



MEMORANDUM OF UNDERSTANDING
Between
THE UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
And
CUSHMAN & WAKEFIELD, INC.

I. Purpose

The purpose of this Memorandum of Understanding (MOU) is to formally create a mutually beneficial working relationship between the United States Environmental Protection Agency (EPA) and Cushman & Wakefield, Inc. (C&W).

II. Background

The mission of the Environmental Protection Agency (EPA) is to protect human health and the environment. EPA works to develop and enforce regulations that implement environmental laws enacted by Congress. In recent years, between 40 and 50 percent of EPA's enacted budgets have provided direct support through grants to State environmental programs. The Agency works through its headquarters and regional offices partnering with over 10,000 industries, businesses, non-profit organizations, and state and local governments, on over 40 voluntary pollution prevention programs and energy conservation efforts. EPA advances efforts to develop an environmentally conscious and responsible public, and to inspire personal responsibility in caring for the environment.

C&W has informed EPA that it is the world's largest privately-held commercial real estate services firm. Founded in 1917, it has 227 offices in 59 countries and more than 15,000 employees. The firm represents a diverse customer base ranging from small businesses to Fortune 500 companies. C&W has informed EPA that it offers a complete range of services within four primary disciplines: Brokerage Services, including tenant and landlord representation in office, industrial and retail real estate; Capital Markets, including property sales, investment management, valuation services, investment banking, debt and equity financing; Client Solutions, including integrated real estate strategies for large corporations and property owners, and Consulting Services, including business and real estate consulting.

C&W recognizes the significant impact of the commercial real estate sector on the environment. Energy consumption in commercial buildings accounts for approximately 17 percent of U.S. greenhouse gas emissions. In addition, such buildings draw significantly on freshwater resources and raw materials, and generate large amounts of waste.

While C&W does not own commercial real estate, the firm aims to promote environmental performance in the conduct of its business activities and within the leased spaces which house its corporate offices, and to proactively engage its clients in addressing the efficient use of energy, water and materials, and reductions of greenhouse gas emissions.



In the U.S., the firm maintains 64 corporate offices with 3,300 corporate employees and, with an additional 3,600 site-based staff manages over 265 million square feet of commercial real estate, representing over 3,200 properties.

III. Memorandum of Understanding (MOU) Commitments

The Parties recognize the importance of collaboration to address environmental issues in the commercial real estate sector. Consequently, the Parties hereby establish a working relationship. Under this MOU, C&W undertakes commitments to implement environmental best practices in C&W corporate offices and in properties under management, to the extent that individual clients agree to participate. The terms of this MOU apply to C&W operations and managed properties in the U.S. only. C&W's commitments include, but are not limited to the following:

A. Energy Management and the EPA ENERGY STAR Program

Energy Usage and Carbon Footprint Reduction

Corporate Offices

- Site/building selection

C&W will evaluate opportunities to incorporate environmental criteria in office site selection. Such criteria would apply in the evaluation of new leased space for its corporate offices (this approach does not apply to renewals or relocations in buildings where C&W is currently a tenant). With regards to energy and carbon footprint reduction, C&W will give consideration to the energy efficiency of the base building as indicated by an ENERGY STAR rating, and to whether the base building has achieved certification under a recognized green building rating system such as or similar to Leadership in Energy and Environmental Design (LEED). C&W will give preference to separately-metered space.

- Office operations

C&W will initiate a pilot program in selected offices to promote energy efficiency by implementing environmental best practices, including:

- Lighting management strategies such as the use of energy efficient lighting, motion sensors, and turning off lights when spaces are not in use.
- Plug load reduction of office equipment, such as enabling power save mode on office equipment, and shutting down equipment during non-working hours.
- For sustainable purchasing, see section C "Waste Minimization, Recycling, Purchasing Recycled Products and the EPA WasteWise Program"

Managed Properties

Improving operational energy efficiency at C&W managed properties is a key component of C&W's facility and property management service offering. The firm assists building owners



with energy analyses utilizing EPA's ENERGY STAR benchmarking tool. C&W strives to improve Energy Star scores through identification of energy conservation opportunities, and implementation of retro-commissioning procedures.

C&W has been an EPA ENERGY STAR Partner since 1999 and has benchmarked a significant portion of its managed portfolio. The firm further encourages clients to pursue recognition opportunities for high-performing buildings such as the EPA ENERGY STAR label and certification from the U.S. Green Building Council's Leadership in Energy and Environmental Design (LEED).

C&W's energy assessment and reduction plans under this MOU currently include:

- The firm will benchmark energy performance in all eligible properties under management using the EPA ENERGY STAR Portfolio Manager tool
- The firm will make available education to appropriate personnel involved in building operations, to ensure that building equipment is efficiently maintained and utilized.
- By endorsing the Building Owners and Managers Association (BOMA) Seven Point Challenge, C&W is committed to work with clients in an attempt to decrease energy consumption by 30 percent across its managed portfolio by 2012
- Reporting on energy consumption using the ENERGY STAR Portfolio Manager Program or in C&W's semi-annual MOU updates.

Alternative Energy and Carbon Footprint Reduction

Corporate Offices

C&W will evaluate opportunities, for selected offices, to purchase green power in the form of renewable energy certificates for a portion of the electricity use associated with occupation of its tenant space.

Managed Properties

In addition to successful implementation of energy savings measures and achievement of increased efficiency, C&W will continue to encourage its clients to examine opportunities for alternative energy including:

- (1) On-site renewable energy generation, such as solar or wind power or other renewable sources; and
- (2) Off-site renewable energy purchases, such as green power produced from solar or wind, or other renewable sources.



Data Centers

Data Centers Servicing Corporate Offices

- **Co-location Facilities**
When moving company data centers to an off-site location, C&W will evaluate opportunities to incorporate energy efficiency criteria in co-located data center site selection and operation. Such criteria may include minimizing chiller energy use by adjusting the thermostat and Relative Humidity (RH) to equipment manufacturers accepted levels, and managing air flow and minimizing hot and cold air mixing, as well as eliminating hot spots.

- **Data Center Equipment Procurement**
C&W will evaluate opportunities to incorporate energy efficiency criteria in data center equipment procurement, including:
 - Uninterruptible power supply (UPS) systems
 - Closely coupled cooling equipment and corresponding plumbing equipment
 - Server consolidation and virtualization
 - Energy efficient lighting
 - Blanking panels (to be installed in racks)
 - Air conditioners with economizer mode function

Managed Properties

As appropriate, C&W will encourage clients with data centers to participate in the EPA Data Center Data Collection Initiative, an effort designed to help develop an ENERGY STAR rating for data center infrastructure. This effort seeks information on energy use and operating characteristics from a large number of existing data centers, including both stand-alone facilities as well as data centers located in office and other types of buildings. Once an ENERGY STAR rating for data centers is released, C&W will encourage clients to benchmark such facilities.

B. Water Management

Water Conservation and WaterSense Products

C&W recognizes that water-efficiency programs can result in savings in the cost of water, sewer, and energy.

Corporate Offices

- **Site/building selection**
C&W will evaluate opportunities to incorporate environmental criteria in office site selection. Such criteria would apply in the evaluation of new leased space for its corporate offices (this approach does not apply to renewals or relocations in buildings where C&W is currently a tenant). With regards to water conservation, C&W will give



consideration to the water efficiency of the base building's standard fixtures (including use of EPA's WaterSense labeled fixtures), landscaping practices and to whether the base building has achieved certification under a recognized green building rating system such as Leadership in Energy and Environmental Design (LEED) or equivalent. C&W will give preference to separately-metered space.

- Office operations
C&W will initiate a pilot program in selected offices to assess the specifications of the standard fixtures. Where appropriate, C&W will encourage building management to install water efficient equipment such as EPA's WaterSense endorsed products.

Managed Properties

- C&W will benchmark water usage in all eligible properties under management using the EPA ENERGY STAR Portfolio Manager tool.
- Indoor Plumbing Fixtures
In the renovation or upgrade of properties, C&W will encourage the use of efficient plumbing fixtures (low flow, high efficiency and waterless), and, where appropriate, products recognized by the EPA WaterSense Program. In addition, the use of faucet aerators in sinks and adjustments to flush valves will be encouraged.
- Building Operations/Efficiency and Preventative Maintenance
In order to further reduce water usage, C&W will work with clients to implement best practices in building operations designed to improve efficiency and preventative maintenance programs.
- Landscaping
C&W will seek to conserve potable water used for irrigation by encouraging clients to implement the following water efficient landscaping practices (see section D for commitments to EPA's Greenscapes Program):
 - Plant material that is drought resistant and native to geographical area;
 - Irrigation systems, when utilized, should include moisture and rainfall sensors and operate during optimum watering times.
- Reporting
 - C&W will provide an estimate on water usage where such data is available using the ENERGY STAR Portfolio Manager Program or in C&W's semi-annual MOU updates.

C. Waste Minimization, Recycling, Purchasing Recycled Products and the EPA WasteWise Program

C&W recognizes that solid waste management programs can result in operational cost savings through reduced purchasing and disposal costs, while reducing greenhouse gases by conserving raw materials. The firm will join EPA's Waste Wise Program as a Partner to enhance waste



prevention programs, recycling practices and sustainable purchasing.

Corporate Offices

As part of the WasteWise Program, C&W will initiate a pilot program in selected offices to conduct an assessment of current waste reduction activities and to document sustainable purchases. Where feasible, applicable provisions of the C&W Solid Waste and Sustainable Purchasing Policies developed for the managed properties and referenced in section D below will be implemented.

Managed Properties

C&W will encourage its clients to participate in the WasteWise Program by assessing current waste reduction activities, documenting sustainable purchases and implementing best practices to reduce, reuse, recycle and manage waste effectively. The WasteWise Program complements C&W's Solid Waste and Sustainable Purchasing Policies, which will be included in the Property and Facility Operations Manual and are referenced in section D below.

Under the WasteWise Program, C&W will provide an annual estimate on the amount of waste reduction and recycling at selected properties, where such data is available. EPA and the WasteWise Program will provide assistance with data aggregation at the portfolio level.

D. Green Operations & Maintenance Practices

C&W Green Practice Policies

The Client Solutions Property and Facility Management Operations Manual ("Operations Manual") establishes a baseline for Cushman & Wakefield's service delivery. It outlines policies, procedures and performance criteria and forms a foundation for the implementation of service. The Operations Manual covers such elements as site administration, building systems, building operations, fire/life safety systems, and regulatory compliance and safety. C&W will enhance the Operations Manual by adding a new set of green practice policies outlining sustainable approaches to building operations. The policies cover pest management, construction, purchasing, cleaning, solid waste management, and control of environmental tobacco smoke. These green practice policies were developed using the LEED EB: Operations & Maintenance rating system as a reference framework. Policies will be implemented as appropriate and in consideration of C&W's individual clients' approval.

- **Solid Waste Management:**
The Operations Manual promotes waste prevention strategies such as material reuse centers, paper reduction, electronic file transfer, storage, and education. The Operations Manual further provides direction on electronic waste recycling, recycling of standard and harder to recycle products including hazardous and organic waste streams.



- **Sustainable Purchasing:**
The Operations Manual covers packaging, recycled content, sustainable purchasing of ongoing consumables (printing and copying paper, etc), durable goods (computers, monitors, copiers, printers, scanners, fax machines, refrigerators and other appliances), and energy efficient and reduced mercury content light bulbs. The Operations Manual references the EPA Comprehensive Procurement Guidelines and the Electronic Product Environmental Assessment Tool (EPEAT).
- **Integrated Pest Management:**
The Operations Manual outlines control strategies intended to reduce the need for chemical application and include: environmental, mechanical, organic and chemical controls. The policy sets out requirements for subcontractors who apply pesticides. The Policy references EPA's Integrated Pest management principles and the GreenScapes Program.
- **Green Cleaning:**
The Operations Manual covers custodial cleaning contract specifications, program principles, general green cleaning solutions guidelines, cleaning and preventative measures to reduce dust, dirt and microbial growth, special treatment of carpets, janitorial training requirements, chemical storage guidelines, and cleaning equipment standards and specifications. The Operations Manual references the EPA Comprehensive Procurement Guidelines.
- **Green Construction:**
The Operations Manual includes guidelines relating to construction indoor air quality, construction waste management, erosion and sedimentation control best practice, and purchasing green construction materials (including the use of coal combustion products in place of portland cement).
- **No Smoking:**
The Operations Manual provides for non-smokers' preferences by avoiding conflict between smoking and non-smoking occupants. It includes guidelines for minimal exposure of indoor surfaces and systems to smoke.

Corporate Offices

- **Site/building selection**
C&W will evaluate opportunities to incorporate sustainability criteria in office site selection. Such criteria would apply in the evaluation of new leased space for its corporate offices (this approach does not apply to renewals or relocations in buildings where C&W is currently a tenant). With regards to solid waste management, C&W will give consideration to the base building's recycling practices and whether the base building has achieved certification under a recognized green building rating system such as or similar to Leadership in Energy and Environmental Design (LEED). C&W will also give preference to buildings that employ green cleaning practices.



- Office operations

As described in section C above, C&W will initiate a pilot program in selected offices to implement applicable sections of the C&W Solid Waste Management and Sustainable Purchasing Policies. In addition, the pilot will assess whether building management employs green cleaning practices. Where such practices are not in place, C&W will encourage building management to implement a green cleaning program.

Managed Properties

C&W will work with clients to implement the green practice policies (Solid Waste Management, Sustainable Purchasing, Integrated Pest Management, Green Cleaning, Green Construction, No Smoking) across C&W's managed portfolio.

Landscaping and EPA's GreenScapes Program

C&W recognizes that environmentally beneficial landscaping practices can reduce waste, conserve water, reduce energy usage, and reduce the use of hazardous substances. The firm will join EPA's GreenScapes Program as a Partner and encourage its clients to implement green landscaping practices.

Corporate Offices

C&W will evaluate opportunities to incorporate environmental criteria in office site selection. Such criteria would apply in the evaluation of new leased space for its corporate offices (this approach does not apply to renewals or relocations in buildings where C&W is currently a tenant). With regards to landscaping practices, C&W will give consideration to whether the grounds include plant material that is drought resistant and native to geographical area, and whether irrigation practices reduce potable water use.

Managed Properties

C&W will encourage its clients to participate in the GreenScapes Program by undertaking green landscaping activities designed to reduce potable water use and the production of waste, and to promote the reuse and recovery of products that might otherwise be disposed of (e.g., plastics, green trimmings, food waste).

E. Projects Pursuing Leadership in Energy and Environmental Design (LEED) Certifications

Corporate Offices

When undertaking fit-outs or refurbishments of new leased space, C&W will, where feasible, seek certification pursuant to a recognized green building rating system (LEED or equivalent).

Managed Properties

C&W will encourage its clients to incorporate green building standards in the design and construction of new buildings and tenant improvement projects using the LEED for New



Construction, Core and Shell, and Commercial Interiors rating systems.

C&W also assists its clients in obtaining certification of individual properties under the LEED for Existing Buildings rating system. The firm is currently engaged in the USGBC's Pilot Portfolio program, under which C&W is seeking volume certification of several properties under management.

F. Measurement and Reporting

In addition to the reporting items associated with EPA Partnership Programs, C&W will submit a status report to EPA twice per year starting six months after the mutual execution of this MOU. Subject to any confidentiality requirements by C&W's clients, the report will include an update on the various activities identified herein. EPA will use this data to determine the environmental benefits associated with C&W's "green" activities.

IV. Terms and Conditions

This MOU is not a contractual or a financial obligation instrument. Nothing in this MOU shall obligate EPA or C&W to expend appropriations or to enter into any contract or other obligations or be cited as the basis for the promise or transfer of funds. Collaboration under this MOU shall be in accordance with applicable statutes and regulations.

This MOU does not restrict EPA or C&W from participating in similar activities or arrangements with other entities or Federal agencies (domestic or foreign).

Either Party may unilaterally withdraw at any time from this MOU by transmitting a signed writing to that effect to the other Party. By mutual agreement, which may be either formal or informal, the Parties may modify the list of intended activities set forth in Section III above, and/or determine the practical manner by which the goals, purposes and activities of this MOU will be accomplished. Modification to other written parts of this MOU must be made in writing and signed by both Parties or their designees.

Nothing in this MOU shall be construed to authorize or permit any violation of any Federal, State or local law, including, but not limited to, any environmental law administered and/or enforced by EPA.

C&W agrees that it does not expect, nor will it ever seek to compel from EPA in any judicial forum, the payment of money, services or other thing of value from EPA based upon the terms of this MOU. The foregoing provision does not in any way affect any legal rights accruing to C&W by virtue of any other law, contract and/or assistance agreement.

C&W understands and acknowledges that, as an institution of the Federal Government, EPA has a duty to refrain from providing any commercial entity an exclusive privilege without receiving



payment therefore and, as a consequence, that EPA's relationship with C&W in no way affects, alters or otherwise constrains EPA's right to provide similar (or identical) services to, or establish similar (or identical) relationships with, any other entity.

C&W understands that EPA's participation in this MOU does not constitute an endorsement, express or implied, of (a) any policy advocated by C&W or (b) any goods or services purchased, offered or sold by C&W. C&W agrees not to make statements to the public at workshops or meetings, in promotional literature, on its Web site, or through any other media that imply that EPA endorses C&W or any service or product offered by C&W. C&W is free to publicize the existence of this MOU.

C&W shall maintain full right, title and interest in any intellectual property right, including a copyright, in any work product developed solely by C&W in furtherance of the objectives of this MOU. Any intellectual property developed collaboratively by the Parties will be governed by the Federal Copyright Statute at Title 17 of the United States Code or by the Federal Patent Statute at Title 35 of the United States Code. With respect to any copyrightable subject matter, including but not limited to journal articles, training, educational or informational material or software, created jointly by the Parties from the activities conducted under this MOU, C&W hereby grants to the government a royalty-free, nonexclusive, irrevocable right to reproduce, distribute, make derivative works, and publish or perform the work(s) publicly, or to authorize others to do the same on its behalf.

This MOU does not authorize C&W or the EPA to use the other's logo, trademark or other intellectual property without prior consultation with the other party except as otherwise provided herein. This MOU does not in any way bypass or alter the obligation of C&W to meet any of the specified requirements and/or procedures associated with the individual partnership programs listed in the MOU.

The EPA enters into this MOU under the authority of Section 103 of the Clean Air Act, 42 U.S.C. §7403, Section 104 of the Clean Water Act, 33 U.S.C. §1254, and Section 8001 of the Solid Waste Disposal Act, 42 U.S.C. §6981, Section 6604 of the Pollution Prevention Act, and Section 324A of the Energy Policy and Conservation Act, 42 U.S.C. §6294a, which provide EPA with authority to undertake cooperative efforts with private organizations to promote the coordination and acceleration of research, studies, training, and other efforts to prevent, reduce and eliminate pollution.

This MOU does not create any right or benefit, substantive or procedural, enforceable by law or equity, by persons who are not party to this MOU, against C&W or EPA, their officers or employees, or any other person. This MOU does not direct or apply to any person outside of EPA and C&W.



V. Effective Date and Administration

This MOU will become effective upon signature by the Regional Administrator of EPA Region 2 and the Chief Executive Officer, Americas of Cushman & Wakefield or their designees. It may be modified or amended by written agreement between both parties. This MOU will terminate at the end of five (5) years from the date of signature unless revised or extended at that time by written agreement of the parties. It may be terminated at any time by either party upon the issuance of a written notice to the other party. The Parties will review annually the provisions of this MOU and its implementation.

Signed:

ALAN J. STEINBERG
Regional Administrator
U.S. EPA Region 2

Cushman& Wakefield, Inc by:

JOHN C. SANTORA
President
Chief Executive Officer, Americas
Cushman & Wakefield, Inc.

Date: _____

Date: _____