



Senate

General Assembly

File No. 465

February Session, 2010

Substitute Senate Bill No. 463

Senate, April 12, 2010

The Committee on Energy and Technology reported through SEN. FONFARA, J. of the 1st Dist., Chairperson of the Committee on the part of the Senate, that the substitute bill ought to pass.

AN ACT CONCERNING FINANCING OF ENERGY EFFICIENCY AND RENEWABLE ENERGY.

Be it enacted by the Senate and House of Representatives in General Assembly convened:

1 Section 1. (NEW) (*Effective from passage*) (a) As used in this section:

2 (1) "Eligible entities" means (A) any residential, commercial,
3 institutional or industrial customer of an electric distribution company
4 or natural gas company, as defined in section 16-1 of the general
5 statutes, as amended by this act, who employs or installs an eligible in-
6 state energy savings technology, (B) an energy service company
7 certified as a Connecticut electric efficiency partner by the Department
8 of Public Utility Control, or (C) an installer certified by the Renewable
9 Energy Investments Fund;

10 (2) "Energy savings infrastructure" means tangible equipment,
11 installation, labor, cost of engineering, permits, application fees and
12 other reasonable costs incurred by eligible entities for operating

13 eligible in-state energy savings technologies designed to reduce
14 electricity consumption, natural gas consumption, heating oil
15 consumption or to promote renewable energy technologies or
16 combined heat and power systems; and

17 (3) "Eligible in-state energy savings technologies" means Class I
18 renewable energy sources, as defined in section 16-1 of the general
19 statutes, as amended by this act, solar hot water technologies for
20 domestic hot water only, combined heat and power systems with an
21 engineered efficiency rating of not less than sixty per cent, and energy
22 conservation and load management technologies that reduce energy
23 consumption, including, but not limited to, heating oil, natural gas and
24 electricity consumption. Such technologies may include, but not be
25 limited to, high efficiency insulation and windows, boilers and
26 furnaces, commercial burners, high efficiency heating, ventilating and
27 cooling systems and electric energy savings investments and shall be
28 installed and operated within Connecticut.

29 (b) Each electric distribution company shall establish an energy
30 savings infrastructure loan program to provide ___ interest loans to
31 eligible entities for investments in energy savings infrastructure
32 through the purchase of eligible in-state energy savings technologies.
33 Each such company shall establish such program for its service
34 territory. Such company shall establish an entity to administer such
35 program within the division or department of each company having
36 cognizance of financial management. Each such division or
37 department shall work with in-state banks and investment
38 organizations to establish private sector funding opportunities.

39 (c) To qualify for a loan, eligible entities shall meet the following
40 requirements:

41 (1) For boilers and furnaces, the existing boiler or furnace shall be
42 not less than seven years old with an efficiency rating of not more than
43 seventy-five per cent and the new boiler or furnace shall have an
44 efficiency rating of not less than eighty-four per cent if oil-fired and not
45 less than ninety per cent if gas-fired;

46 (2) For combined heat and power systems, that the system
47 optimizes fossil fuel consumption for generating electricity and
48 simultaneous thermal energy for space heating, space cooling or
49 process manufacturing requirements;

50 (3) For Class I renewable energy resources, that such technologies
51 will reduce demand on the grid or fossil fuel consumption; and

52 (4) For energy conservation and load management technologies,
53 that energy saving measures were reviewed and certified by a licensed
54 contractor with a state license held in good standing.

55 (d) Eligible entities seeking a loan under the loan program
56 established in this section shall (1) contract with Connecticut-based
57 licensed contractors, installers or tradesmen for the installation of an
58 eligible in-state energy savings technology; (2) provide evidence of the
59 cost of purchase and installation of the eligible in-state energy savings
60 technology; and (3) periodically provide evidence of the operation and
61 functionality of the eligible in-state energy savings technology to
62 ensure that such technology is operating as intended during the term
63 of the loan. If the electric distribution company determines pursuant to
64 this subsection that an eligible in-state energy savings technology has
65 not functioned as intended or designed for more than sixty days, such
66 loan shall be immediately due in full at the discretion of such electric
67 distribution company.

68 (e) At the request of an eligible entity, electric distribution
69 companies and natural gas companies shall provide for repayment of
70 loans made pursuant to this section as part of the loan recipient's
71 monthly electric or gas bill. An eligible entity participating in the loan
72 program established pursuant to this section may transfer their loan to
73 a subsequent property owner if (1) the loan is current, (2) the eligible
74 in-state energy savings technology is functioning as intended or
75 designed, and (3) the new owner agrees to continue to adhere to the
76 operational parameters of the technology. An eligible entity that
77 participates in the loan program may pay back the loan principal with
78 no prepayment penalties. The term of the loan shall be for a period that

79 shall not exceed the lesser of (A) the estimated period needed to pay
80 for one hundred twenty-five per cent of the investment through
81 savings, or (B) the manufacturer's rated useful life of the eligible in-
82 state energy savings technology.

83 (f) Each electric distribution company shall develop a prescriptive
84 one-page loan application. Such application shall include, but not be
85 limited to: (1) Detailed information, specifications and documentation
86 of the eligible in-state energy technology's installed costs and projected
87 energy savings, and (2) for requests for loans in excess of one hundred
88 thousand dollars, certification by a licensed professional engineer with
89 a state license held in good standing.

90 (g) No single project shall receive a loan for more than one million
91 dollars and investments in any one eligible in-state energy savings
92 technology shall not exceed twenty-five per cent of the energy savings
93 infrastructure loan account, as established in section 2 of this act. Not
94 less than ____ per cent of each company's loan program shall be
95 reserved for residential projects and not less than ____ per cent shall be
96 approved for projects in any one county. Class I renewable energy
97 resources, as defined in section 16-1 of the general statutes, as
98 amended by this act, shall receive not less than ____ per cent of
99 available funds for such loan program, with the following
100 commitments: (1) ____ per cent for solar photovoltaic installations, and
101 (2) ____ per cent for fuel cell installations. Combined heat and power
102 technologies shall receive not less than ____ per cent of available funds
103 for such loan program. Conservation and load management projects
104 shall receive not less than ____ per cent of available funds for such loan
105 program.

106 (h) Each electric distribution company may examine additional
107 funding resources for the energy savings infrastructure loan program,
108 including, but not limited to, American Recovery and Reinvestment
109 Act funds, federally mandated congestion charges, the Renewable
110 Energy Investments Fund, regional greenhouse gas initiative auction
111 revenue and forward capacity market revenue.

112 (i) On or before October 1, 2010, each electric distribution company
113 shall establish a plan that includes procedures and parameters for its
114 energy savings infrastructure loan program established pursuant to
115 this section and submit such plan to ____ for approval or modification.
116 The ____ shall approve or modify such plan within thirty days. If the
117 ____ does not respond within thirty days, the plan shall be deemed to
118 be approved.

119 (j) On or before January 15, 2011, and annually thereafter, each
120 electric distribution company shall, in accordance with the provisions
121 of section 11-4a of the general statutes, report to the joint standing
122 committee of the General Assembly having cognizance of matters
123 relating to energy with regard to the energy savings infrastructure loan
124 program established pursuant to this section and the loans provided
125 pursuant to such program.

126 Sec. 2. Section 16-245a of the general statutes is repealed and the
127 following is substituted in lieu thereof (*Effective from passage*):

128 (a) An electric supplier and an electric distribution company
129 providing standard service or supplier of last resort service, pursuant
130 to section 16-244c, shall demonstrate:

131 (1) On and after January 1, 2006, that not less than two per cent of
132 the total output or services of any such supplier or distribution
133 company shall be generated from Class I renewable energy sources
134 and an additional three per cent of the total output or services shall be
135 from Class I or Class II renewable energy sources;

136 (2) On and after January 1, 2007, not less than three and one-half per
137 cent of the total output or services of any such supplier or distribution
138 company shall be generated from Class I renewable energy sources
139 and an additional three per cent of the total output or services shall be
140 from Class I or Class II renewable energy sources;

141 (3) On and after January 1, 2008, not less than five per cent of the
142 total output or services of any such supplier or distribution company

143 shall be generated from Class I renewable energy sources and an
144 additional three per cent of the total output or services shall be from
145 Class I or Class II renewable energy sources;

146 (4) On and after January 1, 2009, not less than six per cent of the
147 total output or services of any such supplier or distribution company
148 shall be generated from Class I renewable energy sources and an
149 additional three per cent of the total output or services shall be from
150 Class I or Class II renewable energy sources;

151 (5) On and after January 1, 2010, not less than seven per cent of the
152 total output or services of any such supplier or distribution company
153 shall be generated from Class I renewable energy sources and an
154 additional three per cent of the total output or services shall be from
155 Class I or Class II renewable energy sources;

156 (6) On and after January 1, 2011, not less than [eight] seven per cent
157 of the total output or services of any such supplier or distribution
158 company shall be generated from Class I renewable energy sources
159 and an additional three per cent of the total output or services shall be
160 from Class I or Class II renewable energy sources;

161 (7) On and after January 1, 2012, not less than [nine] seven and one-
162 half per cent of the total output or services of any such supplier or
163 distribution company shall be generated from Class I renewable
164 energy sources and an additional three per cent of the total output or
165 services shall be from Class I or Class II renewable energy sources;

166 (8) On and after January 1, 2013, not less than [ten] eight per cent of
167 the total output or services of any such supplier or distribution
168 company shall be generated from Class I renewable energy sources
169 and an additional three per cent of the total output or services shall be
170 from Class I or Class II renewable energy sources;

171 (9) On and after January 1, 2014, not less than [eleven] eight and
172 one-half per cent of the total output or services of any such supplier or
173 distribution company shall be generated from Class I renewable

174 energy sources and an additional three per cent of the total output or
175 services shall be from Class I or Class II renewable energy sources;

176 (10) On and after January 1, 2015, not less than [twelve and one-half]
177 nine per cent of the total output or services of any such supplier or
178 distribution company shall be generated from Class I renewable
179 energy sources and an additional three per cent of the total output or
180 services shall be from Class I or Class II renewable energy sources;

181 (11) On and after January 1, 2016, not less than [fourteen] nine and
182 one-half per cent of the total output or services of any such supplier or
183 distribution company shall be generated from Class I renewable
184 energy sources and an additional three per cent of the total output or
185 services shall be from Class I or Class II renewable energy sources;

186 (12) On and after January 1, 2017, not less than [fifteen and one-half]
187 ten per cent of the total output or services of any such supplier or
188 distribution company shall be generated from Class I renewable
189 energy sources and an additional three per cent of the total output or
190 services shall be from Class I or Class II renewable energy sources;

191 (13) On and after January 1, 2018, not less than [seventeen] ten and
192 one-half per cent of the total output or services of any such supplier or
193 distribution company shall be generated from Class I renewable
194 energy sources and an additional three per cent of the total output or
195 services shall be from Class I or Class II renewable energy sources;

196 (14) On and after January 1, 2019, not less than [nineteen and one-
197 half] eleven per cent of the total output or services of any such supplier
198 or distribution company shall be generated from Class I renewable
199 energy sources and an additional three per cent of the total output or
200 services shall be from Class I or Class II renewable energy sources;

201 (15) On and after January 1, 2020, not less than [twenty] eleven and
202 one-half per cent of the total output or services of any such supplier or
203 distribution company shall be generated from Class I renewable
204 energy sources and an additional three per cent of the total output or

205 services shall be from Class I or Class II renewable energy sources.

206 (b) An electric supplier or electric distribution company may satisfy
207 the requirements of this section (1) by purchasing certificates issued by
208 the New England Power Pool Generation Information System,
209 provided the certificates are for (A) energy produced by a generating
210 unit using Class I or Class II renewable energy sources and the
211 generating unit is located in the jurisdiction of the regional
212 independent system operator, or (B) energy imported into the control
213 area of the regional independent system operator pursuant to New
214 England Power Pool Generation Information System Rule 2.7(c), as in
215 effect on January 1, 2006; (2) for those renewable energy certificates
216 under contract to serve end-use customers in the state on or before
217 October 1, 2006, by participating in a renewable energy trading
218 program within said jurisdictions as approved by the Department of
219 Public Utility Control; or (3) by purchasing eligible renewable
220 electricity and associated attributes from residential customers who are
221 net producers.

222 (c) Any supplier who provides electric generation services solely
223 from a Class II renewable energy source shall not be required to
224 comply with the provisions of this section.

225 (d) An electric supplier or an electric distribution company shall
226 base its demonstration of generation sources, as required under
227 subsection (a) of this section on historical data, which may consist of
228 data filed with the regional independent system operator.

229 (e) (1) A supplier or an electric distribution company may make up
230 any deficiency within its renewable energy portfolio within the first
231 three months of the succeeding calendar year or as otherwise provided
232 by generation information system operating rules approved by New
233 England Power Pool or its successor to meet the generation source
234 requirements of subsection (a) of this section for the previous year.

235 (2) No such supplier or electric distribution company shall receive
236 credit for the current calendar year for generation from Class I or Class

237 II renewable energy sources pursuant to this section where such
238 supplier or distribution company receives credit for the preceding
239 calendar year pursuant to subdivision (1) of this subsection.

240 (f) The department shall adopt regulations, in accordance with the
241 provisions of chapter 54, to implement the provisions of this section.

242 (g) (1) Notwithstanding the provisions of this section and section 16-
243 244c, for periods beginning on and after January 1, 2008, each electric
244 distribution company may procure renewable energy certificates from
245 Class I, Class II and Class III renewable energy sources through long-
246 term contracting mechanisms. The electric distribution companies may
247 enter into long-term contracts for not more than fifteen years to
248 procure such renewable energy certificates. The electric distribution
249 companies shall use any renewable energy certificates obtained
250 pursuant to this section to meet their standard service and supplier of
251 last resort renewable portfolio standard requirements.

252 (2) On or before July 1, 2007, the department shall initiate a
253 contested case proceeding to examine whether long-term contracts
254 should be used to procure Class I, Class II and Class III certificates. In
255 such examination, the department shall determine (A) the impact of
256 such contracts on price stability, fuel diversity and cost; (B) the method
257 and timing of crediting of the procurement of renewable energy
258 certificates against the renewable portfolio standard purchase
259 obligations of electric suppliers and the electric distribution companies
260 pursuant to subsection (a) of this section; (C) the terms and conditions,
261 including reasonable performance assurance commitments, that may
262 be imposed on entities seeking to supply renewable energy certificates;
263 (D) the level of one-time compensation, not to exceed one mill per
264 kilowatt hour of output and services associated with the renewable
265 energy certificates purchased pursuant to this subsection, which may
266 be payable to the electric distribution companies for administering the
267 procurement provided for under this subsection and recovered as part
268 of the generation services charge or through an appropriate
269 nonbypassable rate component on customers' bills; (E) the manner in

270 which costs for such program may be recovered from electric
271 distribution company customers; and (F) any other issues the
272 department deems appropriate. Revenues from such compensation
273 shall not be included in calculating the electric distribution companies'
274 earnings to determine if rates are just and reasonable, for earnings
275 sharing mechanisms or for purposes of sections 16-19, 16-19a and 16-
276 19e.

277 (3) On or before October 1, 2010, each electric distribution company
278 shall determine (A) the cost of a certain percentage of each electric
279 supplier and electric distribution company's total output or services of
280 any such supplier or company from Class I renewable energy sources,
281 (B) the manner in which such supplier or company shall recover such
282 cost from customers, and (C) the manner in which such supplier or
283 company will deposit such amount into an energy savings
284 infrastructure account, which shall be a separately held account. The
285 costs determined pursuant to subparagraph (A) of this subdivision
286 shall be the present day value pursuant to subdivision (4) of this
287 subsection for the following percentages: (i) In 2011, one per cent; (ii)
288 in 2012, one and one-half per cent; (iii) in 2013, two per cent; (iv) in
289 2014, two and one-half per cent; (v) in 2015, three and one-half per
290 cent; (vi) in 2016, four and one-half per cent; (vii) in 2017, five and one-
291 half per cent; (viii) in 2018, six and one-half per cent; (ix) in 2019, seven
292 and one-half per cent; and (x) in 2020, eight and one-half per cent.

293 (4) Each electric distribution company shall determine the present
294 day value of the costs determined pursuant to subdivision (3) of this
295 subsection shall be no less than ___ dollars per megawatt hour and
296 shall not exceed the noncompliance penalty value and submit such
297 determination to the Department of Public Utility Control for
298 approval. Once approved, such mount shall be transferred into a
299 separately held account pursuant to said subdivision (3).

300 Sec. 3. Section 16-243i of the general statutes is repealed and the
301 following is substituted in lieu thereof (*Effective from passage*):

302 (a) The Department of Public Utility Control shall, not later than

303 January 1, 2006, establish a program to grant awards to retail end use
304 customers of electric distribution companies to fund the capital costs of
305 obtaining projects of customer-side distributed resources, as defined in
306 section 16-1, as amended by this act. Any project shall receive a one-
307 time, nonrecurring award in an amount of [not less than] two hundred
308 dollars [and not more than five hundred dollars] per kilowatt of
309 capacity for such customer-side distributed resources, recoverable
310 from federally mandated congestion charges, as defined in section 16-
311 1, as amended by this act. [No such award may be made unless the
312 projected reduction in federally mandated congestion charges
313 attributed to the project for such distributed resources is greater than
314 the amount of the award. The amount of an award shall depend on the
315 impact that the customer-side distributed resources project has on
316 reducing federally mandated congestion charges, as defined in section
317 16-1. Not later than October 1, 2005, the department shall conduct a
318 contested case proceeding, in accordance with chapter 54, to establish
319 additional standards for the amount of such awards and additional
320 criteria and the process for making such awards.]

321 (b) The Department of Public Utility Control shall, not later than
322 January 1, 2006, establish a program to grant to an electric distribution
323 company a one-time, nonrecurring award to educate, assist and
324 promote investments in customer-side distributed resources
325 developed in such company's service territory; [, which resources the
326 department determines will reduce federally mandated congestion
327 charges, in accordance with the following:] (1) On or before January 1,
328 [2008] 2011, two hundred fifty dollars per kilowatt of such resources,
329 (2) on or before January 1, [2009] 2012, one hundred [fifty] forty dollars
330 per kilowatt of such resources, (3) on or before January 1, [2010, one
331 hundred] 2013, thirty dollars per kilowatt of such resources, and (4)
332 [fifty] twenty-five dollars per kilowatt of such resources thereafter.
333 Payment of the award shall be made at the time each such resource
334 becomes operational. The cost of the award shall be recoverable from
335 federally mandated congestion charges. Revenues from such awards
336 shall not be included in calculating the electric distribution company's
337 earnings for the purpose of determining whether its rates are just and

338 reasonable under sections 16-19, 16-19a and 16-19e.

339 Sec. 4. Subdivision (44) of subsection (a) of section 16-1 of the 2010
340 supplement to the general statutes is repealed and the following is
341 substituted in lieu thereof (*Effective from passage*):

342 (44) "Class III source" means the electricity output from combined
343 heat and power systems with an operating efficiency level of no less
344 than fifty per cent, determined quarterly on a rolling annual average
345 basis, that are part of customer-side distributed resources developed at
346 commercial and industrial facilities in this state on or after January 1,
347 2006, a waste heat recovery system installed on or after April 1, 2007,
348 that produces electrical or thermal energy by capturing preexisting
349 waste heat or pressure from industrial or commercial processes, or the
350 electricity savings created in this state from conservation and load
351 management programs begun on or after January 1, 2006;

352 Sec. 5. Subsection (a) of section 16-243q of the general statutes is
353 repealed and the following is substituted in lieu thereof (*Effective from*
354 *passage*):

355 (a) On and after January 1, 2007, each electric distribution company
356 providing standard service pursuant to section 16-244c and each
357 electric supplier as defined in section 16-1 shall demonstrate to the
358 satisfaction of the Department of Public Utility Control that not less
359 than one per cent of the total output of such supplier or such standard
360 service of an electric distribution company shall be obtained from
361 Class III sources. On and after January 1, 2008, not less than two per
362 cent of the total output of any such supplier or such standard service of
363 an electric distribution company shall, on demonstration satisfactory to
364 the Department of Public Utility Control, be obtained from Class III
365 sources. On or after January 1, 2009, not less than three per cent of the
366 total output of any such supplier or such standard service of an electric
367 distribution company shall, on demonstration satisfactory to the
368 Department of Public Utility Control, be obtained from Class III
369 sources. On and after January 1, 2010, not less than four per cent of the
370 total output of any such supplier or such standard service of an electric

371 distribution company shall, on demonstration satisfactory to the
372 Department of Public Utility Control, be obtained from Class III
373 sources. Electric power obtained from customer-side distributed
374 resources that does not meet air and water quality standards of the
375 Department of Environmental Protection is not eligible for purposes of
376 meeting the percentage standards in this section. Notwithstanding
377 section 16-243t, the number of Class III credits supplied by programs
378 supported by the Energy Conservation and Load Management Fund
379 shall not constitute more than twenty-five per cent of the requirements
380 for any calendar year, as set forth in this section, for any electric
381 supplier or electric distribution company providing standard service
382 based on the prior calendar year's load in megawatt hours.

383 Sec. 6. (NEW) (*Effective from passage*) (a) As used in this section:

384 (1) "Energy improvements" means any renovation or retrofitting of
385 qualifying real property to reduce energy consumption or installation
386 of a renewable energy system to service qualifying real property, and

387 (2) "Qualifying real property" means single-family or multifamily
388 residential dwellings or commercial or industrial buildings that a
389 municipality has determined can benefit from energy improvements.

390 (b) Any municipality may establish a sustainable energy loan
391 program for the purpose of financing energy improvements to
392 qualifying real property located within the municipality.

393 (c) Notwithstanding the provisions of section 7-374 of the general
394 statutes or any other public or special act that limits or imposes
395 conditions on municipal bond issues, any municipality that establishes
396 a sustainable energy loan program under this section may issue bonds,
397 as necessary, for the purpose of (1) offering loans to the owners of
398 qualifying real property within the municipality to finance energy
399 improvements, (2) related energy audits, and (3) renewable energy
400 system feasibility studies and the verification of the installation of such
401 improvements. Such funds may also be used in a guarantee or loan
402 loss reserve to support loans from other sources, including, but not

403 limited to, private sources.

404 (d) Before establishing a program under this section, the
405 municipality shall provide notice to the electric distribution company,
406 as defined in section 16-1 of the general statutes, that services the
407 municipality.

408 (e) If the owner of record of qualifying real property requests a loan
409 under this section, the municipality implementing the sustainable
410 energy loan program shall:

411 (1) Require performance of an energy audit or renewable energy
412 system feasibility analysis on the qualifying real property before
413 approving a loan;

414 (2) Enter into a loan agreement with the owner and any other
415 person benefited by the loan in a principal amount sufficient to pay the
416 costs of energy improvements the municipality determines will benefit
417 the qualifying real property and the borrowers, the costs of the energy
418 audit and any associated costs;

419 (3) Impose requirements to ensure that the loan is consistent with
420 the purpose of the program; and

421 (4) Impose requirements and conditions on loans to ensure timely
422 repayment.

423 (f) Any loan made under the sustainable energy loan program shall
424 be repaid over a term not to exceed the calculated payback period for
425 the installed energy improvements, as determined by the municipality,
426 and shall have no prepayment penalty. The municipality shall set a
427 fixed rate of interest for the repayment of the principal amount of each
428 loan at the time the loan is made. Such interest rate shall be sufficient
429 to pay the financing costs of the program, including loan
430 delinquencies.

431 (g) Any municipality implementing a sustainable energy loan
432 program may:

433 (1) Secure the loan with a lien on the benefited qualifying real
434 property;

435 (2) Assess the benefited qualifying real property for the amounts
436 due under a loan agreement;

437 (3) Collect loan payments through a charge on the real property
438 benefitted by such loan. Such charge shall be on the real property and
439 shall be levied and collected at the same time and in the same manner
440 as municipal taxes, provided such charge shall be separately listed on
441 the tax bill; and

442 (4) Secure a loan in any other manner that the municipality
443 determines reasonable subject to the criteria established pursuant to
444 this section.

445 Sec. 7. (NEW) (*Effective from passage*) (a) For purposes of this section,
446 "municipal and state energy efficiency and improvement program"
447 means the coordinated effort between an electric distribution company
448 and customers operating municipal and state facilities that provides
449 for the development, installation and recovery of energy efficiency
450 equipment and systems at such facilities as approved by the
451 Department of Public Utility Control.

452 (b) Notwithstanding section 16-245m of the general statutes, to
453 facilitate the promotion of energy efficiency and other improved
454 energy end uses and to lower annual energy costs at municipal and
455 state facilities, an electric distribution company, upon application to
456 the department, may offer a municipal and state energy efficiency and
457 improvement program to its municipal and state customers to improve
458 the energy usage profile of such facilities to maximize potential
459 conservation and energy efficiency opportunities. Such program shall
460 establish arrangements between the electric distribution company and
461 such customers that provides for savings for such facilities in energy
462 costs and repayment of the entire cost of the program through a
463 customer-specific facilities charge, provided any such arrangement
464 shall be funded up to one hundred per cent by the electric distribution

465 company. Notwithstanding any provision of the general statutes,
466 customers operating municipal or state facilities may negotiate and
467 enter into arrangements with an electric distribution company in
468 which service territory such facility resides if such arrangements are
469 pursuant to a municipal and state energy efficiency and improvement
470 program developed pursuant to this section. The department shall
471 approve an application for a program not later than sixty days after its
472 submittal. The provisions of section 16-43 of the general statutes shall
473 not apply to this program.

474 (c) The municipal and state energy efficiency and improvement
475 program shall include, but not be limited to, development and
476 installation of energy efficiency measures and equipment, fuel cells,
477 thermal storage, high efficiency boilers and burners, controls and
478 monitoring equipment, renewable or emergency generation, and
479 combined heat and power systems. An electric distribution company
480 shall use local contractors, service companies and installers to assist in
481 the development and installation of technologies at such facilities to
482 the extent practical and economic.

483 (d) An arrangement between an electric distribution company and a
484 customer operating a municipal or state facility shall provide for
485 payments from such customer for such facility based on a formula to
486 calculate monthly charges that provides for full recovery of any
487 incurred costs, including a return on investment, based on cost-of-
488 service principles pursuant to section 16-19e of the general statutes.
489 Such formula shall be subject to approval by the department after a
490 hearing held in a proceeding or proceedings separate from other
491 distribution rate proceedings. Once approved, such formula and
492 facility-specific charges may be adopted and included in each
493 arrangement. Monthly charges may be designed in a manner that
494 provide for levelized repayment. Energy efficiency and improvement
495 projects shall be eligible for any state or federal incentives, grants or
496 credits, including, but not limited to, those available under programs
497 administered by the Renewable Energy Investment Board, and any
498 proceeds realized from such sources shall be used to offset costs for

499 such facility. Monthly charges may be included in the customer's
500 electric bills for such facility or charged separately.

501 (e) Arrangements between an electric distribution company and a
502 customer operating a municipal or state facility may not exceed ten
503 years, provided, if approved by the department or if the arrangement
504 includes the installation of renewable, emergency or combined heat
505 and power generation, such arrangement may be for up to twenty
506 years.

507 (f) An electric distribution company may fund the municipal and
508 state energy efficiency and improvement program annually at a level
509 up to one per cent of its total annual revenues for the last calendar year
510 as reported to the department. An electric distribution company shall
511 determine the level of annual funding for such program.

512 (g) Commencing in June 2012, and annually thereafter, an electric
513 distribution company providing services under a municipal and state
514 facility energy efficiency and improvement program shall provide a
515 report to the department and the joint standing committee of the
516 General Assembly having cognizance of matters relating to energy, in
517 accordance with section 11-4a of the general statutes, on the costs and
518 savings associated with such program. Any incremental costs
519 associated with such monitoring and reports shall be recovered
520 through the systems benefits charge.

521 (h) Notwithstanding any provision of the general statutes, a state
522 agency responsible for the energy costs of a facility participating in the
523 program may retain twenty-five per cent of the net savings over the
524 first three years of the project for such agency's operating budget and
525 such retention shall not be factored into the state budgeting process for
526 such agency.

527 Sec. 8. (NEW) (*Effective from passage*) (a) Any residential solar
528 photovoltaic direct incentive program administered by the Renewable
529 Energy Investment Fund shall be structured and implemented
530 pursuant to this section and shall result in a minimum of thirty

531 megawatts of new residential solar photovoltaic installations on or
532 before December 31, 2021. For the purposes of this section and section
533 10 of this act, "residential" means dwellings with one to four units.

534 (b) The Renewable Energy Investments Board, through the
535 Renewable Energy Investment Fund, shall offer direct financial
536 incentives, in the form of performance-based incentives or expected
537 performance-based buydowns, for the purchase or lease of qualifying
538 residential solar photovoltaic systems. For the purposes of this section,
539 "performance-based incentives" means incentives paid out on a per
540 kilowatt-hour basis, and "expected performance-based buydowns"
541 means incentives paid out as a one-time upfront incentive based on
542 expected system performance. The Renewable Energy Investments
543 Board shall consider willingness to pay studies and verified solar
544 photovoltaic system characteristics, such as operational efficiency, size,
545 location, shading and orientation, when determining the type and
546 amount of incentive.

547 (c) Beginning with the comprehensive plan covering the period
548 from July 1, 2010, to June 30, 2012, the Renewable Energy Investments
549 Board shall develop and publish in each such plan a proposed
550 schedule for the offering of performance-based incentives or expected
551 performance-based buydowns over the duration of any such solar
552 incentive program. Such schedule shall: (1) Provide for a series of solar
553 capacity blocks the combined total of which shall be a minimum of
554 thirty megawatts and projected incentive levels for each such block; (2)
555 provide incentives that decline over time and will foster the sustained,
556 orderly development of a state-based solar industry; (3) automatically
557 adjust to the next block once the board has issued reservations for
558 financial incentives provided pursuant to this section from the
559 Renewable Energy Investment Fund fully committing the target solar
560 capacity and available incentives in that block; and (4) provide
561 comparable economic incentives for the purchase or lease of qualifying
562 residential solar photovoltaic systems. The Renewable Energy
563 Investments Board may retain the services of a third-party entity with
564 expertise in the area of solar energy program design to assist in the

565 development of the incentive schedule or schedules. The Department
566 of Public Utility Control shall review and approve such schedule.
567 Nothing in this subsection shall restrict the board from modifying the
568 approved incentive schedule before the issuance of its next
569 comprehensive plan to account for changes in federal or state law or
570 regulation or developments in the solar market when such changes
571 would affect the expected return on investment for a typical residential
572 solar photovoltaic system by twenty per cent or more.

573 (d) The Renewable Energy Investments Board shall establish and
574 periodically update program guidelines, including, but not limited to,
575 requirements for systems and program participants related to: (1)
576 Eligibility criteria, (2) standards for deployment of energy efficient
577 equipment or building practices as a condition for receiving incentive
578 funding, and (3) procedures to provide reasonable assurance that such
579 reservations are made and incentives are paid out only to qualifying
580 residential solar photovoltaic systems demonstrating a high likelihood
581 of being installed and operated as indicated in application materials.

582 (e) The Renewable Energy Investment Fund shall maintain on its
583 web site the schedule of incentives, solar capacity remaining in the
584 current block and available funding and incentive estimators.

585 (f) Funding for the residential performance-based incentive
586 program and expected performance-based buydowns shall be
587 apportioned from the moneys collected under the surcharge specified
588 in section 16-245n of the general statutes, as amended by this act,
589 provided such apportionment shall not exceed one-third of the total
590 surcharge collected annually, and supplemented by federal funding as
591 may become available.

592 (g) The Renewable Energy Investments Board shall identify barriers
593 to the development of a permanent Connecticut-based solar workforce
594 and shall make provision for comprehensive training, accreditation
595 and certification programs through institutions and individuals
596 accredited and certified to national standards.

597 (h) On or before January 1, 2013, and every two years thereafter for
598 the duration of the program, the Renewable Energy Investments Board
599 shall report to the joint standing committee of the General Assembly
600 having cognizance of matters relating to energy on progress toward
601 the goals identified in subsection (a) of this section.

602 Sec. 9. Section 16-245n of the general statutes is amended by adding
603 subsection (i) as follows (*Effective from passage*):

604 (NEW) (i) The Renewable Energy Investments Board, through the
605 Renewable Energy Investment Fund, shall establish funding for
606 performance-based incentives to qualifying residential solar energy
607 systems pursuant to section 8 of this act by: (1) Including in its
608 comprehensive plan for the period July 1, 2010, to June 30, 2012,
609 inclusive, an estimate of the total funding needed to support the
610 performance-based incentives to qualifying residential solar energy
611 systems in its entirety and allocating up to one-third for such purpose,
612 (2) including in its comprehensive plan for the period July 1, 2012, to
613 June 30, 2014, inclusive, an estimate of remaining funding needed to
614 support the outstanding capacity blocks for performance-based
615 incentives to qualifying residential solar energy systems and allocating
616 up to one-half of all such funding, (3) carrying forward any funding
617 allocated to support performance-based incentives pursuant to
618 subdivision (1) or (2) of this subsection disbursed during the two-year
619 period covered by the comprehensive plan for the same purpose until
620 all capacity blocks have been filled, (4) allocating the balance of the
621 funding as necessary, and (5) monitoring the status of available funds
622 and expected demand and including such assessment in its annual
623 report to the Department of Public Utility Control pursuant to
624 subsection (f) of section 8 of this act.

625 Sec. 10. (NEW) (*Effective from passage*) (a) Commencing on January 1,
626 2011, and within the period established in subsection (a) of section 11
627 of this act, each electric distribution company shall solicit and file with
628 the Department of Public Utility Control for its approval, one or more
629 long-term power purchase contracts with owners or developers of

630 customer-sited, nonresidential solar photovoltaic generation projects
631 located in this state that are less than two thousand kilowatts in size,
632 located on the customer side of the revenue meter and connected to the
633 distribution system of the electric distribution company. For purposes
634 of this subsection, "nonresidential" shall include all utility retail rate
635 classes with the exception of residential, as defined in subsection (a) of
636 section 8 of this act.

637 (b) Solicitations conducted by the electric distribution company
638 shall be for the purchase of solar renewable energy credits produced
639 by eligible nonresidential, customer-sited solar photovoltaic generating
640 projects over the duration of the long-term contract. For purposes of
641 this section, a long-term contract is a contract for a minimum of fifteen
642 years. The electric distribution company may solicit proposals for a
643 combination of renewable energy and associated solar renewable
644 energy credits.

645 (c) The aggregate procurement of solar renewable energy credits by
646 electric distribution companies pursuant to this section shall be no less
647 than four million three hundred fifty thousand. The production of a
648 megawatt hour of electricity from a nonresidential Class I solar
649 renewable energy source first placed in service on or after the effective
650 date of this section shall create one solar renewable energy credit. The
651 obligation to purchase solar renewable energy credits shall be
652 apportioned to electric distribution companies based on their
653 respective distribution system loads at the commencement of the
654 procurement period, as determined by the department.

655 (d) Notwithstanding subdivision (1) of subsection (j) of section 16-
656 244c of the general statutes, an electric distribution company may
657 retire the solar renewable energy credits it procures through long-term
658 contracting to satisfy its obligation pursuant to section 16-245a of the
659 general statutes, as amended by this act.

660 (e) Nothing in this section shall preclude the resale or other
661 disposition of energy or associated solar renewable energy credits
662 purchased by the electric distribution company, provided the

663 distribution company shall net the cost of payments made to projects
664 under the long-term contracts against the proceeds of the sale of
665 energy or solar renewable energy credits and the difference shall be
666 credited or charged to distribution customers through a reconciling
667 component of electric rates as determined by the department.

668 Sec. 11. (NEW) (*Effective from passage*) (a) Each electric distribution
669 company shall, not later than one hundred eighty days after the
670 effective date of this section, propose a ten-year solar solicitation plan
671 that shall include a timetable and methodology for soliciting proposals
672 for long-term solar renewable energy credits or energy contracts from
673 in-state generators. The electric distribution company's solar
674 solicitation plan shall be subject to the review and approval of the
675 Department of Public Utility Control, provided contracts comprising
676 no less than twenty-five per cent of the electric distribution company's
677 obligation shall be submitted for department approval on or before
678 January 1, 2012, no less than fifty per cent of such obligation shall be
679 submitted for such approval on or before July 1, 2014, and no less than
680 seventy-five per cent of such obligation shall be submitted for such
681 approval on or before July 1, 2016.

682 (b) The electric distribution company's approved solar solicitation
683 plan shall be designed to foster a diversity of solar project sizes and
684 participation among all eligible customer classes subject to cost-
685 effectiveness considerations. Separate procurement processes shall be
686 conducted for (1) nonresidential systems between ten kilowatts and
687 fifty kilowatts, and (2) nonresidential systems greater than fifty
688 kilowatts but less than two thousand kilowatts. The department shall
689 give preference to competitive bidding for resources of more than fifty
690 kilowatts, unless the department determines that an alternative
691 methodology is in the best interests of the electric distribution
692 company's customers and the development of a competitive and self-
693 sustaining solar market. Systems up to fifty kilowatts in size shall be
694 eligible to receive a solar renewable energy credit price equivalent to
695 the highest accepted bid price in the most recent solicitation for
696 systems greater than fifty kilowatts but less than two thousand

697 kilowatts, plus an additional incentive of ten per cent.

698 (c) Each electric distribution company shall execute its approved
699 ten-year solicitation plan and submit for department review and
700 approval its preferred solar procurement plan comprised of any
701 proposed contract or contracts with independent solar developers.

702 (d) The department shall hold a hearing that shall be conducted as
703 an uncontested case, in accordance with the provisions of chapter 54 of
704 the general statutes, to approve, reject or modify an application for
705 approval of the electric distribution company's solar procurement
706 plan. The department shall only approve such proposed plan if the
707 department finds that (1) the solicitation and evaluation conducted by
708 the electric distribution company was the result of a fair, open,
709 competitive and transparent process; (2) approval of the solar
710 procurement plan would result in the greatest expected ratepayer
711 value from solar energy or solar renewable energy credits at the lowest
712 reasonable cost; and (3) such procurement plan satisfies other criteria
713 established in the approved solicitation plan. The department shall not
714 approve any proposal made under such plan unless it determines that
715 the plan and proposals encompass all foreseeable sources of revenue
716 or benefits and that such proposals, together with such revenue or
717 benefits, would result in the greatest expected ratepayer value from
718 solar energy or solar renewable energy credits. The department may,
719 in its discretion, retain the services of an independent consultant with
720 expertise in the area of energy procurement. The independent
721 consultant shall be unaffiliated with the electric distribution company
722 or its affiliates and shall not, directly or indirectly, have benefited from
723 employment or contracts with the electric distribution company or its
724 affiliates in the preceding five years, except as an independent
725 consultant. For purposes of such audit, the electric distribution
726 company shall provide the independent consultant immediate and
727 continuing access to all documents and data reviewed, used or
728 produced by the electric distribution company in its bid solicitation
729 and evaluation process. The electric distribution company shall make
730 all its personnel, agents and contractors used in the bid solicitation and

731 evaluation available for interview by the consultant. The electric
732 distribution company shall conduct any additional modeling
733 requested by the independent auditor to test the assumptions and
734 results of the bid evaluation process. The independent consultant shall
735 not participate in or advise the electric distribution company with
736 respect to any decisions in the bid solicitation or bid evaluation
737 process. The department's administrative costs in reviewing the
738 electric distribution company's solar procurement plan and the costs of
739 the consultant shall be recovered through a reconciling component of
740 electric rates as determined by the department.

741 (e) The electric distribution company shall be entitled to recover its
742 reasonable costs of complying with its approved solar procurement
743 plan through a reconciling component of electric rates as determined
744 by the department.

745 (f) If, by January 1, 2012, the department has not received proposed
746 long-term solar renewable energy credit contracts consisting of at least
747 twenty-five per cent of each electric distribution company's
748 procurement obligation or by July 1, 2014, has not received proposed
749 long-term solar renewable energy contracts consisting of at least fifty
750 per cent of each electric distribution company's procurement
751 obligation, or by July 1, 2016, has not proposed long-term solar
752 renewable energy contracts consisting of at least seventy-five per cent
753 of each electric distribution company's procurement obligation,
754 respectively, the department shall notify the electric distribution
755 company and the Renewable Energy Investments Board of the
756 shortfall. Unless, upon petition by the electric distribution company,
757 the department grants the distribution company an extension not to
758 exceed ninety days to correct this deficiency, the Renewable Energy
759 Investments Board shall issue one or more requests for proposals to
760 address the shortfall. The board shall perform an initial review of each
761 proposal, examine the financial and technical viability of each proposal
762 and analyze project costs and benefits for the purpose of selecting
763 projects that will promote the provision of long-term solar renewable
764 energy contracts. Upon selection of the projects, the board shall

765 forward such projects to each electric distribution company for review.
766 For each project, each electric distribution company shall analyze the
767 interconnection point and costs related thereto, reliability and other
768 impacts of such project to determine whether the project will promote
769 the provision of additional long-term solar renewable energy contracts.
770 Each electric distribution company shall provide the results of its
771 analysis to the department, which shall conduct a proceeding to
772 determine whether to approve or reject each project. The reasonable
773 administrative costs associated with the procurement of long-term
774 solar renewable energy contracts shall be collected by the distribution
775 company, maintained in a separate interest-bearing account and
776 disbursed to the Renewable Energy Investment Fund on a quarterly
777 basis.

778 (g) Not later than sixty days after its approval of the distribution
779 company procurement plans submitted on or before January 1, 2012,
780 the department shall submit a report to the joint standing committee of
781 the General Assembly having cognizance of matters relating to energy.
782 The report shall document for each distribution company procurement
783 plan: (1) The total number of solar renewable energy credits bid
784 relative to the number of solar renewable energy credits requested by
785 the distribution company; (2) the total number of bidders in each
786 market segment; (3) the number of contracts awarded; and (4) the total
787 weighted average price of the solar renewable energy credits or energy
788 so purchased. The department shall not report individual bid
789 information or other proprietary information.

790 Sec. 12. (NEW) (*Effective from passage*) (a) On or before July 1, 2011,
791 the Renewable Energy Investment Fund, in consultation with the
792 Office of Policy and Management and the Department of Public
793 Works, shall, within available funding, complete, or cause to be
794 completed by private vendors, a comprehensive solar feasibility
795 survey of facilities owned or operated by the state with a load of fifty
796 kilowatts or more. The survey shall rank state-owned or operated
797 facilities based on their technical feasibility to accommodate solar
798 photovoltaic generating systems by considering such factors as: (1) On-

799 site energy consumption; (2) building orientation; (3) roof age and
800 condition; (4) shading and the potential for obstruction to sunlight
801 over the life of the solar system; (5) structural load capacity; (6)
802 availability of ancillary facilities, such as parking lots, walkways or
803 maintenance areas; (7) nonenergy related amenities; and (8) other
804 factors that the Renewable Energy Investment Fund deems may bear
805 on the technical feasibility of such solar deployment.

806 (b) The Office of Policy and Management, in consultation with the
807 Renewable Energy Investment Fund, shall, within available funding,
808 issue one or more requests for proposals for the deployment of solar
809 photovoltaic generating systems at state-owned or operated facilities.
810 Any such request for proposals shall be structured to maximize the
811 state's ability to secure incentives available from the federal
812 government or other sources. The Office of Policy and Management
813 may seek in any request for proposals the services of an entity to
814 finance, design, construct, own or maintain such solar photovoltaic
815 system under a long-term solar services agreement. Any such entity
816 chosen to provide such services shall not be considered a public
817 service company under section 16-1 of the general statutes.

818 Sec. 13. (NEW) (*Effective from passage*) (a) Each electric distribution
819 company shall, not later than July 1, 2011, file with the Department of
820 Public Utility Control for its approval a tariff for production-based
821 payments to owners or operators of Class I solar renewable energy
822 source projects located in this state that are not less than one megawatt
823 and connected directly to the distribution system of an electric
824 distribution company.

825 (b) Such tariffs shall provide production-based payments for a
826 period not less than fifteen years from the in-service date of the Class I
827 solar renewable energy source project at a price that is, at the
828 determination of the Department of Public Utility Control, a cost-based
829 payment consisting of the fully allocated cost of constructing and
830 operating a Class I solar renewable energy source of from one
831 megawatt to seven and one-half megawatts were such construction

832 and operation to be undertaken or procured by the electric distribution
833 company itself. In calculating the cost-based tariff, the department
834 shall consider actual cost data for Class I solar energy sources
835 constructed and operated by the electric distribution company
836 pursuant to subsection (e) of this section taking into consideration all
837 available state and federal incentives.

838 (c) Such tariffs shall include a per project eligibility cap of seven and
839 one-half megawatts and an aggregate eligibility cap of fifty megawatts,
840 apportioned among each electric distribution company in proportion
841 to distribution load.

842 (d) The cost of such tariff payments shall be eligible for inclusion in
843 any subsequent rates, provided such payments are for projects
844 operational on or after the effective date of this section, and recovered
845 through a reconciling component of electric rates as determined by the
846 department.

847 (e) On and after July 1, 2011, electric distribution companies may
848 construct, own and operate solar electric generating facilities up to
849 one-third of their proportional share of the total cap amounts specified
850 under subsection (c) of this section, provided any such development
851 shall be phased in over a period of no less than three years. Such
852 projects shall be located on company-owned properties, brownfields or
853 other locations identified by the Department of Public Utility Control
854 for strategic placement of distributed generation. The department, in a
855 contested case, shall authorize the electric distribution company to
856 recover in rates its costs to construct, own and operate solar electric
857 generating facilities, including a reasonable return on its investment, if
858 such approval would result in a reasonable cost of meeting the solar
859 energy requirements pursuant to said subsection (c) of this section and
860 that such investment will not restrict competition or restrict growth in
861 the state's solar energy industry or unfairly employ in a manner which
862 would restrict competition in the market for solar energy systems any
863 financial, marketing, distributing or generating advantage that the
864 electric distribution company may exercise as a result of its authority

865 to operate as a public service company.

866 (f) Notwithstanding subdivision (1) of subsection (j) of section 16-
867 244c of the general statutes, the amount of renewable energy produced
868 from Class I renewable energy sources receiving tariff payments or
869 included in utility rates under this section shall be applied to reduce
870 the electric distribution company's Class I renewable energy source
871 portfolio standard.

872 (g) On or before September 1, 2012, the Department of Public Utility
873 Control, in consultation with the Office of Consumer Counsel and the
874 Renewable Energy Investments Board, shall study the operation of
875 solar renewable energy tariffs and shall report, in accordance with the
876 provisions of section 11-4a of the general statutes, its findings and
877 recommendations to the joint standing committee of the General
878 Assembly having cognizance of matters relating to energy.

879 (h) The department shall suspend the tariff established pursuant to
880 this section upon the earlier of (1) an electric distribution company
881 reaching its aggregate cap pursuant to subsection (c) of this section, or
882 (2) three years from the effective date of the tariff.

883 Sec. 14. (NEW) (*Effective from passage*) The Renewable Energy
884 Investment Fund and the Conservation and Load Management Fund
885 shall develop coordinated programs to create a self-sustaining market
886 for solar thermal systems for electricity, natural gas and fuel oil
887 customers.

888 Sec. 15. (NEW) (*Effective from passage*) The Renewable Energy
889 Investment Fund shall provide an additional incentive of up to five per
890 cent of the then-applicable incentive provided pursuant to sections 8
891 and 14 of this act for the use of major system components
892 manufactured or assembled in Connecticut, and another additional
893 incentive of up to five per cent of the then applicable incentive
894 provided pursuant to sections 8 and 14 of this act for the use of major
895 system components manufactured or assembled in a distressed
896 municipality, as defined in section 32-9p of the general statutes, or a

897 targeted investment community, as defined in section 32-222 of the
898 general statutes.

899 Sec. 16. (NEW) (*Effective from passage*) (a) For the two-year period
900 starting January 1, 2011, and ending June 30, 2013, the aggregate net
901 annual cost recovered for electric ratepayers pursuant to section 8 and
902 sections 10 to 15, inclusive, of this act and subsection (i) of section 16-
903 245n of the general statutes, as amended by this act, shall not exceed
904 one-half of one per cent of total retail electricity sales revenues of each
905 electric distribution company. For the two-year period starting July 1,
906 2013, and ending June 30, 2015, the aggregate net annual cost
907 recovered for electric ratepayers pursuant to section 8 and sections 10
908 to 15, inclusive, of this act and subsection (i) of section 16-245n of the
909 general statutes, as amended by this act, shall not exceed three-fourths
910 of one per cent of total retail electricity sales revenues of each electric
911 distribution company. For each twelve-month period starting July 1,
912 2015, and every July first thereafter for the duration of the solar
913 programs established pursuant to section 8 and sections 10 to 15,
914 inclusive, of this act and subsection (i) of section 16-245n of the general
915 statutes, as amended by this act, the aggregate net cost of such
916 programs recovered for electric ratepayers shall not exceed one per
917 cent of total retail electricity sales revenues of each electric distribution
918 company.

919 (b) The Department of Public Utility Control shall net out the
920 incentives paid by the Renewable Energy Investment Fund pursuant to
921 section 16-245n of the general statutes, as amended by this act, for solar
922 deployment programs against the aggregate annual costs identified in
923 this section.

924 (c) The Department shall report to the joint standing committee of
925 the General Assembly having cognizance of matters relating to energy
926 when the annual cost cap is within twenty per cent of being exceeded.
927 If the department projects that the annual cost cap will be exceeded,
928 the department may take the following cost mitigation measures: (1)
929 Delay or modify the development of solar electric generating facilities

930 by electric distribution companies pursuant to subsection (e) of section
931 13 of this act; (2) temporarily suspend the availability of production-
932 based incentives to customers not already eligible to receive such
933 incentives under section 13 of this act; and (3) extend the scheduled
934 electric distribution company solar renewable energy credit
935 procurement plans under section 11 of this act. If the department
936 determines that cost mitigation measures are required, it shall reduce
937 proportionally the annual funding for the programs identified in
938 subdivisions (1) to (3), inclusive, of this subsection and only to the
939 extent required to bring projected annual costs below the cost cap.

940 (d) On or before January 1, 2014, the department shall report to the
941 joint standing committee of the General Assembly having cognizance
942 of matters relating to energy on the cost and charges involved in the
943 implementation of this program, including a cost-benefit analysis.

944 Sec. 17. (NEW) (*Effective July 1, 2010*) For the purposes of this
945 section, section 16-243h of the general statutes, as amended by this act,
946 and sections 19 to 22, inclusive, of this act, "eligible combined heat and
947 power system" means a combined heat and power system installed on
948 or after the effective date of this section that (1) has a rated electric
949 generating capacity of no more than one and one-half megawatts, (2)
950 produces heat to reduce customer fossil fuel usage, including natural
951 gas or heating oil or both, for space heating or for industrial process
952 heat requirement, (3) has minimum operating efficiency,
953 combining operating electrical conversion efficiency plus operating
954 thermal conversion efficiency, of no less than fifty-five per cent, (4) is
955 designed to operate at an eighty-five per cent load factor or greater
956 during the months of November through February, and (5) begins
957 installation no later than December 31, 2016, and is fully operational by
958 December 31, 2018. If the system is not intended to be used as a base
959 load resource from June to September, inclusive, it must be made
960 available as a resource for the purpose of lowering locational marginal
961 prices and related system generation charges during such months.

962 Sec. 18. Section 16-243h of the general statutes is repealed and the

963 following is substituted in lieu thereof (*Effective July 1, 2010*):

964 (a) On and after January 1, 2000, each electric supplier or any electric
965 distribution company providing standard offer, transitional standard
966 offer, standard service or back-up electric generation service, pursuant
967 to section 16-244c, shall give a credit for any electricity generated by a
968 customer from a Class I renewable energy source or a hydropower
969 facility that has a nameplate capacity rating of two megawatts or less
970 or an eligible combined heat and power system. The electric
971 distribution company providing electric distribution services to such a
972 customer shall make such interconnections necessary to accomplish
973 such purpose. An electric distribution company, at the request of any
974 residential customer served by such company and if necessary to
975 implement the provisions of this section, shall provide for the
976 installation of metering equipment that (1) measures electricity
977 consumed by such customer from the facilities of the electric
978 distribution company, (2) deducts from the measurement the amount
979 of electricity produced by the customer and not consumed by the
980 customer, and (3) registers, for each billing period, the net amount of
981 electricity either (A) consumed and produced by the customer, or (B)
982 the net amount of electricity produced by the customer. [If] Except as
983 provided in subsection (b) of this section, in a given monthly billing
984 period, a customer-generator supplies more electricity to the electric
985 distribution system than the electric distribution company or electric
986 supplier delivers to the customer-generator, the electric distribution
987 company or electric supplier shall credit the customer-generator for
988 the excess by reducing the customer-generator's bill for the next
989 monthly billing period to compensate for the excess electricity from the
990 customer-generator in the previous billing period at a rate of one
991 kilowatt-hour for one kilowatt-hour produced. The electric distribution
992 company or electric supplier shall carry over the credits earned from
993 monthly billing period to monthly billing period, and the credits shall
994 accumulate until the end of the annualized period. At the end of each
995 annualized period, the electric distribution company or electric
996 supplier shall compensate the customer-generator for any excess
997 kilowatt-hours generated, at the avoided cost of wholesale power. A

998 customer who generates electricity from a generating unit with a
999 nameplate capacity of more than ten kilowatts of electricity pursuant
1000 to the provisions of this section shall be assessed for the competitive
1001 transition assessment, pursuant to section 16-245g and the systems
1002 benefits charge, pursuant to section 16-245l, based on the amount of
1003 electricity consumed by the customer from the facilities of the electric
1004 distribution company without netting any electricity produced by the
1005 customer. For purposes of this section, "residential customer" means a
1006 customer of a single-family dwelling or multifamily dwelling
1007 consisting of two to four units.

1008 (b) In the case of a customer operating an eligible combined heat
1009 and power system, any excess kWh generated at the end of an annual
1010 period shall be paid at the average hourly real-time locational marginal
1011 price for electric generation for all hours during the annual period. Net
1012 energy billing shall be performed monthly and payments for excess
1013 sales to the electric distribution company shall be made annually for
1014 the period from April of each year to March of the following year.

1015 Sec. 19. (NEW) (*Effective July 1, 2010*) The Department of Public
1016 Utility Control shall develop a program to coordinate the dispatch of
1017 eligible combined heat and power systems. The department may use a
1018 third-party entity that has the managerial, technical and financial
1019 capabilities to operate distributed energy resources for purposes of
1020 coordinating and managing the ongoing dispatch of these systems for
1021 market participation. An owner of an eligible combined heat and
1022 power system who elects to participate in such program who are called
1023 to dispatch during the months of June through September, shall be
1024 compensated based on their marginal cost of electricity produced
1025 during the months of June through September based on the actual
1026 system input fuel prices paid plus allocated costs of operation and
1027 maintenance and a return on equity not to exceed that of the electric
1028 distribution company serving the franchise territory where the system
1029 is located. All system benefits, including, but not limited to, (1) ISO
1030 New England load response or price response programs, (2) forward
1031 capacity market payments, (3) reductions in locational marginal price,

1032 and (4) reductions in congestion costs for the use of these resources,
1033 shall be accrued to the ratepayers of the electric distribution system.

1034 Sec. 20. (NEW) (*Effective July 1, 2010*) The Department of Public
1035 Utility Control shall, not later than January 1, 2011, establish a program
1036 to grant awards to retail end use customers of electric distribution
1037 companies to fund the capital costs of obtaining projects of eligible
1038 combined heat and power systems, as defined in section 17 of this act.
1039 Any project shall receive a one-time, nonrecurring award in an amount
1040 of two hundred dollars per kilowatt of capacity for such system,
1041 recoverable from federally mandated congestion charges.

1042 Sec. 21. (NEW) (*Effective July 1, 2010*) On or before January 1, 2011,
1043 each electric distribution company shall institute a program to rebate
1044 to its customers with projects that use natural gas, which projects are
1045 eligible combined heat and power systems, as defined in section 17 of
1046 this act, an amount equivalent to the customer's retail delivery charge
1047 for transporting natural gas from the customer's local gas company to
1048 such customer's project. Costs of such a rebate shall be recoverable by
1049 the electric distribution company from the federally mandated
1050 congestion charges, as defined in section 16-1 of the general statutes, as
1051 amended by this act.

1052 Sec. 22. (NEW) (*Effective July 1, 2010*) The owner of an eligible
1053 combined heat and power system, as defined in section 17 of this act,
1054 shall (1) be exempt from electric distribution companies for standby
1055 and backup service and from that part of the demand charge that
1056 reflect prior peak demand, and (2) retain any renewable energy credits
1057 generated by the system.

This act shall take effect as follows and shall amend the following sections:		
Section 1	<i>from passage</i>	New section
Sec. 2	<i>from passage</i>	16-245a
Sec. 3	<i>from passage</i>	16-243i
Sec. 4	<i>from passage</i>	16-1(a)(44)
Sec. 5	<i>from passage</i>	16-243q(a)

Sec. 6	<i>from passage</i>	New section
Sec. 7	<i>from passage</i>	New section
Sec. 8	<i>from passage</i>	New section
Sec. 9	<i>from passage</i>	16-245n
Sec. 10	<i>from passage</i>	New section
Sec. 11	<i>from passage</i>	New section
Sec. 12	<i>from passage</i>	New section
Sec. 13	<i>from passage</i>	New section
Sec. 14	<i>from passage</i>	New section
Sec. 15	<i>from passage</i>	New section
Sec. 16	<i>from passage</i>	New section
Sec. 17	<i>July 1, 2010</i>	New section
Sec. 18	<i>July 1, 2010</i>	16-243h
Sec. 19	<i>July 1, 2010</i>	New section
Sec. 20	<i>July 1, 2010</i>	New section
Sec. 21	<i>July 1, 2010</i>	New section
Sec. 22	<i>July 1, 2010</i>	New section

ET *Joint Favorable Subst.*

The following Fiscal Impact Statement and Bill Analysis are prepared for the benefit of the members of the General Assembly, solely for purposes of information, summarization and explanation and do not represent the intent of the General Assembly or either chamber thereof for any purpose. In general, fiscal impacts are based upon a variety of informational sources, including the analyst's professional knowledge. Whenever applicable, agency data is consulted as part of the analysis, however final products do not necessarily reflect an assessment from any specific department.

OFA Fiscal Note

State Impact:

Agency Affected	Fund-Effect	FY 11 \$	FY 12 \$
Policy & Mgmt., Off.	GF - Cost	See Below	See Below
All	All Funds - Cost	Potential	Potential

Note: GF=General Fund

Municipal Impact:

Municipalities	Effect	FY 11 \$	FY 12 \$
All Municipalities	STATE MANDATE - Cost	Potential	Potential

Explanation

Loan Program

The bill diverts existing ratepayer funds from the purchase of more costly clean energy resources to fund a new low interest loan program to increase energy efficiency and renewable energy technologies installed in the state. There would be no net change in rates and therefore no fiscal impact to ratepayers.

The municipal loan program for financing sustainable energy improvements will have no fiscal impact on municipalities if the municipalities receive sufficient loan repayments to cover: 1) the debt service costs on the bonds issued to fund the program and 2) the administrative costs of the program.

Solar Initiative - Residential PV Program

The bill requires the Clean Energy Fund¹ to offer direct incentives for the purchase or lease of qualifying residential solar photovoltaic (PV) systems. Funding for the incentive program would come from the renewable energy surcharge on electric bills² and may not use more than one-third of the revenue from this surcharge, plus any federal funding that becomes available. It is anticipated that any costs incurred would come from its operating funds, which reduces funding available for current investments and programs but would not alter rates and therefore has no fiscal impact.

Solar Initiative - Nonresidential PV Program

The bill also requires electric companies to establish a nonresidential PV program. Electric companies purchase solar renewable energy credits (solar RECs). The bill requires each electric company to propose a 10-year solicitation plan for review and approval by the Department of Public Utility Control (DPUC). The DPUC may retain an independent consultant with energy procurement expertise for the purpose of reviewing and approval of said plans. The costs for the consultant and the costs for electric companies to comply with the approved solar procurement plan would be recovered by a reconciling component of electric rates, as determined by DPUC. These costs would increase electric rates, including the rates the state and municipalities pay.

Solar Initiative - Utilities

The bill authorizes electric companies to build, own and operate solar electric generating facilities. Any such costs would be recovered through a rate filing with the DPUC.

¹ The Clean Energy Fund (CEF) is funded through a surcharge on rate payer electric company bills and from federal American Recovery Reinvestment Act (ARRA) funds. The CEF receives annually approximately \$28 million. The December 31, 2009 CEF balance totaled \$66.11 million, yet commitments of \$77.29 million exceed the current CEF balance, and will be paid from future deposits to the CEF.

² The surcharge for renewable energy on electric ratepayer bills is one mill/kWh of 1/10 one cent per kWh.

PV Program – State Facilities

The Clean Energy Fund must complete a solar feasibility survey of facilities owned or operated by the state with a load of 50 kilowatts or more. To do so, the CEF must hire a consultant for approximately \$150,000 to complete this study. It is anticipated that any costs incurred by CEF would come from its operating funds, which reduces funding available for current investments and programs.

The bill requires the Office of Policy and Management (OPM) to issue at least one request for proposal (RFP) to deploy a PV system at state-owned or operated facilities. This will result in consulting costs of \$25,000 to issue the RFP. Requiring OPM to issue the RFP within available appropriations will likely result in one of four outcomes: (1) OPM will proceed, and require a deficiency appropriation in FY 11; (2) OPM will delay the implementation of the bill pending the approval of additional appropriations; (3) OPM will shift resources from other agency priorities to develop the RFP thereby impacting existing departmental programs; or (4) OPM will not implement the bill.

The deployment of a PV system is expected to result in significant costs. The bill does not provide a funding source for these costs.

Funding Cap for the Solar Initiatives

The bill establishes a funding cap for the amount that can be recovered from electric ratepayers for all the programs described above. This cap would limit the potential cost to all ratepayers.

Combined Heat and Power System Incentives

The bill creates an incentive program for combined heat and power (CHP) cogeneration technologies. The costs of the incentives would be recovered through the federal mandated congestion charges, which is a surcharge paid by all electric ratepayers.

The Out Years

The annualized ongoing fiscal impact identified above would

continue into the future subject to inflation.

OLR Bill Analysis**sSB 463*****AN ACT CONCERNING FINANCING OF ENERGY EFFICIENCY AND RENEWABLE ENERGY.*****SUMMARY:**

This bill requires electric companies to establish a program to provide loans for a wide variety of energy efficiency and renewable energy technologies installed in the state. It reduces, starting in 2011, the renewable portfolio standard that requires the companies and competitive suppliers to get part of their power from renewable resources and requires that the electric companies use the resulting cost savings to fund the loan program.

The bill allows municipalities to establish loan programs for energy efficiency and renewable energy technologies. It allows them to issue bonds to fund these programs, commonly referred to as property assessed clean energy programs, and to collect loan repayments in the same way they collect property taxes.

The bill establishes various initiatives to promote solar energy. These include:

1. a residential solar photovoltaic (PV) incentive program,
2. a requirement that electric companies seek to enter into long-term contracts to buy the power produced by nonresidential PV projects on the customer's premises,
3. a requirement that each electric company file with the Department of Public Utility Control (DPUC), a tariff for production-based payments for utility-scale solar projects, and
4. a requirement that the Clean Energy Fund and the Energy

Efficiency Fund develop a self-sustaining market for solar thermal systems. The bill caps the total ratepayer cost of the initiatives and specifies the steps that DPUC must take if it projects that the cap will be exceeded.

The bill expands the scope of a program that provides incentives for distributed resources, such as on-site generation technologies. It makes combined heat and power (CHP) cogeneration technologies eligible for a wide range of incentives. By law, certain CHP systems are considered distributed resources and thus are eligible for the current incentives. The bill also requires DPUC to establish a dispatch program where CHP system owners can choose to sell their power at rates the bill sets.

By law, electric companies and competitive suppliers must get part of their power from class III resources, which include CHP systems and the savings from conservation programs. The bill modifies what counts as resources under this requirement.

The bill allows electric companies to establish programs to promote energy efficiency and renewable energy projects at state and municipal buildings, paid by the customer on its bill.

EFFECTIVE DATE: Upon passage, except that the CHP provisions are effective July 1, 2010

LOAN PROGRAM

Requirements for Electric Companies

Under the bill, each electric company must establish a program to provide loans to eligible entities for investment in eligible in-state energy savings technologies. Each company must establish the program for its service territory. The company must establish an entity to administer the program within its financial management division or department. The division or department must work with in-state banks and investment organizations to establish private sector funding opportunities.

By October 1, 2010, each electric company must establish a plan that includes procedures and parameters for its loan program and submit the plan to an entity, unspecified by the bill, for approval or modification. The entity must approve or modify the plan within 30 days. If it does not respond within 30 days, the plan is considered to be approved.

Each electric company must develop a prescriptive one-page loan application. The application must at least include: (1) detailed information, specifications, and documentation of the eligible in-state energy technology's installed costs and projected energy savings and (2) certification by a licensed professional engineer with a valid state license for loan requests greater than \$100,000.

By January 15 annually, each company must report to the Energy and Technology Committee on the program and the loans issued under it.

Eligible Entities

The following individuals and entities may participate in the program: (1) a residential, commercial, institutional, or industrial electric or gas company customer that employs or installs an eligible in-state energy savings technology; (2) an energy service company certified as a Connecticut electric efficiency partner by DPUC; or (3) an installer certified by the Renewable Energy Investments (Clean Energy) Fund.

Eligible Investments and Costs

Under the bill, eligible in-state energy savings technologies are those designed to reduce electricity, natural gas, or heating oil consumption or to promote renewable energy technologies or CHP systems. Among other things, energy savings technologies include high efficiency insulation and windows; boilers and furnaces; commercial burners; and high efficiency heating, ventilating, and cooling systems. In addition to the costs of the equipment, the following costs are eligible for recovery under the program:

installation, labor, engineering, permits, application fees, and other reasonable costs incurred by eligible entities for operating eligible in-state energy savings technologies or promoting renewable energy technologies or CHP systems.

Investments in replacement boilers and furnaces are eligible if the existing equipment is at least seven years old with an efficiency rating of up to 75% and the new boiler or furnace has an efficiency rating of at least 84% if oil-fired and at least 90% if gas-fired.

CHP systems are eligible if they optimize fossil fuel consumption for generating electricity and simultaneous thermal energy for space heating, space cooling, or process manufacturing requirements. Class I renewable energy resources, such as PVs and fuel cells are eligible if they will reduce demand on the electric grid or fossil fuel consumption. Energy conservation and load management technologies are eligible if they are reviewed and certified by a licensed contractor in good standing. Load management changes when energy is consumed, which can reduce their cost.

Program Requirements

Eligible entities seeking a loan must (1) contract with Connecticut-based licensed contractors, installers, or tradesmen to install eligible in-state energy savings technologies; (2) provide evidence of the cost of purchasing and installing the eligible technology; and (3) periodically provide evidence of the technology's operation and functionality to ensure that it is operating as intended during the loan term. If the electric company determines that a technology has not functioned as intended or designed for more than 60 days, it can require immediate repayment of the loan in full.

Loan Limits

No single project may receive a loan for more than \$1 million dollars, and investments in any one eligible technology may not exceed 25% of the energy savings infrastructure loan account the bill establishes. The bill requires that there be limits on the proportion of

funding going to residential projects, and the amount of funding going to any one county, but it does not specify these limits. It requires that a minimum proportion of the program's funds go to Class I renewable resources, including solar photovoltaic installations, fuel cell installations, combined heat and power technologies, and conservation and load management projects, but the bill does not specify these proportions.

Loan Repayments and Transfers

At the request of an eligible entity, electric and gas companies must allow the entity to repay its loan as part of the entity's monthly electric or gas bill. The bill does not require the gas company to transfer the repayment to the electric company that financed the loan. It is unclear how this provision works if the borrower is an entity that is not an electric or gas company customer, e.g., an energy management services company.

An eligible entity participating in the program may transfer its loan to a subsequent property owner if (1) the loan is current, (2) the technology is functioning as intended or designed, and (3) the new owner agrees to adhere to the technology's operational parameters. An eligible entity that participates in the program may pay back the loan principal with no prepayment penalties. The loan term may not exceed the lesser of (1) the estimated period needed to pay for 125% of the investment through savings or (2) the manufacturer's rated useful life of the technology. Thus if a technology has a four-year payback period, the maximum loan term is five years.

Program Funding

Under current law, electric companies and competitive suppliers must get an increasing share of their power from class I resources under the state's renewable portfolio standard. The bill reduces these requirements starting in 2011, as described in table 1.

Table 1: Renewable Portfolio Standard Reduction

<i>Year</i>	<i>Current Class I RPS (%)</i>	<i>Class I RPS under the Bill (%)</i>
2011	8	7
2012	9	7.5
2013	10	8
2014	11	8.5
2015	12.5	9
2016	14	9.5
2017	15.5	10
2018	17	10.5
2019	19.5	11
2020 and thereafter	20	11.5

The bill funds the loan program using the difference between the money the companies and suppliers would have spent to comply with the current standard and the amount they spend to comply with the reduced standard. The bill requires each electric company, by October 1, 2010, to determine the present day value of the costs it and its competitors will save by the reduced RPS (it is unclear how the electric companies would do this with regard to their competitors). The saved costs must be no less than an unspecified amount per megawatt hour and no more than the “noncompliance penalty” (see COMMENT). The electric company must submit its determination to DPUC for approval. Once approved, the amount must be transferred into a separately held account. The bill appears to have the electric companies determine how they and their competitors will recover these costs.

The bill allows each electric company to examine additional funding for the loan program, such as American Recovery and Reinvestment Act funds, federally mandated congestion charges, the Renewable Energy Investments Fund, regional greenhouse gas initiative auction revenue, and forward capacity market revenue.

PROPERTY ASSESSED CLEAN ENERGY

The bill allows any municipality to establish a loan program for financing sustainable energy improvements to qualifying real property located within the municipality. Under the bill, the energy improvements are (1) any renovation or retrofitting of qualifying real property to reduce energy consumption or (2) installation of a renewable energy system to serve the property. Qualifying real property are single- or multi-family residential dwellings or commercial or industrial buildings that a municipality determines can benefit from energy improvements. Before establishing a program, the municipality must notify the electric company that serves it.

Notwithstanding other limits or conditions on municipal bond issues, any municipality that establishes a loan program may issue bonds, as necessary, to (1) offer loans to the owners of eligible property in the municipality to finance energy improvements, (2) conduct related energy audits, and (3) conduct renewable energy system feasibility studies and verify the installation of any improvements. The bond funds may also be used in a guarantee or loan loss reserve to support loans from other sources, such as private sources.

If a qualified property owner requests a loan, the municipality implementing the loan program must:

1. require an energy audit or renewable energy system feasibility analysis on the qualifying real property before approving a loan;
2. enter into a loan agreement with the owner and anyone else benefited by the loan in a principal amount sufficient to pay the costs of energy improvements the municipality determines will benefit the qualifying real property and the borrowers, the costs

of the energy audit, and any associated costs;

3. impose requirements to ensure that the loan is consistent with the purpose of the program; and
4. impose requirements and conditions on loans to ensure timely repayment.

Any loan made under the program must be repaid over a term that does not exceed the calculated payback period for the installed improvements, as determined by the municipality. The municipality must set a fixed interest rate when each loan is made. The interest rate must be sufficient to pay the program's financing costs, including loan delinquencies. The loan cannot have a prepayment penalty.

Any municipality implementing a sustainable energy loan program may:

1. secure the loan with a lien on the benefited property;
2. assess the property for the amounts due under a loan agreement;
3. collect loan payments through a charge on the property, which must be levied and collected at the same time and in the same way as property taxes but listed separately on the tax bill; and
4. secure a loan in any other manner that it considers reasonable, subject to the bill's criteria.

SOLAR INITIATIVES

Residential PV Program

Under the bill, the Clean Energy Fund board must offer direct incentives for the purchase or lease of qualifying residential PV systems. Under the bill, residential buildings are those that have one to four units. The incentive can be paid out on either a per kilowatt-hour basis or as a one-time upfront incentive based on expected system performance. When determining the type of incentive to provide, the board must consider (1) verified solar system characteristics, such as

operational efficiency, size, location, shading, and orientation and (2) willingness-to-pay studies.

By law, the board must develop a biennial comprehensive plan. Under the bill, starting with the FY 10 to FY 12 plan, each plan must contain a proposed schedule for offering the incentives over the duration of the program. The schedule must (1) provide “blocks” that result in a total of 30 MW of residential PV capacity and projected incentive levels for each block, (2) provide incentives that decline over time to help foster the development of a state-based solar industry, (3) automatically move to the next block once the fund has committed the resources for a block, and (4) provide comparable incentives to buy or lease qualifying systems. The board may retain a consultant with expertise in solar energy program design to help develop the incentive schedules, which DPUC must review and approve. The board can modify the approved schedule before it issues its next plan to account for changes in state or federal law or developments in the solar market when these changes could affect the expected return on investment of a typical residential PV system by 20% or more.

The board must establish and periodically update program guidelines, including (1) eligibility criteria, (2) standards for installing energy efficient equipment or building practices as a condition of receiving program funding, and (3) procedures to ensure that reservations are made and incentives paid to PV systems that are very likely to be installed and operated as indicated in the funding application.

The board must establish funding for these incentives by:

1. including in its FY 10-12 comprehensive plan an estimate of the total funding needed to support the incentives to qualifying residential systems and allocating up to one-third of this amount,
2. including in its FY 12-14 plan an estimate of remaining funding needed to support the outstanding capacity blocks for the

incentives and allocating up to one-half of this funding,

3. carrying forward any funding allocated to support these incentives until all capacity blocks have been filled,
4. allocating the balance of the funding as needed, and
5. monitoring the status of available funds and expected demand and including this assessment in its annual report to DPUC.

The board must establish and periodically update program guidelines. These must at least include requirements for systems and program participants related to: (1) eligibility criteria, (2) standards for deploying energy efficient equipment or building practices as a condition for receiving incentive funding, and (3) procedures to provide reasonable assurance that reservations are made and incentives are paid out only to qualifying residential solar PV systems demonstrating a high likelihood of being installed and operated as indicated in application materials.

The board must post on its website the incentives schedule, available funding, incentive estimators, and solar capacity remaining in the current block.

Funding for these incentives must come from the renewable energy surcharge on electric bills and may not use more than one-third of the revenue from this surcharge, plus any federal funding that becomes available.

By January 1, 2013, and every two years thereafter through 2021, the board must report to the Energy and Technology Committee on progress toward the 30 MW goal.

Nonresidential PV Projects

Electric Company Solicitation Plan. Starting January 1, 2011, each electric company must solicit and file with DPUC, for its approval, one or more long-term power purchase contracts with owners or developers of customer-sited, nonresidential solar PV generation

projects located in the state of less than 2,000 kilowatts (2 MW). These systems must be located on the customer side of the meter and connected to the electric company's distribution system.

Solicitations conducted by a company must be for the purchase of solar renewable energy credits (solar RECs) produced by eligible projects over contracts that run at least 15 years. (Owners of renewable generation facilities can sell the power they produce on the wholesale electric market as "green power" or they can sell the RECs associated with this power separately from the power.) The electric company may solicit proposals for a combination of renewable energy and associated solar RECs.

The electric companies must procure a total of at least 4.35 million solar RECs. The production of a megawatt hour of electricity from a nonresidential solar renewable energy source placed in service on or after the bill's passage date creates one solar REC. The obligation to purchase credits must be apportioned to the companies based on their respective loads at the start of the procurement period, as determined by DPUC. These credits count against the companies' obligations under the renewable portfolio standard (RPS), which requires that they get part of their power from renewable resources.

The bill requires each electric company, within 180 days of the bill's passage, to propose a 10-year solar solicitation plan that includes a timetable and methodology for soliciting proposals for long-term solar RECs or energy contracts from in-state generators. The solicitation plan must be reviewed and approved by DPUC. Each company must submit contracts comprising at least 25% of its obligation by January 1, 2012, at least 50% by July 1, 2014, and at least 75% by July 1, 2016.

The approved solar solicitation plan must be designed to foster a diversity of solar project sizes and participation among all eligible customer classes, subject to cost-effectiveness considerations. Separate procurement processes must be conducted for (1) nonresidential systems between 10 kilowatts and 50 kilowatts, and (2) nonresidential systems between 50 and 2,000 kilowatts. (A typical residential PV

system is five to 10 kilowatts.) DPUC must give preference to competitive bidding for resources above 50 kilowatts, unless it determines that an alternative methodology is in the best interest of electric customers and the development of a competitive and self-sustaining solar market. Systems up to 50 kilowatts are eligible to receive a solar REC price equal to the highest accepted bid price in the most recent solicitation for systems of between 50 and 2,000 kilowatts, plus an additional incentive of 10%.

Each electric company must execute its approved one-year solicitation plan. It must submit for DPUC review and approval, its preferred solar procurement plan consisting of proposed contracts with independent solar developers. DPUC must hold a hearing in an uncontested case to approve, reject, or modify an application for approval.

DPUC may only approve the plan if it finds that (1) the company conducted the solicitation and evaluation by a fair, open, competitive, and transparent process; (2) approval of the solicitation plan would provide the greatest expected ratepayer value from solar energy or solar RECs at the lowest reasonable cost; and (3) the procurement plan satisfies other criteria established in the approved solicitation plan. DPUC may not approve any proposal made under the procurement plan unless it determines that (1) the plan and proposals encompass all foreseeable sources of revenue or benefits and (2) the proposals, together with such revenue or benefits, would result in the greatest expected ratepayer value from solar energy or solar RECs.

DPUC Consultant. DPUC may, in its discretion, retain an independent consultant with energy procurement expertise. The consultant must be unaffiliated with the electric company or its affiliates. It must not have benefited directly or indirectly from employment or contracts with the company or its affiliates in the preceding five years, except as an independent consultant. For purposes of an audit, the electric company must give the consultant immediate and continuing access to all documents and data it

reviewed, used, or produced in its bid solicitation and evaluation process. The company must make all its personnel, agents, and contractors used in the bid solicitation and evaluation available for the consultant to interview. It must conduct any additional modeling requested by the independent auditor (apparently, the consultant) to test the assumptions and results of the bid evaluation process. The consultant may not participate in or advise the company with respect to any decisions in the bid solicitation or bid evaluation process.

Resale of RECs The electric companies can resell or otherwise dispose of the energy or solar RECs they purchase, but they must net the cost of payments made to projects under the contracts against the proceeds of the sale of energy or solar RECs. The difference must be credited or charged to their customers through a reconciling component of electric rates as determined by DPUC.

Cost Recovery. DPUC's administrative costs in reviewing the procurement plan and the costs of the consultant must be recovered through a reconciling component of electric rates as determined by DPUC. The electric company is entitled to recover its reasonable costs of complying with its approved solar procurement plan through the same type of mechanism.

Procedure in Case of Shortfall of REC Contracts

If DPUC has not received proposed long-term solar REC contracts by the deadlines noted above, it must notify the electric company and the Renewable Energy Investments Board. DPUC may, upon petition by the electric company, grant it an extension of up to 90 days to correct this deficiency. If DPUC does not do this, the board must issue one or more requests for proposals (RFPs) to address the shortfall. The board must perform an initial review of each proposal, examine its financial and technical viability and analyze project costs and benefits for the purpose of selecting projects that will promote the provision of long-term solar RECs. Upon selecting the projects, the board must forward them to each electric company for an engineering review. For each project, each electric company must analyze the interconnection

point and the related costs, reliability, and other project impacts to determine whether the project will promote the provision of additional long-term solar RECs.

Each electric company must provide the results of its analysis to the DPUC, which must conduct a proceeding to determine whether to approve or reject each project. The electric company must collect the reasonable administrative costs associated with the procurement of long-term solar RECs, maintain them in a separate interest-bearing account, and disburse them to the Clean Energy Investment Fund each quarter.

Within 60 days after DPUC approves the procurement plans submitted by January 1, 2012, it must report to the Energy and Technology Committee. The report must document, for each procurement plan: (1) the total number of solar RECs bid relative to the number of credits requested by the electric company, (2) the total number of bidders in each market segment, (3) the number of contracts awarded, and (4) the total weighted average price of the solar RECs or energy purchased. DPUC may not report individual bid information or other proprietary information.

Utility-Scale PV Projects

The bill requires each electric company, by July 1, 2011, to file with DPUC for its approval, a tariff for production-based payments to owners or operators of in-state, grid-connected solar projects that are one megawatt or larger.

The tariffs must provide production-based payments for at least 15 years from the project's in-service date. Under the tariff, the project owner receives a cost-based price that DPUC determines. The price consists of the fully allocated cost of constructing and operating a solar renewable energy source between one to 7.5 MW, if it were built and operated by an electric company. In calculating the tariff, DPUC must consider actual cost data for solar energy sources built and operated by an electric company under the bill, taking into consideration all

available state and federal incentives.

The tariffs must include a per-project eligibility cap of 7.5 MWs and an aggregate eligibility cap of 50 MWs, apportioned among each electric company in proportion to its distribution load. The costs of the tariff can be included in any subsequent rates, so long as they are for projects that begin operating on or after the bill's passage. These costs must be recovered through a reconciling component of electric rates as determined by DPUC.

Starting July 1, 2011, electric companies may build, own, and operate solar electric generating facilities up to one-third of their proportional share of the 50 MW cap. Such development must be phased in over at least three years. These projects must be located on company-owned properties, brownfields, or other locations identified by DPUC for strategic placement of distributed (small-scale) generation. DPUC must authorize the electric company, in a contested case, to recover in rates its costs to construct, own, and operate the facilities, including a reasonable return on its investment. DPUC can do this if (1) the approval would result in a reasonable cost of meeting the solar energy requirements described above; (2) investment will not restrict competition or growth in the state's solar energy industry; or (3) the investment will not unfairly use the company's financial, marketing, distributing, or generating advantage due to its status as a utility in a way that would restrict competition in the market for solar energy systems.

The amount of renewable energy produced from energy sources receiving tariff payments or included in utility rates counts against the electric company's RPS.

By September 1, 2012, DPUC, in consultation with the Office of Consumer Counsel and the Renewable Energy Investments Board, must study the operation of the tariffs and report its findings and recommendations to the Energy and Technology Committee.

DPUC must suspend the tariff (1) when an electric company's share

of the 50 MW cap is reached or (2) three years from the tariff's effective date, whichever is earlier.

PVs on State Facilities

The bill requires the Clean Energy Fund, by July 1, 2011, to complete, or have private vendors complete, a comprehensive solar feasibility survey of facilities owned or operated by the state with a load of 50 kilowatts or more. (The Legislative Office Building has a load of approximately 700 kilowatts.) The fund must do this in consultation with the Office of Policy and Management (OPM) and the Department of Public Works, within available funding. The survey must rank state-owned or-operated facilities based on their technical feasibility to accommodate PV generating systems by considering such factors as (1) on-site energy consumption; (2) building orientation; (3) roof age and condition; (4) shading and the potential for obstruction to sunlight over the life of the solar system; (5) structural load capacity; (6) availability of ancillary facilities, such as parking lots, walkways, or maintenance areas; (7) non-energy related amenities; and (8) other factors that the Clean Energy Fund considers may affect the technical feasibility of such projects.

The bill requires OPM, in consultation with the Clean Energy Fund, to issue one or more RFPs for deploying PV systems at state-owned or -operated facilities. OPM must do this within available funding. The RFP must be structured to maximize the state's ability to secure incentives available from the federal government or other sources. OPM may seek in any RFP the services of an entity to finance, design, construct, own, or maintain PV systems under a long-term solar services agreement. Any entity chosen to provide these services is not considered a public utility subject to DPUC jurisdiction.

Solar Thermal Technologies

The bill requires the Clean Energy and Energy Efficiency funds to develop coordinated programs to create a self-sustaining market for solar thermal systems for electricity, natural gas, and fuel oil customers.

Added Incentives for Using Connecticut Components

The Clean Energy Fund must increase the incentive provided under the residential solar and solar thermal programs by 5% if the solar system uses major components that are manufactured or assembled in Connecticut, and another 5% if they are manufactured or assembled in a distressed municipality in the state or a municipality with an enterprise zone.

Funding Cap

The bill establishes a funding cap for all of the programs described (the residential, nonresidential, and utility-scale PV programs and the solar thermal programs). Between January 1, 2011 and June 30, 2013, the aggregate net annual cost recovered for (presumably from) electric ratepayers may not exceed 0.5% of total retail electricity sales revenues of each electric company. Between July 1, 2013 and June 30, 2015, the cap is 0.75% of these revenues, and for each 12-month period starting July 1, 2015 for the duration of the programs established under the bill, the cap is 1% of these revenues. DPUC must net out the incentives paid by the Clean Energy Fund for solar deployment programs against these caps.

If DPUC projects that the annual cost cap is within 20% of being exceeded, it may (1) delay or modify electric companies development of solar electric generating facilities, (2) temporarily suspend the availability of production-based incentives under the tariff for utility-scale projects for customers not already eligible to receive these incentives, and (3) extend the scheduled electric company plans for procuring solar RECs from nonresidential customers. If the DPUC determines that these measures are required, it must reduce proportionally the annual funding for the affected programs but only to the extent required to bring projected annual costs below the cost cap.

By January 1, 2014, DPUC must report to the Energy and Technology Committee on the cost and charges involved in implementing this program (apparently all of the programs subject to

the cap), including a cost-benefit analysis.

INCENTIVES FOR DISTRIBUTED RESOURCES

A law passed in 2005 created incentives to encourage “distributed resources” such as on-site generation systems. Current law provides a \$200 to \$500 capital grant of for each kilowatt (the amount of energy used by 10 100-watt light bulbs) of capacity installed. This grant is available only if the resources reduce federally mandated charges associated with congestion on the transmission system (FMCCs). The law also provides a grant to electric companies to promote this program. The grant is currently \$50 per kilowatt.

The bill eliminates the requirement that the resources reduce FMCCs. It makes the grant for persons installing the resources a flat \$200 per kilowatt. It increases the grant to the electric company to \$250 per kilowatt in 2010 and \$140 in 2011, and then reduces it to \$30 in 2012 and \$25 starting in 2013.

COMBINED HEAT AND POWER SYSTEMS

Incentives

The bill creates a wide range of incentives for CHP systems that meet specified efficiency criteria and that are used to supply power to the grid. Under the bill, a system is eligible for these incentives if it is installed on or after July 1, 2010 and: (

1. has a rated generating capacity of no more than 1.5 megawatts;
2. produces heat to reduce customer fossil fuel, including natural gas or heating oil, used for space heating or industrial process heat requirement;
3. has minimum operating efficiency (operating electrical conversion efficiency plus operating thermal conversion efficiency) of at least 55%;
4. is designed to operate at an 85% load factor or greater from November through February; and

5. begins installation by December 31, 2016 and is fully operational by December 31, 2018. If the system is not intended to be used as a base load resource (run all of the time) from June through September, it must be made available as a resource for the purpose of lowering locational marginal prices and related system generation charges during these months (these are components of wholesale electric rates).

It makes these systems eligible for net metering, under which electric companies must pay customers who own certain renewable technologies when their systems produce more power than the customers use. Under current law, technologies that are eligible for net metering are paid the retail rate for their net production each month and a wholesale rate if they have any credits left over at the end of a 12-month period. The bill requires the electric companies to pay on an annual basis and specifies that the 12-month cycle for eligible CHP systems runs from April to March of the following year.

It requires DPUC, by January 1, 2011, to establish programs that provide a one-time grant of \$200 per kilowatt to pay for the capital costs of electric company customers who install eligible CHP systems for their capital costs.

The bill requires electric companies, by January 1, 2011, to establish programs to rebate to their customers with eligible CHP systems that use natural gas an amount equal to the customer's gas delivery charges from their local gas company. The costs are recoverable by the electric company through the FMCC charge. It exempts owners of such systems from electric company standby and backup charges and that part of the demand charge that reflects prior peak demand (this is called the ratchet).

The bill recovers the costs of these incentives through FMCCs. It also allows the owner of the eligible CHP system to keep any renewable energy credits it produces. These credits are bought by electric companies and suppliers to meet their RPS responsibilities in Connecticut and other states.

CHP Dispatch Program

The bill requires DPUC to develop a program to dispatch these systems (determine when they sell power). It may use a third-party entity with the managerial, technical, and financial capabilities to operate distributed energy resources to coordinate and manage the dispatch of these systems for market participation. An owner of an eligible system who participates in the program and supplies power from June through September must be compensated based on its marginal cost of electricity produced during this period. The compensation must be based on the fuel prices it pays plus allocated costs of operation and maintenance and a return on equity that is no more than that of the local electric company. All system benefits, including, but not limited to, (1) ISO New England load response or price response programs, (2) forward capacity market payments, (3) reductions in locational marginal price, and (4) reductions in congestion costs for the use of these resources, go to the ratepayers of the electric distribution system.

These provisions may conflict with federal law, which governs the electric wholesale market (see COMMENT).

CLASS III RESOURCES

By law, electric companies and competitive suppliers must get part of their power from class III resources, which include CHP systems that have an operating efficiency of 50% or more. The bill requires that this efficiency rating be calculated quarterly on a rolling annual average.

The bill limits to 25% the share of the credits used to meet the class III requirement that can come from programs supported by the Energy Efficiency Fund for any calendar year, based on the prior calendar year's load in megawatt hours.

MUNICIPAL AND STATE BUILDING PROGRAM

The bill allows electric companies to establish programs to promote energy efficiency and renewable energy projects at state and municipal

buildings. These can include energy efficiency measures and equipment, fuel cells, thermal storage, high efficiency boilers and burners, controls and monitoring equipment, renewable or emergency generation, and CHP systems. The electric company must use local contractors, service companies, and installers to help develop and install these technologies as practical and economical. The arrangement between the government customer and the company can run for 10 years; 20 years in the case of renewable and emergency generator and CHP projects.

The electric company can fully fund these investments, including installation costs. The investments are also eligible for other funding programs, such as those provided by the Clean Energy Fund. The company earns a rate of return on its investments, net of the funding from the other sources, under this program, but the cost of the investment is recovered only from the government customer that benefits from them. The customer's monthly charge to recover the cost can be kept level over time. It may be included with its electric bill or charged separately. DPUC must establish the formula for recovering these costs in a proceeding other than a rate case.

Participating state agencies get to keep 25% of the net energy savings the program produces in its first three years, and this amount is not used in determining the agency's budget. The total program cost is capped at 1% of an electric company's revenues per year.

Annual starting June 2012, an electric company providing services under this program must report to DPUC and the Energy and Technology Committee on the costs and savings associated with the program. Any incremental costs associated with this monitoring and reports must be recovered through the systems benefits charge.

COMMENT

Unclear Provision in Financing the Loan Program

The bill finances the loan program it creates in section 1 from the savings realized by the electric companies and competitive suppliers

due to the reduction in the RPS in section 2. The bill uses the term “noncompliance penalty” as one of the parameters used to calculate the savings. Neither current law nor the bill define this term. The law requires suppliers to pay 5.5 cents per kilowatt-hour for any shortfall they experience in meeting the RPS as it applies to them, but there is no comparable provision for electric companies and the statutes consistently distinguish electric companies from suppliers.

Possible Federal Preemption of CHP Provision

Section 19 of the bill requires that DPUC develop a program to coordinate and manage the dispatch of eligible CHP for market participation. Under federal law, the Federal Energy Regulatory Commission has exclusive jurisdiction over the regional wholesale electric market and has assigned the dispatch responsibility to the Independent System Operator-New England. As a result, federal law may preempt this section.

COMMITTEE ACTION

Energy and Technology Committee

Joint Favorable Substitute

Yea 20 Nay 1 (03/24/2010)