savings and opportunities for the ESCOs and lighting designers involved in the Chicago project. Table 2 is the result of a preliminary analysis of some of the city's largest buildings. Based on our findings, the building designer can receive an EPAct deduction of up to approximately \$7.9 million dollars. Chicago has many other eligible buildings and parking garages, including Chicago's 23 police district local stations, 92 fire departments and 613 public schools, which may qualify for the \$1.80-per-square-foot tax deduction under EPAct after the retrofits and new construction have been completed.⁴

Table 2. Large Chicago Municipal Buildings EAct Designer Benefits

Property	Total Square Footage	Lighting		HVAC Maximum Deduction	Building Envelope Maximum Deduction	Total
		Minimum Deduction	Maximum Deduction			
O'Hare International Airport (Estimate)	1,000,000	\$ 300,000	\$ 600,000	\$ 600,000	\$ 600,000	\$ 1,800,000
Midway International Airport Terminal	900,000	\$ 270,000	\$ 540,000	\$ 540,000	\$ 540,000	\$ 1,620,000
Harold Washington Library	756,000	\$ 226,800	\$ 453,600	\$ 453,600	\$ 453,600	\$ 1,360,800
Chicago Public Schools Headquarters	570,910	\$ 171,273	\$ 342,546	\$ 342,546	\$ 342,546	\$ 1,027,638
Chicago City Hall	500,000	\$ 150,000	\$ 300,000	\$ 300,000	\$ 300,000	\$ 900,000
Chicago Police Headquarters	390,000	\$ 117,000	\$ 234,000	\$ 234,000	\$ 234,000	\$ 702,000
Chicago Emergency Communications Center	161,000	\$ 48,300	\$ 96,600	\$ 96,600	\$ 96,600	\$ 289,800
Chicago Cultural Center	110,000	\$ 33,000	\$ 66,000	\$ 66,000	\$ 66,000	\$ 198,000
Totals:	3,817,000	\$ 1,316,373	\$ 2,632,746	\$ 2,632,746	\$ 2,632,746	\$ 7,898,238

Note: Size estimates and sample locations used

Pursuant to Code Sec. 179D, as enacted by the Energy Policy Act of 2005 (EAct),⁵ property owners of commercial buildings and the primary designer on government projects in Illinois making qualifying energy-reducing investments in their new or existing locations can obtain immediate tax deductions of up to \$1.80 per square foot.

If the building project does not qualify for the maximum \$1.80-per-square-foot immediate tax deduction, there are tax deductions of up to \$0.60 per square foot for each of the three major building subsystems: lighting, HVAC (heating, ventilating, and air conditioning) and the building envelope. The building envelope is every item on the building's exterior perimeter that touches the outside world including roof, walls, insulation, doors, windows and foundation.

Conclusion

The benefits of "Building a New Chicago" are not too difficult to imagine. With the potential savings on

energy costs in addition to the tax deduction under EAct, Chicago is one step closer to achieving this goal of a new and improved infrastructure that will ensure Chicago's placing on the map of top cities in the United States and the world.

ENDNOTES

¹ See Charles R. Goulding and Charles G. Goulding, *The EAct Tax Aspects of the Aerotropolis*, Mar. 2011. Available online at www.energytaxsavers.com/articles/Article%20-%20The%20EAct%20Tax%20Aspects%20of%20the%20Aerotropolis.pdf.

² See <https://www.comed.com/home-savings/rebates-incentives/pages/default.aspx>, <http://www.nicorgasrebates.com/heer/rebate>, and [www.dsireusa.org/incentives/index.cfm?re=1 & ee=1 & spv=0 & st=0 & srp=1 & state=IL](http://www.dsireusa.org/incentives/index.cfm?re=1&ee=1&spv=0&st=0&srp=1&state=IL) for rebate information.

³ *Rebuild Houston* (2012), Retrieved May 30, 2012, from www.rebuildhouston.org/.

⁴ Source available online at http://www.cityofchicago.org/city/en/depts/cpd/dataset/police_stations.html, http://www.cityofchicago.org/city/en/depts/cid/dataset/fire_stations.html and http://www.mbd2.com/Chicago_Public_Schools.htm respectively.

⁵ Energy Policy Act of 2005 (P.L. 109-58) (EAct).