City of Olympia’s Response to the Challenge of Global Climate Change

Final Report of the Global Warming Task Force to the Olympia City Council
December 1991

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A separate background document is also available: City of Olympia’s Response to the Challenge of Global Climate Change: Background Report to the City Council by the Global Warming Task Force, December 1991.
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Introduction

In the spirit of thinking globally and acting locally, the City of Olympia has become one of the first cities in the United States to begin a comprehensive response to the challenge of global climate change.

The global climate change program described in this report was initiated by the City Council in May 1990, in response to citizen concern. An interdepartmental Global Warming Task Force, staffed by the Public Works Department, prepared a background study analyzing the implications of climate change for the area and identifying a number of positive steps the City government has already taken.

Based on this preliminary report, the City Council adopted a resolution in February 1991 committing the City to a three-part strategy:

- Reducing emissions of greenhouse gases.
- Increasing tree cover.
- Preparing for climate change.

Representatives of several departments and citizen advisory committees contributed ideas for possible future actions. These ideas were compiled into a 15-page list, prioritized, and presented to the Council as a six-year plan in September 1991. Each year, priority actions will be proposed for funding in operating and capital budgets.

In studying this issue, the City of Olympia has concluded that:

- Global climate change is a serious threat. There is enough scientific evidence that global warming and depletion of the ozone layer is occurring; surface air pollution is easily observed and will become worse if current population trends continue.

- The rate of change and impacts on Olympia are uncertain. In spite of this uncertainty, immediate action is prudent because of the nature and scale of likely impacts on sea level, crops, water resources, energy, forests, fisheries, and wildlife.

- This is a global problem caused by human activity. Therefore, everyone can be part of the solution. Olympia can help by slowing emissions of greenhouse gases,
increasing tree cover, and preparing to adapt to change. By doing this, the City will serve as an example to other local communities.

- Most corrective actions will lead to more immediate improvements in people's lives. Short-term benefits include cleaner air and water, cost savings, greater economic competitiveness, and more energy security resulting from increased energy efficiency.

In accepting the challenge of acting locally on these global issues, City officials and staff are demonstrating a new way of thinking about public policy. Rather than considering issues of global warming and sustainability as outside the domain of local government because so many factors are beyond their control, Olympia has chosen to do what it can do. Such choices by individuals and organizations may well lead the way to the necessary actions on a global scale.

This report completes the work of the Global Warming Task Force. It outlines steps that were followed, documents the results, and presents Task Force recommendations for future action. The recommended six-year plan will serve to guide future action in the context of the Sustainable City program. This report, the documents attached in the appendix, and the background document published separately will be useful to other local governments which desire to accept the challenge of responding to global climate change.

Background

Early in 1990, a representative of the local citizen Greenhouse Action Group approached the City Council to ask what the City was doing to address the issue of global warming. In response, the City Council decided in May 1990 to make action on global warming one of its target issues for 1990-91 (see Appendix 1). The Public Works Department Policy and Program Development Division committed substantial staff resources to this issue.

A detailed scope of work was prepared by the Department of Public Works and approved by the Council Energy and Utilities Committee in October 1990 (see Appendix 2).

To oversee the work, an interdepartmental task force was formed representing the Planning, Parks, and Public Works Departments, the Thurston County Health Department, and the local citizen Greenhouse Action Group. This group met five times over the following year to review work products prepared by the Public Works Department. This approach allowed for input from other staff, with the majority of staff time contributed by Public Works.

The Council's initial charge was to identify City actions that could minimize global warming. The first job of the task force was to prepare a list of current City activities and recommended actions that could be taken in 1991 within the existing budget. In January 1991, this task was completed and published as the Preliminary Report of the Global Warming Task Force to the Olympia City Council.

At the same time, the task force published a 45-page draft background report on the issue. The report reviewed current knowledge about global climate change, focusing on interrelated
problems of the greenhouse effect, ozone layer depletion, and surface air pollution. The report also presented a framework for decision making in the face of uncertainty. Finally, it reviewed actions already taken internationally and by federal, state, and other local governments and offered a list of actions which the City of Olympia might take (see Appendix 3, summary of background report).

Based on these reports, the City Council adopted a resolution in February 1991 committing the City to a long-term strategy of reducing greenhouse gas emissions, increasing tree cover, and preparing for climate change (see Appendix 4). The resolution also identified eight actions which could be completed during 1991 within the existing budget (see Appendix 5 for a status report on these actions).

As the first step in preparing a six-year plan of action for the City, three brainstorming sessions were held in April and May. The 20 participants included City staff, advisory board members, and staff from the Washington Department of Ecology. The resulting 15-page list of ideas was circulated to brainstorming participants, department heads, and other interested staff. Twelve people responded by prioritizing these ideas. The Public Works Department then compiled the ideas in the form of a six-year plan and recommended priority actions for 1992. The six-year plan was reviewed by the Global Warming Task Force and approved by the Council Energy and Utilities Committee in September 1991 (see Appendix 6).

Olympia as a Model Sustainable City

The City’s global climate change response is being developed in the broader context of a Sustainable City program. This is an effort to define a clear philosophy of Olympia as a sustainable city, one that meets the needs of present generations without jeopardizing the prospects of future generations and lives within the limits of earth, water, and air. As a followup to the state’s Washington Environment 2010 Action Agenda published in July 1990, the City is cooperating with the Department of Ecology to define how urban communities can become sustainable.

With Public Works Department staff, a team of students from The Evergreen State College developed a conceptual framework for the Sustainable City program in June 1991. Within that framework, they identified several hundred City policies and ordinances which affect global warming and air quality either positively or negatively or both. They began to identify conflicts with policies related to other City goals. They also identified 20 indicators which the City can use to measure its progress in reducing greenhouse gas emissions, increasing tree cover, and preparing for change.

In June 1991, the City Council made defining a Sustainable City philosophy one of its ten goals for 1991-92. Major tasks for the coming year will be to define the philosophy, identify indicators of progress, develop decision-making criteria to align decisions with this philosophy, and participate in a community dialogue about a sustainable future for Olympia.
City of Olympia Global Climate Change Strategy

By its resolution of February 1991, the City Council has adopted a three-part global climate change strategy:

- **Reducing greenhouse gas emissions.** The City will reduce emissions of CO₂, CFCs, and other gases that are increasing global temperatures through the greenhouse effect.

- **Increasing tree cover.** The City will increase tree cover to modify the greenhouse effect by minimizing clearing, replacing trees that are cut, and supporting public and private tree planting and maintenance activities.

- **Preparing for climate change.** The City will begin preparing for climate change by taking into account the prospect of climate change in decisions about shoreline development, utility planning, building codes, open space/wildlife corridors, and selection of tree species.

City governments have considerable scope for action in response to global climate change. They can modify city operations, regulate private activity, educate the public, and lobby for changes in state and federal legislation. The City of Olympia has already initiated a number of activities which have the effect of reducing greenhouse gas emissions and increasing tree cover; and beginning to prepare for the possible effects of climate change. These activities, detailed in Tables 1, 2 and 3, include retrofitting City-owned buildings to make them more energy efficient, purchasing three electric-powered demonstration vehicles, capturing and using methane from the sewage treatment plant, purchasing only recycled paper products, adopting a stricter energy code for new construction, preparing to adopt a tree preservation and replacement ordinance for new development, and obtaining a grant from the Washington Department of Ecology to map the effects of the predicted sea level rise.

Task Force Recommendations

In completing the mandate given by City Council Resolution M-1306, the Global Warming Task Force makes the following recommendations:

1. **Adopt the proposed Six-Year Plan for 1992-97 (see Appendix 6).** This plan sets a framework and guidelines for future action. Some of the actions recommended in the Six-Year Plan can be done within existing budget levels. In the context of global warming, the items such as increased energy efficiency in vehicles and buildings take on greater significance. Many such items also have clear short-term benefits, including considerable cost savings.

2. **Replace the Global Warming Task Force with a Sustainable City Task Force.** The Sustainable City Task Force would have the broader mandate of developing and implementing the Sustainable City philosophy. Continued action in response to the
challenge of global climate change would occur in the context of movement towards a Sustainable City. The new task force membership should include:

- At least one member of the Global Warming Task Force (to maintain continuity and keep the Global Warming issue visible).
- Staff from key City departments.
- Representative of Thurston County staff.
- Community representative.

3. **Continue ongoing initiatives** (listed in left column of Tables 1-3).

4. **Complete actions planned for 1991.**

   a. **Complete actions given priority in global warming resolution (M-1306):**

      - Adopt tree preservation and replacement ordinance.
      - Seek grants and loans for energy efficient retrofits of City-owned buildings and vehicles.
      - Establish higher fuel efficiency standard for new vehicles.
      - Consider issues related to global climate change in updating the zoning code and development standards.
      - Adopt a policy to eliminate use of CFCs by the City.
      - Encourage employees to walk, bicycle, carpool, or bus to work.

   b. **Complete actions initiated in 1991 or before:**

      - Adopt critical areas ordinance (updated sensitive areas ordinance).
      - Adopt urban trails program.
      - Adopt Groundwater Management Program.

5. **Concentrate efforts in 1992 on what more can be done within existing budgets to become a model municipality in reducing greenhouse gas emissions, increasing tree cover, and preparing for change.**

   a. **Initiate new activities within the 1992 budget:**

      - Develop and implement Sustainable City philosophy and decision-making criteria.
      - Develop and monitor indicators of progress.
      - Initiate preventive building maintenance program.
      - Purchase equipment to recapture CFCs during vehicle maintenance.
      - Consider zoning code revisions to increase housing density (e.g., allow auxiliary dwelling units).
• Design street improvements to encourage alternate modes (slow streets/traffic calming (DCD, CIP funds).
• Initiate curbside collection of plastics and cardboard.
• Initiate pilot commercial recycling collection.
• Prepare employee Transportation Demand Management (TDM) (required by 1993).
• Begin monitoring CO emissions (assist Olympic Air Pollution Control Authority).
• Implement tree protection and replacement ordinance.
• Map area inundated by projected sea level rise and assess policy implications (CZM grant).
• Prepare water conservation ordinance.

b. **Undertake additional activities within the 1992 budget as time and resources allow:**

• Develop procedures for regional coordination on response/preparation for global climate change.
• Prepare energy management plans for all buildings.
• Convert City vehicles to compressed natural gas.
• Consider reduction of greenhouse gas emissions in evaluating growth management and regional transportation plans.
• Develop ecologically responsible investment policy.
• Develop wood stove ordinance.
• Develop CFC ordinance.
• Lobby State for legislation on employee incentives, global warming, CFCs and urban forestry.
• Business/school outreach—cooperate in procurement of recycled products.
• Develop procedure for interdepartmental/interjurisdictional coordination of tree-related activities.
• Explore opportunities for rooftop vegetation at Olympia Center, LOTT, new fire station.
• For all new development, require open space and impact fees to mitigate loss of open space (zoning update and impact fee ordinance).
• Consider incentives for developers who plant or preserve more than minimum tree density.
• Followup analysis of sea level rise implications.

6. **a. Undertake one to three low-cost new initiatives as additional resources become available:**

• Compost sewage sludge, yard waste, park debris.
• Acquire more bicycles and mopeds for City employees.
• Install bike racks at City buildings.
• Operate shuttle/van pool for meetings.
• Convert from petroleum to synthetic lubricants in City vehicles.
• Explore opportunities/constraints on vacating neighborhood streets for open space (playground, habitat, gardens).
- Inventory undeveloped City-owned rights-of-way and develop policy for retaining as open space.
- Inventory spaces for tree planting.
- Plant trees in non-traditional areas.
- Initiate tree-related public education activities through Urban Forestry Advisory Board.
- Tabulate historical rainfall and temperature data.
- Establish network of volunteers to collect rainfall and temperature data.

b. Seek opportunities to fund and support other higher-cost items:

- Study potential for using renewable resources for building energy needs.
- Prepare downtown district heating plan.
- Develop markets for recycled products.
- Initiate use of rubberized asphalt.
- Initiate incentives for employees to walk, bike, carpool, or bus to work.
- Business outreach—cooperate in collecting and recycling used oil/filters and CFCs.
- Additional public/business involvement/education on air quality (reducing auto use, woodburning, release of CFCs), water conservation, and sea level rise.
- Adopt street tree plan and provisions for long-term maintenance.
- Convert selected neighborhood streets and undeveloped rights-of-way to open space (playground, habitat, gardens).
- Acquire selected habitat and open space.
- Evaluate water supply options.
### Table 1
Reducing Greenhouse Gas Emissions
Current, Planned, and Recommended Activities

<table>
<thead>
<tr>
<th>CITY BUILDINGS</th>
<th>COMPLETED/ONGOING</th>
<th>PLANNED/RECOMMENDED FOR 1992</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Energy audits of Smith Building, City Hall, Washington Center completed</td>
<td>Initiate preventive maintenance program</td>
</tr>
<tr>
<td></td>
<td>Energy efficiency improvements completed for City Hall HVAC systems</td>
<td>Prepare energy management plan/recommendations for all buildings</td>
</tr>
<tr>
<td></td>
<td>Energy-efficient fluorescent lights installed in all buildings</td>
<td>Seek grants/loans for energy-efficient retrofits</td>
</tr>
<tr>
<td></td>
<td>Computerized energy management system installed (WSEO)</td>
<td>Study potential for using renewable resources for building energy needs</td>
</tr>
<tr>
<td></td>
<td>Methane captured from LOTT plant for in-plant energy use</td>
<td>Downtown district heating plan</td>
</tr>
<tr>
<td></td>
<td>Phasout of aerosol products nearly complete</td>
<td></td>
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<tr>
<td></td>
<td>All building maintenance and replacements meet WSEO energy efficiency recommendations</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Puget Power survey of historical energy use in progress</td>
<td></td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>CITY VEHICLES</th>
<th>COMPLETED/ONGOING</th>
<th>PLANNED/RECOMMENDED FOR 1992</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Three electric cars purchased</td>
<td>Establish higher fuel efficiency standard (EPA or better) for new vehicle purchases</td>
</tr>
<tr>
<td></td>
<td>Purchase energy-efficient replacement vehicles</td>
<td>Seek grants/loans for energy-efficient retrofits</td>
</tr>
<tr>
<td></td>
<td>Preventive maintenance for fuel efficiency</td>
<td>Purchase equipment to recapture CFCs during vehicle maintenance</td>
</tr>
<tr>
<td></td>
<td>Refine and reuse waste oil</td>
<td>Convert vehicles to compressed natural gas</td>
</tr>
<tr>
<td></td>
<td>Recycle antifreeze</td>
<td>Convert from petroleum to synthetic lubricants</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>TRANSPORTATION/ LAND USE POLICY/ TRAFFIC MANAGEMENT</th>
<th>COMPLETED/ONGOING</th>
<th>PLANNED/RECOMMENDED FOR 1992</th>
</tr>
</thead>
<tbody>
<tr>
<td>Urban growth management area boundary adopted</td>
<td>Housing density (allow auxiliary dwelling units)</td>
<td></td>
</tr>
<tr>
<td>Thurston County Metropolitan Area Transportation System adopted for regional planning</td>
<td>&quot;Slow streets&quot; model project (CIP and state DCD funds)</td>
<td></td>
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<tr>
<td>Downtown traffic signals synchronized</td>
<td>Consider reduction of greenhouse gas emissions in evaluating growth management and regional transportation plans</td>
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<tr>
<td>Synchronize traffic signals citywide for peak periods</td>
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<td></td>
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<tr>
<td>Convert to long-term meters in free zones</td>
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<tr>
<td>Support Capitol and legislative shuttle</td>
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<tr>
<td>Complete 4th/5th Avenue corridor plan</td>
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<tr>
<td>Install sidewalks, bikeways with new street improvements (CIP)</td>
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<table>
<thead>
<tr>
<th>WASTE MANAGEMENT</th>
<th>COMPLETED/ONGOING</th>
<th>PLANNED/RECOMMENDED FOR 1992</th>
</tr>
</thead>
<tbody>
<tr>
<td>Residential curbside recycling</td>
<td>Adopt policy to eliminate use of CFCs and other ozone-depleting materials by the City</td>
<td></td>
</tr>
<tr>
<td>In-house waste reduction, recycling and bulk purchase of recycled products and re-refined oil</td>
<td>Curbside collection of plastics and cardboard</td>
<td></td>
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<tr>
<td>Pilot food waste/paper composting project (with Thurston County and Olympia School District)</td>
<td>Pilot commercial recycling collection</td>
<td></td>
</tr>
<tr>
<td>Dirtworks composting</td>
<td>Compost sewage sludge, yard waste, and park debris</td>
<td></td>
</tr>
<tr>
<td>Yard waste collection</td>
<td>Market development for recycled products</td>
<td></td>
</tr>
<tr>
<td>Used oil collection</td>
<td>Initiate use of rubberized asphalt</td>
<td></td>
</tr>
</tbody>
</table>

- Actions completed.
- Actions ongoing or included in 1992 executive budget.
- Additional actions recommended by the Global Warming Task Force.
### Table 1 (continued)

**Reducing Greenhouse Gas Emissions**  
Current, Planned, and Recommended Activities

<table>
<thead>
<tr>
<th>EMPLOYEES/INVESTMENTS</th>
<th></th>
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<tbody>
<tr>
<td>- Four bicycles available for Public Works employees</td>
<td></td>
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<tr>
<td>- Restrict employee parking at City Hall</td>
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<tr>
<td>- Study of bus passes, staggered work hours, and other employee incentives</td>
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<tr>
<td>- Employee TDM (carpool/customer parking only)</td>
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<tr>
<td>- Develop ecologically responsible investment policy</td>
<td></td>
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<tr>
<td>- Acquire more bicycles and mopeds for City employees (meter readers, travel to meetings, personal errands)</td>
<td></td>
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<tr>
<td>- Bike racks at City buildings</td>
<td></td>
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<tr>
<td>- Shuttle/van pool for meetings</td>
<td></td>
</tr>
<tr>
<td>- Initiate incentives for employees to walk, bike, carpool or bus to work</td>
<td></td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>REGULATIONS</th>
</tr>
</thead>
<tbody>
<tr>
<td>- New energy code for residential construction adopted</td>
</tr>
<tr>
<td>- Study completed on City responsibility for enforcement of State outdoor burn ban and yard waste collection</td>
</tr>
<tr>
<td>- In updates of zoning code and development standards, consider revised street standards (bike paths, street trees, slow streets), open space in all new development, housing density, solar orientation and access, incentives for energy- and space-efficient subdivision design</td>
</tr>
<tr>
<td>- Study feasibility of ban on wood stoves in new construction, other alternatives to reduced wood stove emissions</td>
</tr>
<tr>
<td>- Explore legal authority to regulate CFCs/ozone-depleting products and other environmentally hazardous products</td>
</tr>
<tr>
<td>- Adopt a CFC ordinance</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>EDUCATION/INCENTIVES/LOBBYING</th>
</tr>
</thead>
<tbody>
<tr>
<td>- RUDAT study completed</td>
</tr>
<tr>
<td>- Lobbied in support of clean air bill</td>
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<tr>
<td>- Support for Energy Outreach Center</td>
</tr>
<tr>
<td>- Assist in developing Intercity Transit six-year plan to include more incentives to bus use (downtown free zone, more frequent peak hour runs, bicycle carriers)</td>
</tr>
<tr>
<td>- Public involvement and education on recycling, composting yard waste</td>
</tr>
<tr>
<td>- Begin monitoring CO emissions (assist Olympic Air Pollution Control Authority)</td>
</tr>
<tr>
<td>- Lobby for legislation allowing incentives for alternative energy, reduced vehicle use</td>
</tr>
<tr>
<td>- Encourage state government to adopt incentives for employees to reduce auto use</td>
</tr>
<tr>
<td>- Study state packaging task force recommendations and support revision to allow local authority to regulate CFC and ozone-depleting products</td>
</tr>
<tr>
<td>- Business/school education/outreach—cooperate in procurement of recycled products</td>
</tr>
<tr>
<td>- Business outreach—cooperate in collecting and recycling used oil/filters and CFCs</td>
</tr>
<tr>
<td>- Additional public involvement/education on air quality (reduce auto use, woodburning, release of CFCs)</td>
</tr>
</tbody>
</table>

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<table>
<thead>
<tr>
<th></th>
<th>COMPLETED/ONGOING</th>
<th>PLANNED/RECOMMENDED FOR 1992</th>
</tr>
</thead>
<tbody>
<tr>
<td>CITY OPERATIONS</td>
<td>• Urban forestry advisory board appointed</td>
<td>• Adopt urban trails plan</td>
</tr>
<tr>
<td></td>
<td>• Significant tree inventory completed</td>
<td>• Develop procedure for interdepartmental/jurisdictional coordination of tree-related activities</td>
</tr>
<tr>
<td></td>
<td>• Open space/parks plan adopted</td>
<td>• Explore opportunities for rooftop vegetation at Olympia Center, new Fire Station, LOTT</td>
</tr>
<tr>
<td></td>
<td>• Grass Lake wetland acquired</td>
<td>• Inventory spaces for tree planting</td>
</tr>
<tr>
<td></td>
<td>• Wetland inventory in progress (Thurston Regional Planning)</td>
<td>• Plant trees in non-traditional places</td>
</tr>
<tr>
<td></td>
<td>• Landscape requirements for Martin Way project</td>
<td>• Explore legal/technical constraints on vacating neighborhood streets for playground, wildlife</td>
</tr>
<tr>
<td></td>
<td>• Street tree planting</td>
<td>habitat, community gardens</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Inventory undeveloped City-owned rights-of-way and develop policy for retaining as open space</td>
</tr>
<tr>
<td>REGULATION</td>
<td>• Landmark tree ordinance adopted</td>
<td>• Convert selected neighborhood streets and undeveloped rights-of-way for playground, wildlife</td>
</tr>
<tr>
<td></td>
<td>• Landscaping ordinance adopted</td>
<td>habitat, community gardens</td>
</tr>
<tr>
<td></td>
<td>• Environmentally sensitive areas ordinance adopted (protects vegetation in sensitive areas)</td>
<td>• Adopt street tree plan, including provisions for ensuring long-term maintenance</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Acquire selected habitat and open space</td>
</tr>
<tr>
<td>EDUCATION/INCENTIVES/ LOBBYING</td>
<td>• Lobbied in support of state urban forestry bill (technical assistance for community tree planting)</td>
<td>• Lobby for urban forestry legislation</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Consider incentives for developers who plant or preserve more than minimum tree density</td>
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<tr>
<td></td>
<td></td>
<td>• Initiate public education activities through Urban Forestry Advisory Board (citizens guide to urban trees, tree tours, recognition of tree preservation in new development)</td>
</tr>
</tbody>
</table>

- Actions completed.
- Actions ongoing or included in 1992 executive budget.
- Additional actions recommended by the Global Warming Task Force.
<table>
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<th>COMPLETED/ONGOING</th>
<th>PLANNED/RECOMMENDED FOR 1992</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>• Stormwater utility rates increased</td>
<td>• Map projected sea level rise, identify potential impacts and options for downtown and shoreline areas, assess policy implications (CZM grant)</td>
</tr>
<tr>
<td></td>
<td>• Thurston Regional Drainage Manual adopted</td>
<td>• Followup analysis of sea level rise implications</td>
</tr>
<tr>
<td></td>
<td>• Comprehensive drainage basin plans</td>
<td>• Tabulate historical rainfall and temperature data (Ground Water Management Plan recommendation)</td>
</tr>
<tr>
<td></td>
<td>• USGS groundwater supply evaluation</td>
<td>• Establish network of volunteers to collect rainfall and temperature data (GWMP recommendation)</td>
</tr>
<tr>
<td></td>
<td>• McAllister wellhead protection program</td>
<td>• Evaluate water supply options</td>
</tr>
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<table>
<thead>
<tr>
<th>REGULATIONS</th>
<th>COMPLETED/ONGOING</th>
<th>PLANNED/RECOMMENDED FOR 1992</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>• Shoreline Management Ordinance adopted</td>
<td>• Adopt Groundwater Management Program</td>
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<tr>
<td></td>
<td></td>
<td>• Prepare water conservation ordinance, including incentives</td>
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<thead>
<tr>
<th>EDUCATION/INCENTIVES/ LOBBYING</th>
<th>COMPLETED/ONGOING</th>
<th>PLANNED/RECOMMENDED FOR 1992</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>• Continue and expand Stream Teams</td>
<td>• Public education/business outreach on water conservation, sea level rise implications</td>
</tr>
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- Actions completed.
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- Additional actions recommended by the Global Warming Task Force.
Appendices

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Appendix 1

OLYMPIA CITY COUNCIL
PROPOSED 1990/1991 TARGET ISSUE
PLAN FOR CITY RESPONSE TO GLOBAL CLIMATE CHANGE
May 10, 1990

Submitted by: Energy and Utilities Committee

Prepared by: Emmett Dobey, Policy and Program Development Manager
Public Works Department

I. Problem Statement

Governments at all levels are beginning to consider how to respond to the likelihood of global climate change resulting from the increase of carbon dioxide and other "greenhouse gases" in the atmosphere, and depletion of the ozone layer. The greenhouse effect is caused primarily by emissions from automobiles, industries, power plants, and other sources of fossil fuel combustion in industrialized countries, as well as cutting and burning of forests. Emissions of chlorofluorocarbons (CFC's) are the primary cause of ozone depletion and also contribute to the greenhouse effect.

The likelihood of global climate change is now widely accepted; however, the effects of the change, particularly local and regional impacts, are not at all well understood. Nevertheless, local governments need to begin preparing for unpredictable but possibly radical changes such as increases in sea level, warmer or colder temperatures, and increases or decreases in precipitation.

This problem is unusual in that its existence must be accepted on faith, without immediate sensory evidence. Yet at the same time, the things that need to be done are not only quite clear, but have a number of other advantages such as reducing costs, protecting water resources, and improving aesthetic appearances.

II. Proposed Problem Solution (Target Issue)

Prepare and begin implementing a plan to minimize Olympia's emissions of greenhouse and ozone-depleting gases and preparing for the effects of anticipated climate change.

Following are examples of the goals and strategies that might be included in such a plan.

Goal: Reduce energy consumption and CFC use by City government.

Potential Strategies:
- Encourage use of carpools, busses and bicycles by City employees
- Use EPA mileage ratings in selecting new vehicles
- Improve maintenance of existing vehicles
- Consider purchase of alternate fuel vehicles
- Incorporate energy efficiency and renewable energy technologies into City owned facilities
- Expand purchases of recycled products
- Use building air conditioners that do not use CFC's
- Recycle automobile and building air conditioner CFC units
- Reduce or eliminate purchases of products using CFC as a blowing agent

**Goal:** Encourage energy conservation and reductions in greenhouse gas emissions through regulations and other incentives and disincentives.

**Potential Strategies:**
- Convene a regional forum to explore information, education and other incentives for energy conservation
- Consider changes in the building code to increase energy efficiency of new buildings
- Explore City authority for regulating use of CFC's in Olympia, such as requiring use of capture-and-recycle equipment for automobile air conditioner repairs, prohibiting sale of air conditioner refrigerant for do-it-yourself repairs, and requiring reclamation of CFC's upon disposal

**Goal:** Maximize the number of trees in Olympia

**Potential strategies:**
- Adopt stricter tree preservation standards for new development, with substantial penalties for non-compliance
- Require replacement and maintenance of trees lost to development
- Develop a recognition/award program for developments which preserve substantial tree cover
- Increase tree planting around City facilities and along City streets
- Sponsor tree-planting projects with local schools and community groups
- Purchase land or development rights to preserve open space and parks

**Goal:** Plan for potential impacts of climate change

**Potential strategies:**
- Promote water conservation as a cushion against drought
- Explore ways to transfer water among jurisdictions during droughts or excess supply situations
- Protect future water supply options
- Inventory land and facilities potentially affected by sea level change
- Protect potential future habitat areas and open space to maintain biological diversity and allow animal migration as sea level rises and climate changes

**III. Cost and Source of Funds**

Staff time would need to be allocated to develop the plan. Potential sources of funds for implementation include the City's developer fees and penalties, federal/state grants, and general fund.
Appendix 2

City of Olympia

Plan for City Response to Global Climate Change

1990/91 Target Issue

Scope of Work

TARGET ISSUE

IDENTIFY LOCAL ACTIONS TO MINIMIZE GLOBAL WARMING

BACKGROUND

Governments at all levels are beginning to consider how to respond to the likelihood of global climate change resulting from the increase of carbon dioxide and other "greenhouse gases" in the atmosphere, and depletion of the ozone layer. The greenhouse effect is caused primarily by emissions from automobiles, industries, power plants and other sources of fossil fuel combustion in industrialized countries. Another major cause is the cutting and burning of forests. Emissions of chlorofluorocarbons (CFC's) are the primary cause of ozone depletion and also contribute to the greenhouse effect.

The likelihood of global climate change is now widely accepted. However, the effects of the change, particularly local and regional impacts, are not at all well understood. Nevertheless, local governments can begin preparing for unpredictable but possibly radical changes such as increases in sea level, warmer or colder temperatures, and increases or decreases in precipitation. Local governments can also act to reduce emissions of carbon dioxide and other greenhouse gases through their own municipal operations and through their regulatory authority.

For the City of Olympia, the potential implications of global climate change are significant. The most obvious is the possibility of rising sea level. Like many other coastal communities, Olympia is located on fill only a few feet above the current tidal elevation. According to a December 1989 paper prepared by Thurston Regional Planning Council staff, "even without detailed analysis, it is easy to imagine the effect of a 4-5 foot sea level rise" which is now considered likely. Budd Inlet would be reconnected to Capitol Lake, and most of the downtown commercial district would be inundated, along with the Port of Olympia, the sewage treatment plant, Olympic academy, major east-west arterials, and the Cascade Pole superfund site.
The Olympia City Council has determined to begin exploring these and other implications of global climate change as one of its target issues for 1990-91. This scope of work outlines the proposed approach for accomplishing this initial step in the City's efforts to respond to global climate change in the coming decades.

The Public Works Department's Policy and Program Development Division has already committed staff resources to study this issue in 1990-91. With this limited expenditure and the process outlined here, the Council can expect a high return in terms of information and direction for a long-term effort.

By initiating this study, the City is taking a leadership role among local governments in Washington. However, Olympia is not alone. Much valuable research has been done, and other cities have paved the way. The City of Vancouver, B.C., for example, has recently prepared a comprehensive report with 35 recommendations for City action and examples of positive steps already taken by many cities (summary attached). Washington Environment 2010 includes global warming as one of its twelve challenges for the future (excerpt attached). Several State agencies have offered technical assistance in preparing Olympia's study and several sources of grants and loans are available for to help with implementation.

This scope of work includes goals and objectives, a description of the study process, tasks and schedule, an outline of the resulting report, and a "laundry list" of potential actions that will be considered.

GOALS

With this study, the City of Olympia is beginning to address the issue of global climate change. Over the next 20 years and beyond, as the urgency of the problem becomes clearer and the quality of information improves, the City intends to

- Reduce the City's contribution to global warming (primarily by reducing vehicle emissions and increasing tree cover) through its municipal operations, regulatory authority, and educational activities.

- Prepare for the impacts of climate change (such as sea level rise and decreased or increased precipitation) by acting in the short term to minimize environmental, social, and economic costs in the long term.
OBJECTIVES

By December 31, 1990, the City Council will have received:

- A background report on global warming and potential local impacts, state/federal initiatives, and local government authority.
- A report on what the City is already doing and recommendations for immediate action in 1991.
- A draft resolution directing that global warming impacts and potential for City action be considered in planning efforts scheduled for 1991.

By May 31, 1991, the City Council will have received:

- A recommended five-year action plan for reducing the City's contribution to global warming and preparing for the impacts of climate change.

By December 31, 1991, the City Council will have received:

- A proposed work program and budget for implementing the action plan in 1992. The work program will include a plan for publicizing the City's initiatives and informing residents and businesses what they can do. It will also include recommended annual or bi-annual evaluation and updating of the action plan.

During 1990-91, the following objectives will also be accomplished:

- Management and operational staff from departments whose activities have the most impact on global warming (such as Public Works, Planning, and Public Safety) will have begun to consider these impacts as part of their responsibilities.

- Changes in procedure or operations that can be made easily, with little or no cost, will have been implemented (quick wins).

- The community will be aware that the City of Olympia has taken the lead in addressing the implications of global climate change.
STUDY PROCESS

Assumptions

The proposed study process is based on several assumptions:

- The potential impacts of global warming dwarf those of other environmental threats. These impacts are uncertain and unpredictable, and may not occur for many years. However, the actions which need to be taken are fairly obvious and have many other beneficial effects, including reduced air and water pollution, energy savings, increased tree cover, and more human-scale living environments. Even if global warming does not occur as expected, the community will be better off socially, economically, and environmentally as a result of these actions.

- The City Council wants to continue taking a leadership role in solving important community environmental issues. The challenge of global warming offers the City an opportunity to "think globally and act locally" in very creative ways.

- The City needs to find ways to integrate its efforts to address environmental problems. Because of its relationship to many of the Council's other target issues (e.g., growth management bill strategy, zoning ordinance overhaul, development standards update, tree preservation, slow streets), this study can help to synthesize environmental policies and programs and lead to a more efficient use of staff and community resources.

- In order for global warming to be incorporated into ongoing City activities, both operational and management staff from many departments must be involved. However, this issue is not likely to be considered as a high priority. Therefore, a minimal time commitment should be expected and the more tangible benefits should be made clear (e.g., cost savings, improved service, and efficiency).

Study Team

The study will be conducted by Public Works Department's Policy and Program Development Division staff, with Mark Erickson as project manager and Dorothy Craig as primary staff. A Department of Ecology intern from Washington Environment 2010 will be available to assist with research.

A task force representing key departments and citizen groups will meet regularly to give advice and review work products. The task force will include people who have a personal and professional interest in this issue. Potential members include:
Emmett Dobey (Public Works/P2D2)
Kyle Castellano
Steve Morrison (Planning)
Peter Gutcheon (Public Works/Solid Waste)
Ralph Provencal (Public Works/Energy Code)
Adrian Lyon (Public Works/Fleet Maintenance)
--------- (Public Safety)
--------- (Parks)
Mary Oliver (Greenhouse Action Group)
Rhys Roth (No Sweat)

Available Resources

Technical assistance and financial support are available from several agencies which are responsible for global warming and related environmental issues. Technical assistance for this study has been offered by:

Douglas Canning, Department of Ecology Sea Level Rise Project Manager

Stu Clark, Department of Ecology Air Quality/Global Warming project

Dan Johnson, Department of Ecology Washington Environment 2010/ride sharing programs

Dick Watson, Washington State Energy Office, energy conservation and alternative fuels

Michael Perez-Gibson, Department of Natural Resources/Global ReLeaf, urban forestry management and tree planting programs

Financial assistance in the form of grants and loans are available from several sources:

Department of Ecology, Coastal Zone Management planning grants

Department of Natural Resources, Urban Forestry planning and resource management grants, access to corporate support of tree planting efforts

Washington State Energy Office, loans for fleet conversion to alternative fuel and energy efficiency building retrofits

In addition, the City will obtain valuable information and contacts from the climate change symposium at the University of Washington in September, 1990, and the international conference on local action strategies for global warming planned for spring, 1991 by the Washington State Energy Office and Washington Environmental Council.
**Study Process**

P2D2 will staff the task force, coordinate planning activities, and prepare all written reports. These will be reviewed regularly with the task force, with input as needed from technical resource people.

Other operational and management staff will be invited to participate in brainstorming teams formed around specific issues, such as:

- Reducing use of City vehicles
- Evaluating vehicle purchase and maintenance standards
- Encouraging employee carpooling and bicycling
- Identifying potential zoning and shoreline code changes
- Initiating community tree planting activities

These teams will meet once or twice to brainstorm ideas, and will have the opportunity to review the resulting reports and recommendations.

At several times during the year, brown bag lunch programs will be planned to inform employees of the issue, obtain their ideas and feedback, and discuss opportunities for their participation.

**TASKS/SCHEDULE**

**Phase 1: Study organization/background report**

**September – December 1991**

**Task**

1. Prepare scope of work and report outline, for review and approval of E&U Committee

2. Form task force, refine scope of work, identify brainstorming teams for Phase 2

3. Prepare background report (causes and effects of global warming, potential local impacts, state/federal initiatives, local government authority)

4. Prepare report on what City of Olympia is now doing (policies, ordinances, programs, procedures, planning efforts) and recommendations for immediate action in 1991

5. Prepare draft Council resolution directing that global warming impacts and potential for City action be considered in planning efforts scheduled for 1991 (growth management legislation, zoning code revisions, development code revisions, City Hall design)
Phase 2: Alternatives and Recommended Action Plan
January - May, 1991

Task

6 Prepare recommendations for reducing fossil fuel emissions
   City government
   Private sector (regulations, education, incentives)

7 Prepare recommendations for tree preservation/tree planting
   City streets and parks
   Private sector (regulations, education, incentives)

8 Prepare recommended planning for climate change/sea level rise
   Shoreline regulation
   Habitat protection
   Water conservation/additional supply
   Sizing of stormwater facilities

9 Prepare public involvement and education plan

NOTE: For Tasks 6 - 9, the steps would be to brainstorm what
the City is doing now, opportunities for "quick wins," and
short and long term change (staff teams), describe and analyze
feasible alternatives (P2D2/task force), and implement "quick
wins" (staff of responsible departments)

10 Identify relationship between recommendations and other
    policies, plans and target issues

11 Present draft report on alternatives and recommended 5-year
    action plan to E&U Committee (including public involvement and
    annual evaluation and updating)

12 Present recommendations to Council for approval in concept

Phase 3: Implementation Plan
June - July, 1991

Task

13 Estimate costs for a range of implementation levels

14 Identify funding possibilities

15 Assist Public Works, Planning, Police and other departments
   in preparing 1992 work programs and budgets reflecting Global
   Warming Action Plan recommendations
Phase 4: Budget
August - December, 1991

Task

16  Assist various departments in preparing and supporting budget documents

17  Prepare staff reports to Council during budget process

18  Prepare final report including approved 5-year action plan and adopted budget items to be implemented in 1992
Appendix 3

Summary of Background Report
City of Olympia’s Response
to the Challenge of Global Climate Change

Chapter 1: What Is the Challenge?
Causes and Effects of Global Climate Change

Human beings are now altering the atmosphere of the Earth, upon which all life depends, disrupting a biochemical equilibrium that has existed for thousands of years. As a result of human activity, primarily the burning of fossil fuels and clearing of forests, carbon dioxide concentrations have increased 25% over pre-industrial levels; methane concentrations have doubled in the last 200 years; and chlorofluorocarbons (CFCs) releases are increasing by 5-7% each year.

These atmospheric changes are polluting the air we breathe, depleting the ozone layer, and may well be responsible for observed increases in global temperature. Over the last 100 years, the average global temperature has risen 0.5-0.7°C. Scientists are observing seasonal "holes" in the ozone layer over both polar regions; wintertime ozone has decreased 4.7% over the Pacific Northwest. Air pollution ranked as the state's number one environmental problem in the recent Washington Environment 2010 State of the Environment report.

The implications of such a change for plant, animal, and human life are staggering. Increased temperatures could fundamentally alter such basic life-sustaining processes as the hydrologic cycle and photosynthesis with resulting impacts on food, forestry, fisheries, energy, and water supply. Loss of the ozone layer will increase exposure to ultraviolet radiation, resulting in damage to forests and crops, increased skin cancers and eye cataracts, and increased smog and acid rain. Surface air pollution is already causing soil and water contamination, damage to forests and crops, and a myriad of health problems. All these effects are aggravated in unpredictable ways by the interrelationship between temperature change, ozone depletion, and surface air pollution.

There is growing consensus among scientists about the nature and cause of the problem and the range of potential effects. There is still considerable uncertainty as to how rapidly the changes will occur, how extensive they will be, and what the particular local effects will be. However, based on current knowledge, the Washington 2010 State of the Environment Report projected that the average annual temperature in the Pacific Northwest could rise by 3-5°C over the next century. The report concluded that such a temperature change "could fundamentally alter the hydrologic cycle by increasing precipitation and snowmelt and changing seasonal runoff patterns. These changes, in turn, could have profound impacts on the availability of water in the state for hydroelectric power and crop irrigation. Also, this temperature change could alter the growth patterns of the state's forests and crops."
Sea level at Olympia has been rising at a rate of about a foot per century. Accelerated sea level rise due to global warming is projected to be between 0.5 and 1.5 meters by 2100. Adjusted for subsidence, sea level at Olympia could rise by 2.1 to 5.3 feet by 2100. Such an increase could inundate most of the downtown commercial district, the sewage treatment plant, Port of Olympia, and major east-west arterials; reconnect Capitol Lake with Budd Inlet; and damage intertidal habitat and spawning grounds for many fish and wildlife species.

Human activity is clearly the source of increased greenhouse gas emissions. The United States is responsible for 25% of global emissions. In Washington State, 65% of carbon dioxide emissions come from burning oil, 23% from coal and natural gas, and 12% from wood; nearly half of carbon dioxide emissions are from transportation sources. Tropical deforestation is another primary cause of increased atmospheric carbon, but deforestation of urban areas plays a significant role; in Olympia an average of 40-45 acres of woodland per year is being converted to urban development.

By far the greatest contributors to ozone depletion are CFCs and related compounds such as halons and carbon tetrachloride. CFCs also act as greenhouse gases, being about 10,000-20,000 times more powerful than carbon dioxide in their ability to trap heat. These synthesized chemicals are widely used as refrigerants, propellants, and blowing agents. They are released in manufacturing process, when equipment is serviced, and when products are broken down.

Surface air pollution, commonly observed as smog, is caused by combustion of fossil fuels, primarily from motor vehicles, industrial emissions, and wood smoke. Because of current growth trends in the Puget Sound area and Thurston County, wood stove and vehicle emissions pose the most serious potential threats to local air quality. At present, limited monitoring indicates only minor concern about vehicle emissions. However, suspended particulates, primarily from wood stove emissions, are a current concern during winter months in densely populated areas of Thurston County.

In facing the challenge of global climate change, it would be easy to say, "What can we in Olympia do? We are just a drop in the bucket." Thinking globally and acting locally has become a way of life for many people. Now, it is becoming evident that acting locally is acting globally. Anything people do as individuals and as a community to reduce emissions of CO₂ and other greenhouse/ozone depleting gases, increase tree cover, and prepare for climate change will help to meet this global challenge.

Chapter 2 - How Should Governments Respond?
Policy Making in the Face of Uncertainty

How should governments respond to the likely prospect of climate change, given the uncertainty about particular impacts and the fact that serious impacts may not occur for several decades?
Perhaps the first, most important response is to accept the fact that the rapid increase in climate altering gases is extremely dangerous, posing an enormous threat to the ecosystem, the economy, and human health. However, because human activity causing this increase, a change in human activity can slow the rate of change and perhaps prevent the most dire consequences. Projections based on current trends are not inevitable; if current trends can be broken, there will be a large effect over a period of decades.

For example, there was a dramatic break in the growth curve of CFC emissions as businesses and governments responded to people’s environmental concerns in the mid-1970s. If that break had not occurred, CFC emissions would now be three times greater than they are; the ozone problem would be a true disaster and the greenhouse problem would be much worse than it is.

So it is possible to break the exponential rise in greenhouse gas emissions. Fortunately, the actions needed to do this are not only obvious but make good sense for many other reasons. The Washington State Energy Office (WSEO) has developed a “no regrets strategy” to stabilize carbon dioxide emissions by the year 2000. This strategy, based on increasing energy efficiency 2.4% per year, would also result in lower energy costs, improved economic competitiveness, greater energy security, reduced air and water pollution.

Actions taken in response to the challenge of global climate change—which are appropriate at individual, community, state, national, and international levels—can be categorized in three general strategies:

- Reduce emissions of CO₂ and other gases that increase greenhouse effect, ozone depletion, and local air pollution.
- Increase tree cover by reducing tree cutting and planting more trees.
- Prepare for global climate change in making decisions about land use, open space, shoreline development, and utility infrastructure.

Reversing global greenhouse gas emission trends entails enormous practical and bureaucratic difficulties. Ironically, because of the scale of these difficulties, the most effective actions may be those which begin on the local level. Actions initiated locally can lead the way to actions on a global scale which will help avoid the most dramatic climate changes.

The framework for decision making must begin with a new way of thinking, a long-term perspective that considers the impact of each decision on future generations.

Given such a perspective, there are several categories of actions to respond to the challenge of global climate change:

- Identify situations now where least-cost actions can be done when and if the problem emerges. For example, install drainage facilities with higher capacity, anticipating increased rainfall.
• Take immediate anticipatory actions to mitigate global warming that have short-term benefits whether or not global warming occurs ("no regrets" policy). For example, reduce dependence on automobiles.

• Plan ahead, changing the "rules of game" so people can act rightly now and avoid major cost in the future. For example, approve only those shoreline developments that can withstand future sea level rise.

• Educate people to needed lifestyle changes—such as driving less, conserving energy and water, recycling—and research new solutions such as alternative fuels and crops adapted to a changing climate.

Chapter 3 - What Can a City Do?
Potential Scope of City Government Action

Generally, cities can act in three ways to reduce emissions of greenhouse gases, increase tree cover, and prepare for the effects of global climate change such as sea level rise. They can change municipal operations, regulate private activity, and influence others through public education, incentives, and lobbying state and federal legislatures.

• Municipal operations. Many activities within the government’s direct control are similar to any other large employer, service provider and landowner. In addition to the positive impacts of its own actions, the City can serve as a model for other local governments as well as private organizations. Examples include operation of city-owned vehicles, buildings, streets, utilities, parks and open space; employee education and incentive programs; policies and practices on purchasing, investment, resource consumption, recycling, and disposal.

• Regulation of private activity. The City has broad regulatory authority, often within the framework of state and federal regulation. Examples include land use and transportation planning; shoreline management; zoning, building, and subdivision codes.

• Education, incentives, and lobbying. The City can influence others through such activities as education on recycling, water and energy conservation; volunteer programs; tax and utility rate incentives; public recognition programs; and lobbying for changes in state and federal legislation.

Initiatives taken internationally and by federal and state governments provide a context and incentive for local action. The most prominent example of international cooperation on this level is the International Panel on Climate Change (IPCC), created by the United Nations and World Meteorological Organization. Nearly 1000 scientists have participated in a scientific assessment of the risk of global climate change, impacts, and response strategies.

Several European countries have taken the lead in responding to this issue. Sweden's
parliament approved a freeze on carbon dioxide emissions and is planning a tax on CO₂ emissions by 1991. Germany, the Netherlands, and Norway are also considering policies to stabilize carbon emissions. Meanwhile, at a 68-nation conference in the Netherlands in November 1989, the United States, Japan, Great Britain, and the USSR blocked efforts to set a global goal of stabilizing carbon dioxide emissions the year 2000.

In the United States, several federal agencies including the Environmental Protection Agency, Office of Coastal Zone Management, and Army Corps of Engineers are beginning to address the risk of sea level rise. National efforts are underway to plant millions of trees in cities and rural communities, through the American Forestry Association's Global ReLeaf program and President Bush's America the Beautiful campaign.

At the state level, the National Governors' Association released a report on global climate change by a task force of governors including Governor Booth Gardner. Policy and planning studies on sea level rise have been initiated in California, New York, Rhode Island, North Carolina, Maine, and Massachusetts.

Oregon enacted a law in 1989 requiring 20% reduction in greenhouse gases by 2005. California and Vermont are considering similar proposals. Oregon’s Task Force on Global Warming issued a report to the governor and legislature in July 1990 that assesses current knowledge and expected impacts on the state and recommends about 100 actions for the state. Actions are aimed at reducing carbon dioxide emissions, primarily through more efficient use of fossil fuels, and offsetting emissions by planting trees and recycling.

The Washington Environment 2010 action agenda recommended an interim goal of no net increases in greenhouse gas emissions by 2010. The new Washington State energy code could reduce carbon dioxide emissions by 30 million tons over the next 20 years. In the 1991 session the legislature enacted a comprehensive clean air act as well as a statewide urban forestry program including technical assistance for urban tree planting. The Department of Ecology began a comprehensive sea level rise response program in 1988, including projections of impacts on shoreline and flood plain management, fish and wildlife habitat, and water supply. The Department is cooperating with the United States Environmental Protection Agency on a two-year case study of impacts on water resources, forest, agriculture, biodiversity, and sea level rise in the Pacific Northwest.

Other municipal governments provide examples of what can be done at a local level. Irvine, California, prohibits the manufacture, sale or distribution of products utilizing ozone-depleting chemicals. The ordinance specifically regulates the use and disposal of such compounds in building insulation, refrigeration and air conditioning units, and of fire extinguishing systems. Ordinances banning packaging products containing CFCs and other ozone depleting chemicals have been adopted in several other California cities as well as Portland, Newark, and Minneapolis.

Probably the most comprehensive municipal approach to global climate change has been taken by Vancouver, British Columbia. In 1990, task force appointed by the City Council recommended over 35 specific actions for the City, following extensive public review and comment. Almost all of the recommendations were adopted, with some amendments, by
City Council in October 1990, following detailed review and comment by all relevant city departments. The task force recommendations were aimed at reducing carbon dioxide emissions by 20%, phasing out products containing ozone-depleting chemicals, and reducing sulphur dioxide and methane emissions.

The San Francisco Bay Conservation and Development Commission sponsored a study in 1985 analyzing the impact of accelerated sea level rise on San Francisco Bay. In January 1989, the commission amended the San Francisco Bay Plan to require engineering design for existing sea level rise and conceptual planning for accelerated sea level rise for all projects under their licensing authority.

Conclusion

The 1990s has been labeled "the decade of the obvious." During the past year, the Global Warming Task force has reviewed the state of knowledge about the prospect of global climate change and the scale of potential impacts on Olympia; surveyed the wide range of actions that can be taken with "no regrets;" learned of many initiatives already taken by other local, state, and national governments; and recommended a strategy for City action in coming years. By adopting this strategy, the City of Olympia is continuing its leadership in resource management and environmental protection. The City has set itself on a long-term course of acting deliberately, on behalf of future generations, to reduce this community's contribution to the greenhouse effect and ozone depletion and prepare intelligently for future climate change.
Appendix 4

RESOLUTION NO. 3130

A RESOLUTION by the Olympia City Council on City actions to mitigate global warming.

WHEREAS, current evidence indicates that global warming and ozone layer depletion, as well as surface air pollution, are occurring as a result of human activity, and

WHEREAS, although the rate of change and impacts on Olympia are uncertain, the nature of likely impacts on sea level, crops, water supply, energy, forests, and wildlife makes action prudent in spite of uncertainty, and

WHEREAS, Olympians can be part of the solution of this global problem by slowing emissions of greenhouse gases, increasing tree cover and preparing to adapt to change, and

WHEREAS, most actions in response to global warming, ozone depletion, and surface air pollution will result in such short term benefits as cleaner air and water, cost savings, greater economic competitiveness, and more energy security, and

WHEREAS, the City of Olympia has the authority to reduce emissions of greenhouse, ozone depleting gases and other air pollutants through its own municipal operations, through regulation of private activity, and through education and incentive programs, and

WHEREAS, the City of Olympia has already initiated legislation and programs which have the effect of reducing greenhouse gases, and

WHEREAS, the City's Global Warming Task Force has
prepared a report summarizing the current knowledge about global climate change and the predicted local impacts, and recommending actions in addition to those included in approved 1991 work programs and budgets.

THE OLYMPIA CITY COUNCIL RESOLVES AS FOLLOWS:

Section 1. In the coming decades, the City of Olympia will respond to the prospect of global climate change by a three part strategy of reducing emissions of greenhouse gases, increasing tree cover, and preparing for change.

Section 2. The interdepartmental Global Warming Task Force is directed to continue its work in 1991. Its next task will be to prepare a five year action plan. Following Council review, the task force will work with each department to formulate 1992 work programs and budgets. A similar process is expected to continue in subsequent years.

Section 3. All departments are directed to begin considering ways they can contribute to reducing emissions of greenhouse gases, increasing tree cover, and preparing for climate change through municipal operations, regulations, and education/incentive programs.

Section 4. The Council expects to take the following actions in 1991:

A. Adopt a tree preservation ordinance, scheduled for presentation to Council by the Urban Forestry Advisory Board in March, 1991.

B. Adopt a parks and open space plan, scheduled for presentation to Council by the Parks and Recreation

IT IS FURTHER RESOLVED THAT the Council authorizes the following departmental activities in addition to those already included in the 1991 work program and budgets:

A. Seek grants and/or loans for energy efficient retrofits of City-owned buildings and vehicles, and initial planning for potential sea level rise.

B. Lobby State legislature in support of proposed clean air, global warming, and urban forestry legislation.

C. Adopt a policy to eliminate use of CFC's and other ozone depleting materials by the City and explore local government authority to regulate CFC's and other environmentally hazardous products.

D. Establish a higher fuel efficiency standard for new vehicle purchases.

E. Consider issues related to global climate change in updating the zoning code and development standards (e.g. street standards, open space, housing density, solar access).

F. Encourage employees to walk, bicycle, car pool or bus to work.

DATED this 5 day of January, 1991.

MAYOR

ATTEST:

JUNE RAGIEND KUKEM
CITY CLERK
Appendix 5

City of Olympia
Response to Global Climate Change
1991 Action Plan - Update
November 1991

In Council Resolution M-1306, February 5, 1991, City Council declared its intent to complete the following actions during 1991. Following is a status report on these activities.

1. **Adopt a tree preservation ordinance.**

   Draft tree protection and replacement ordinance has been prepared by Urban Forestry Advisory Board. Public hearings before City Council held on July 9 and November 18.

2. **Adopt a parks and open space plan.**


3. **Seek grants and/or loans for energy efficient retrofits of City-owned buildings and vehicles, and initial planning for potential sea level rise.**


   **Vehicles** - Public works is identifying vehicles suitable for conversion and estimating costs; availability of grants and loans will be known after adoption of state budget. Meanwhile, three demonstration vehicles (two electric and one solar) have been acquired for use by parking enforcement staff.

   **Sea level rise** - Coastal zone management grant of $5,000 approved by Ecology for mapping of predicted sea level and initial analysis of policy implications.

4. **Lobby state legislature in support of proposed clean air, global warming, and urban forestry legislation.**

   Letters written in support of clean air and urban forestry bills by Mayor Derr. City's legislative advisor lobbied personally for favorable aspects of the clean air bill. No specific global warming bill was introduced.
5. **Adopt a policy to eliminate use of CFCs and other ozone depleting materials by the City and explore local government authority to regulate CFCs and other environmentally hazardous products.**

To be prepared by Public Works in 1991/1992. New State Clean Air Act makes venting of CFCs illegal. Public Works will explore local government authority for banning sale of products that use CFCs, as well as incorporating CFC information in public involvement and business outreach activities.

6. **Establish a higher fuel efficiency standard for new vehicle purchases.**

Public Works’ fleet management staff is developing a policy on purchasing vehicles that are fuel efficient and suitable for conversion to alternative fuel.

7. **Consider issues related to global climate change in updating the zoning code and development standards (e.g., street standards, open space, housing density, solar access)**

*Downtown zoning study* - Scheduled for completion in 1992. Preliminary recommendations are consistent with strategy of reducing greenhouse gas emissions by aiming to reduce downtown traffic, encourage transit use and attract pedestrians (e.g., increased density and intensity of retail and service uses, and pedestrian oriented storefronts and streetscapes). Study has not addressed potential implications of sea level rise.

*Development standards* - On hold pending reorganization of Planning/Development Services. Staff is using Lacey’s newly adopted standards as the basis for proposed standards for Olympia. Standards will be updated as work is completed on street trees, and other elements and as sustainable city criteria are developed. Development standards related to reducing greenhouse gas emissions and increasing tree cover include sections on bike paths, street width, and street trees.

The Sustainable City Task Force will be reviewing the draft development standards and downtown zoning recommendations for linkages and for consistency with global climate change strategy.

8. **Encourage employees to walk, bicycle, car pool or bus to work.**

Department directors have initiated an employee group to plan and organize promotional activities and incentives for an "alternative modes commuting program." First step was to restrict employee parking at City Hall.
Appendix 6

City of Olympia
Response to Global Climate Change
Six Year Plan - 1992-97

Public Works Policy and Program Development Division

September 20, 1991

The following plan for responding to the challenge of global climate change has been prepared and would be implemented in the context of Olympia’s overall Sustainable City philosophy.

Goals

A. Reduce emissions of carbon dioxide and other greenhouse gases in order to reduce Olympia’s contribution to global climate change

B. Increase tree cover in order to mitigate Olympia’s contribution to global climate change

C. Prepare in advance in order to minimize risks and impacts of global climate change

Ongoing General Strategies

Policy

Adopt plans and policies clearly stating the City’s intent to reduce greenhouse gas emissions, increase tree cover, and prepare for climate change (Public Works, P²D²)

1991 Council resolution on climate change strategy (adopted)

1991 Consider issues related to global climate change in updating the zoning code and development standards (e.g., street standards, open space, housing density, solar access) [Council resolution]

1992 Review proposed plans/policy for consistency with adopted strategy

1992 Incorporate global climate change in sustainability criteria used to evaluate all decisions
Include City's intent to reduce greenhouse gas emissions, increase tree cover, prepare for climate change in other plans and policies

Consider cumulative, long term effects of zoning and land use decisions (include in SEPA review impact on greenhouse effect and risks associated with sea level rise)

Management

*Develop management structures and procedures to implement global climate change strategy* (Public Works, P²D²)

1991  
Initiate Global Warming Task Force

1992  
Develop procedures to coordinate regional activities to reduce greenhouse gas emissions, increase tree cover, and prepare for climate change

1992  
Develop procedure for interdepartmental/interjurisdictional coordination on tree-related activities (includes hiring an urban forester)

1992  
Monitor initial indicators of progress towards sustainable future

1993-97  
Expand indicators and continue monitoring

1993-97  
Continue citywide and regional management procedures

Funding

*Develop funding sources to implement City activities related to reducing greenhouse gas emissions, increasing tree cover, preparing for change* (Public Works, P²D²)

1991  
Seek grants and/or loans for energy efficient retrofits of City owned buildings and vehicles, and initial planning for sea level rise

1992  
Seek additional grants and/or loans

1993-97  
Prepare fiscal/economic studies, financial management plan for integrated global climate change/sustainable city activities

Employee Education/Incentives

*Encourage employee involvement/responsibility* (Administration)

1991  
Encourage employees to walk, bike, car pool or bus to work [Council resolution]

1992  
Priority on incentives to walk, bike, car pool, or bus to work/disincentives to auto use

1993-97  
Expand to include other ecologically responsible activities
Public Involvement/Education

*Encourage public involvement/responsibility* (Public Works, P²D²; Administration)

1991  
Earth Day, Cityscape, initial use of Sustainable City theme

1992  
Develop coordinated public involvement program for all environmental activities, including coordinated business outreach and recognition

1992  
Public education/involvement on tree planting and protection (per Urban Forestry Advisory Board work plan)

1992  
Focus on education about reducing greenhouse gas emissions related to transportation, waste reduction

1993-97  
Expand program to include more emphasis on reducing consumption, conserving energy, improving air quality (woodstove education) and tree planting

1993-97  
Develop program to involve public, especially key downtown players, in preparing for climate change (following initial analysis of sea level rise impacts in 1991-92)

Lobbying

*Lobby for action by state/federal agencies* (Public Works, P²D²; Administration)

1991  
Lobby state legislature in support of proposed clean air, global warming, and urban forestry legislation [Council resolution - done]

1992  
Encourage state government to adopt incentives for employees to reduce auto use

1992  
Lobby for state legislation allowing incentives for alternative energy, reduced vehicle use, urban forestry, etc.

1993-97  
Continue lobbying for supportive state/federal legislation

Strategies to Reduce Greenhouse Gas Emissions

Policies/Plans

*Adopt/implement land use and transportation plans that will reduce dependence on auto travel* (Planning)

1991  
Consider reduction of greenhouse gas emissions in evaluating growth management legislation and regional transportation plans

1993-97  
Consider reduction of greenhouse gas emissions in other proposed land use/transportation plans and policies
Adopt/implement local ordinances aimed at reducing greenhouse gas emissions (Planning; Public Works, P²D²)

1991 Explore local government authority to regulate CFCs and other environmentally hazardous products [Council resolution]

1991 Adopt new energy code

1991 Study City responsibility for enforcement of State outdoor burning ban and yard waste collection

1992 Study feasibility of ban on woodstoves in new construction, and other alternatives to reduce woodstove emissions

1992 CFC ordinance

1993-97 Encourage development of model mixed-use/high-density development; follow-up to slow streets/traffic calming demonstration

City Government Operations - Streets/Traffic

Manage traffic to reduce/minimize emissions (Public Works, Transportation)

1991 Synchronize traffic signals on key arterials

1992 Synchronize traffic signals citywide for peak periods

1992 Complete 4th/5th Avenue Corridor analysis

1992 Provide covered, attractive bike racks at all City buildings

1992 Construct bike lanes and bike paths per CIP

1993-97 Manage traffic to reduce/minimize emissions (i.e., implement employer traffic demand management program)

1993-97 Continued construction of bike lanes and bike paths

1993-97 Implement 4th/5th Avenue Corridor recommendations

City Government Operations - Vehicles and Facilities

Increase energy efficiency of City vehicles (Public Works, O&M)

1991 Develop policy establishing a higher fuel efficiency standard for new vehicle purchases [Council resolution]

1991 Seek grants and/or loans for conversion of City vehicles to alternate fuel; identify suitable vehicles [Council resolution]
1991  Initiate preventive maintenance program (annual emissions testing)
1991  Evaluate performance of demonstration electric vehicles
1992  Continue preventive maintenance and purchase of energy efficient vehicles
1992  Convert some vehicles to alternative fuel (compressed natural gas); evaluate
1993-97  Continue improving energy efficiency of vehicle fleet and conversion to alternative fuel

*Reduce driving/idling time by City vehicles* (Public Works, Transportation)

1992  Provide shuttle/vanpool for meetings
1992  Provide bicycles, mopeds for City employees (meter readers, travel to meetings, personal errands)

*Increase energy efficiency of City buildings and other facilities*

1991  Complete computerized energy management system
1991  Begin shift in priority to preventive maintenance
1991  Complete energy efficiency improvements at Smith Building
1991  Complete audits of all City facilities, begin preparing energy management plan
1992  Complete energy management plan, prioritize all building needs
1992  Seek grants and/or loans for energy efficient retrofits of City facilities [Council resolution]
1992  Continue shift to preventive maintenance
1992  Continue energy efficiency improvements within existing budget
1993-97  Complete shift to preventive maintenance
1993-97  Implement major energy efficiency improvements per plan

*Reduce use of non-renewable resources for building energy needs* (Public Works, O&M / P²D²)

1991  Continue use of methane emissions for LOTT in-plant energy
1991  Explore downtown district heating plan
1992  Study potential for reduced use of non-renewable resources for building energy needs (substitute renewables such as methane, solar, wind, biomass)
Reduce/eliminate use of CFCs and other ozone depleting materials by the City (Public Works, P²D² / O&M)

1991 Adopt a policy to eliminate use of CFCs and other ozone depleting materials by the City [Council resolution]

1992 Implement CFC policy (e.g., purchase equipment for capturing CFCs during repair, recycle vehicle and building air conditioner units, use air conditioners without CFCs, eliminate purchase of products using CFCs)

1993-97 Continued ban on use of CFCs

City Government Operations - Materials Management

Reduce material waste by City government (less energy/emissions required for manufacture, transport, disposal of material) (Public Works, P²D² / O&M / Parks)

1991 Comprehensive waste reduction plan, ordinance and guidelines

1991 Begin purchasing re-refined oil

1992 Continue/expand reducing consumption, reusing and recycling materials; bulk purchase of recycled products, re-refined oil with other agencies; include requirement in City contracts

1992 Continue/expand City purchase of recycled materials

1992 Continue/expand composting of sewage sludge/park debris

1992 Seek grant funds for rubberized asphalt

1993-97 Continue and expand above programs

City Government Operations - Investment

Invest City funds using socially and ecologically responsible (sustainable) criteria (Public Works, P²D²; Administration)

1992 Develop ecologically responsible policy for City investments

1993-97 Shift investments to more ecologically and socially responsible securities

Waste Management

Provide opportunities for the public to reduce consumption, recycle and reuse products (Public Works, P²D² / O&M / Parks)

1991 Pilot small-scale commercial recycling; add drop-off sites in city
1991  Begin yard waste collection
1992  Continue composting, recycling education
1992  Continue/expand yard waste collection and curbside recycling (add plastic, cardboard)
1992  Continue small-scale commercial recycling, pilot large commercial and multi-family recycling
1992  Encourage auto service businesses to collect used oil and filters and CFCs (public involvement and education/business outreach)
1992  Seek grant funds to develop markets for recycled products
1993-97  Continue large commercial and multi-family recycling
1993-97  Expand residential collection to include batteries and oil

Strategies to Increase Tree Cover

Tree Planting

*Plant and maintain trees along city streets, around City buildings and other facilities* (Parks; Public Works, Engineering)

1991/92  Develop street tree plan and ordinance
1992  Inventory planting spaces (e.g., streets, parks, utility and highway right of ways, port, reservoirs, detention ponds, other drainage facilities)
1992  Include trees in budgets for CIP projects; consider non-traditional uses of trees in City building and facility design (e.g., as fences, guardrails, shading, fruit trees in parks and streetscapes)
1993-97  Plant/maintain trees along city streets, around City buildings and other facilities

Open Space Acquisition

*Acquire potential future habitat areas and open space to maintain biological diversity and migration of animals and plant communities (e.g., wetlands) as sea level rises and climate changes.* (Parks; Public Works, P^2D^2)

1991  Adopt Parks and Open Space Plan [Council resolution]
1991  Acquire Grass Lake
1992  Acquire priority habitat/open space areas
1992  Develop inventory and policy for retaining undeveloped City-owned right-of-ways as open space
1992  Convert selected City-owned neighborhood streets for playground, wildlife habitat, community gardens
1993-97  Continued purchase of land or development rights for parks/open space, scenic easements

**Regulation/Incentives**

*Minimize tree cutting on private/public land and replace trees lost during land development* (Public Works, Development Services / P²D²)

1991  Adopt tree protection and replacement ordinance [Council resolution]
1991  Landmark tree ordinance (adopted)
1992  Minimize tree cutting and replace trees lost (i.e., implement tree protection/replacement ordinance; includes hiring an urban forester)
1992  Consider tax incentive for individuals, business owners who plant or preserve more than minimum tree density (e.g., adopt County's open space public benefit rating system)
1992  Consider open space requirement in zoning code update
1992  Allow impact fee in lieu of open space (impact fee ordinance)
1993-97  Continued implementation and enforcement

**Strategies to Prepare for Change**

**Sea Level Rise**

*Evaluate potential impacts and options for downtown, shoreline areas affected by sea level rise* (Planning)

1992  Map sea level rise, identify potential impacts and options for downtown and shoreline area, assess policy implications (CZM grant 1991/92)
1992  Publicize results of study, consider implications in making policy decisions, network with other communities (CZM grant 1992/93)
1993-97  Continue monitoring global and regional climate modeling, evaluating implications for Olympia, and taking prudent action

**Water Supply**

*Promote water conservation as a cushion against drought (and save energy for pumping and heating)* (Public Works, P²D²)

1991/92  Adopt water conservation ordinance
1992 Promote water conservation (e.g., implement ordinance, education and incentives)
1993-97 Continue implementation

Evaluate potential impacts and options for City water supply given potential for future changes in rainfall (Public Works, P²D²)

1991 McAllister Springs analysis based on current conditions
1992 McAllister Springs analysis based on future rainfall
1993-97 Actions based on results of analysis