

GENERAL ASSEMBLY OF NORTH CAROLINA  
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SENATE DRS35273-MC-140 (03/15)

Short Title: Smart Grid Tax Credit.

(Public)

Sponsors: Senator Stein (Primary Sponsor).

Referred to:

1 A BILL TO BE ENTITLED  
2 AN ACT TO PROVIDE A TAX CREDIT FOR RESEARCH REGARDING MODERN  
3 ELECTRIC GRID TECHNOLOGIES.

4 Whereas, the modern electric grid is a reliable and secure electricity infrastructure  
5 that can meet future demand growth and achieve increased use of digital information and  
6 controls technology to improve reliability, security, and efficiency of the electric grid; and

7 Whereas, the modern electric grid will allow dynamic optimization of grid  
8 operations and resources, with full cyber-security; and

9 Whereas, the modern electric grid will allow deployment and integration of  
10 distributed resources and generation, including renewable resources; and

11 Whereas, the modern electric grid will allow deployment of "smart" technologies  
12 (real-time, automated, interactive technologies that optimize the physical operation of  
13 appliances and consumer devices) for metering, communications concerning grid operations  
14 and status, and distribution automation; and

15 Whereas, the modern electric grid will allow the deployment and integration of  
16 advanced electricity storage and peak-shaving technologies, including plug-in electric and  
17 hybrid electric vehicles, and thermal-storage air-conditioning; and

18 Whereas, the modern electric grid will allow integration of "smart" appliances and  
19 consumer devices; and

20 Whereas, the modern electric grid will allow the provision to consumers of timely  
21 information and control options; Now, therefore,

22 The General Assembly of North Carolina enacts:

23 **SECTION 1.** G.S. 105-129.15 is amended by adding a new subdivision to read:

24 **"§ 105-129.15. Definitions.**

25 The following definitions apply in this Article:

26 ...

27 (9) Smart-grid technology. – Includes each of the following:

28 a. Integrated communications. – High-speed, two-way communication  
29 technologies, including, but not limited to, broadband over power  
30 line communication technologies, wireless communication  
31 technologies, and local area networks of appliances and other devices  
32 in the home.

33 b. Advanced components. – Devices that play an active role in  
34 determining the electric behavior of the grid, including, but not  
35 limited to, advanced switches, transformers, cables, and other  
36 electrical devices; storage devices, including plug-in hybrid electric



1 vehicles and advanced batteries; and appliances capable of delaying  
2 operation in response to price signals.

3 c. Advanced control and monitoring methods. – Methods and  
4 algorithms that monitor power system components and enable rapid  
5 diagnosis and timely, appropriate response to any event, including,  
6 but not limited to, substation and distribution automation, real-time  
7 monitoring and control of substation and distribution equipment,  
8 software, or fault locator systems that use sensors and digital  
9 information to locate faults.

10 d. Sensing and measurement devices. – Technologies that enhance  
11 power system measurements and enable the transformation of data  
12 into information, including, but not limited to, advanced sensors,  
13 advanced metering infrastructure, phasor measurement units,  
14 dynamic line-rating devices that determine real-time capacity of  
15 electric lines, and consumer portals that provide consumers with  
16 real-time information about energy consumption and prices.

17 e. Improved interfaces and decision support. – Devices or software that  
18 will enable more accurate and timely human decision making at all  
19 levels of the grid, including, but not limited to, software tools to  
20 analyze the health of the electricity system, distribution system  
21 modeling software, real-time digital simulators to study and test  
22 electricity systems, or geographic information systems."

23 **SECTION 2.** Article 3B of Subchapter I of Chapter 105 of the General Statutes is  
24 amended by adding a new section to read:

25 **"§ 105-129.16K. Smart electric grid tax credit.**

26 (a) Credit. – A taxpayer that develops smart-grid technology in this State is allowed a  
27 credit equal to a percentage of the taxpayer's qualifying expenses that exceed fifty thousand  
28 dollars (\$50,000). If more than one subdivision of this subsection applies to the same qualifying  
29 expense, then the credit is equal to the higher percentage, not both percentages combined. For  
30 purposes of this section, qualifying expenses are (i) compensation, wages, and employee fringe  
31 contributions (including health, pension, and welfare contributions) for a full-time job on which  
32 withholding payments are remitted to the Department under Article 4A of this Chapter and (ii)  
33 amounts paid to a participating community college or a research university for services  
34 performed in this State. The percentage of the taxpayer's qualifying expenses allowed as a  
35 credit are as follows:

36 (1) Higher education collaboration. – Twenty percent (20%) for allowable  
37 expenses paid to a participating community college or a research university.

38 (2) Other. – Fifteen percent (15%) for allowable expenses not described by  
39 subdivision (1) of this subsection.

40 (b) No Double Benefit. – A taxpayer that claims a credit under this section may not  
41 claim any of the following with respect to the expenses used to determine the credit under this  
42 section:

43 (1) A credit allowed under any other section of this Chapter.

44 (2) A grant from the Job Development Investment Grant Program, set out in  
45 Part 2G of Article 10 of Chapter 143B of the General Statutes.

46 (3) A grant from the One North Carolina Fund set out in Part 2H of Article 10 of  
47 Chapter 143B of the General Statutes."

48 **SECTION 3.** This act is effective for taxes imposed for taxable years beginning on  
49 or after January 1, 2013.