

ENERGY CONSIDERATIONS CHECKLIST (November 27, 2011)
Planning & Community Development and Code Enforcement Offices
Town Hall, 15 Newmarket Road, Durham, NH 03824; 603-868-8064



Project name: _____
Date of Submittal / / _____
Applicant name _____
Engineer name _____
Architect name _____

- New Construction** **Re-Development, Addition or Renovation**

PURPOSE:

This checklist was developed by the Durham Energy Committee together with the Durham Planning Board. It is intended to encourage developers, applicants for Site Plan Review, applicants for building permits, and members of the Durham Planning Board to consider and discuss optional energy efficiency measures appropriate to a specific application rather than to mandate general requirements. Discussion at early stages may result in opportunities for energy and cost savings.

PART I. BUILDING CONSTRUCTION, SYSTEMS AND MATERIALS

National Accredited Rating for Building Energy System

Check one box:

1 Does your building meet standards for:

- Passive House Institute* <<http://www.passivehouse.us/passiveHouse/PHIUSHome.html>>
- International Living Building Institute* <<http://ilbi.org/>>
- LEED* (Platinum, Gold, Silver) <<http://www.usgbc.org/>>
- Energy Star* <<http://www.energystar.gov/>>
- Other _____
[please indicate Internet address or other reference]

** These organizations have established energy-efficiency criteria. Qualifying applicants are encouraged to complete and attach the checklist from that certification (to be used for informational purposes only) and may then skip to Part IV, "Consultation with Director of Zoning, Building Codes & Health."*

None of the above

| Yes | No | N/A | Energy performance and insulation |
|--------------------------|--------------------------|--------------------------|---|
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 2 Attic or ceiling insulation exceeds Town code (R value proposed = _____) (see Chapter 38) |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 3 Walls insulation exceeds Town building code (R value proposed = _____) (see Chapter 38) |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 4 Air sealing: passive air infiltration rate proposed*: _____ |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 5 Slabs: R value proposed _____ |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 6 Basement foundation: R value proposed _____ |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 7 Hot water pipes: R value proposed _____ |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 8 Heating ducts: R value proposed _____ |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 9 Plans to commission the building to confirm performance |

** "Tight" envelopes require ventilation, typically with the use of energy or heat recovery ventilation systems.*

| Yes | No | N/A | Construction methods and materials |
|--------------------------|--------------------------|--------------------------|--|
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 10 Net zero construction, i.e., building(s) uses less than or same amount of energy it generates |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 11 Energy efficient doors and windows (including screens) |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 12 Recycled content materials |

| Yes | No | N/A | Internal systems |
|--------------------------|--------------------------|--------------------------|--|
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 13 Low-flow plumbing fixtures |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 14 Lighting: high efficiency |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 15 Energy usage monitoring system(s) |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 16 Energy-efficient appliances (refrigerators, stoves, air conditioners, ceiling fans, etc.) |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 17 Energy-efficient HVAC system (proposed efficiency level ____) |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 18 Renewable HVAC system (e.g., biomass boiler or furnace) or geothermal |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 19 Renewable hot water system (e.g., solar thermal) |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 20 Photovoltaic renewable electricity generation system (i.e., solar panels) |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 21 Window technology or design that adjusts shading (active or passive, e.g., film, sensors) |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 22 Ability to charge electric vehicles |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 23 Grey-water system (e.g., to capture water from sinks or showers to use for toilets or flower gardens) |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 24 Mechanical ventilation: Energy Recovery Ventilator efficiency proposed = _____ |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 25 Water usage monitoring system(s) |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 26 Cooling load reduction features, e.g., ceiling fans, solar-ray-blocking blinds |

PART II. SITE AND SITING CONSIDERATIONS (if not applicable, check here _____)

| Yes | No | N/A | Solar lighting, heating and cooling (passive and active) |
|--------------------------|--------------------------|--------------------------|--|
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 27 Passive solar lighting design (optimizes natural illumination for interiors) |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 28 Solar access: availability of, or access to, unobstructed, direct sunlight, usually south-facing Preservation of abutting solar rights, e.g., solar skyspace easements applicable to all plots within a subdivision or to your neighbors |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 29 |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 30 Orientation of internal streets allows solar access |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 31 Deciduous shade trees that provide cooling in summer and not block solar energy systems in winter |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 32 Window placement maximizes winter solar penetration and minimizes solar penetration in summer |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 33 Vegetated rooftop(s), also known as a "green roof" |

| Yes | No | N/A | Parking |
|--------------------------|--------------------------|--------------------------|---|
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 34 Incentives for tenants without cars ("no free parking") |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 35 Compact car space designation |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 36 Advanced technology and/or alternative fuel car space designation (e.g., hybrids; "E85") |

| Yes | No | N/A | Transportation, accessibility, connectivity |
|--------------------------|--------------------------|--------------------------|---|
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 37 Pedestrian sidewalk network within the project area |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 38 Bicycle lane or path network within project area |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 39 Storage for bicycles outdoors (covered/uncovered) (secured/unsecured) <please circle |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 40 Storage for bicycles indoors (secured/unsecured) <please circle |

PART III. OPERATIONS AND MAINTENANCE (if not applicable, check here _____)

| Yes | No | N/A | Landscaping |
|---|--------------------------|--------------------------|---|
| <i>Lower Town water use results in lower electricity demand at water and wastewater treatment plants.</i> | | | |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 41 Rainwater storage, e.g., cisterns |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 42 Existing vegetation or native species plantings |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 43 Xeriscaping (low-water-demand plants) |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 44 Low-nitrogen-demand turf grass |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 45 Rain garden ("bioretention system") to manage stormwater runoff from roofs, driveways, parking areas |
| Covenant terms (e.g., for homeowner associations) | | | |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 46 Outdoor clotheslines |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 47 Installation of outdoor energy-efficiency devices, such as solar panels |

