Pending Claims

What is claimed is:

1. A photovoltaic cell, comprising:
   a front-side layer having a first major surface that is exposed to sunlight and a second major surface that is adjacent to a first major surface of an electricity-generating layer; and
   an edge-protecting material that covers substantially all of the edges of the front-side layer and the electricity-generating layer
   wherein the electricity-generating layer has a first major surface and a second major surface, and
   wherein the edge-protecting material is adjacent to a portion of a major surface of the front-side layer and is adjacent to a portion of a major surface of the electricity-generating layer.

2. The photovoltaic cell of claim 1, wherein the electricity-generating layer is a solar cell.

3. The photovoltaic cell of claims 1 or 2, wherein the edge-protecting material is a multilayer material that includes a polymer layer and an adhesive layer.

4. The photovoltaic cell of claim 3, wherein the polymer layer includes a fluoropolymer.

5. The photovoltaic cell of claims 3 or 4, wherein the adhesive layer includes a pressure sensitive adhesive.

6. The photovoltaic cell of any of claims 3-5, wherein the adhesive layer includes a thermoset adhesive.

7. The photovoltaic cell of any of claims 1-6, further comprising:
   an encapsulant layer adjacent to the electricity-generating layer.

8. The photovoltaic cell of claim 7, further comprising:
   a backside layer adjacent to the encapsulant layer.

9. The photovoltaic cell of claim 8, further comprising:
   an edge-protecting material that covers the edges of each of the layers in the photovoltaic cell.

10. A photovoltaic cell, comprising:
    a front-side layer exposed to sunlight;
    an electricity-generating layer adjacent to the front-side layer; and
    an edge-protecting material that covers substantially all of the edges of the front-side layer and the electricity-generating layer

wherein the front-side layer has a first major surface and a second major surface,

wherein the electricity-generating layer has a first major surface and a second major surface, and

wherein the edge-protecting material is adjacent to a portion of a major surface of the front-side layer and is adjacent to a portion of a major surface of the electricity-generating layer.

11. The photovoltaic cell of claim 10, wherein the electricity-generating layer is a solar cell.

12. The photovoltaic cell of claims 10 or 11, wherein the edge-protecting material is a multilayer material that includes a polymer layer and an adhesive layer.

13. The photovoltaic cell of claim 12, wherein the polymer layer includes a fluoropolymer.

14. The photovoltaic cell of claims 12 or 13, wherein the adhesive layer includes a pressure sensitive adhesive.

15. The photovoltaic cell of claims 12-14, wherein the adhesive layer includes a thermoset adhesive.

16. The photovoltaic cell of any of claims 10-15, further comprising:

an encapsulant layer adjacent to the electricity-generating layer.

17. The photovoltaic cell of claim 16, further comprising:

a backside layer adjacent to the encapsulant layer.

18. The photovoltaic cell of claim 17, further comprising:

an edge-protecting material that covers the edges of each of the layers in the photovoltaic cell.

19. The photovoltaic cell of any of claims 11-18, wherein the front-side layer is one of glass, quartz, and a multilayer film.

20. A photovoltaic cell, comprising:

a solar cell construction having first and second opposing major surfaces, first and second opposing minor surfaces, and first and second opposing edges, the solar cell construction including:

a front-side layer;

a solar cell adjacent to the front-side layer;

an edge-protecting material that covers substantially all of the first and second opposing edges of the solar cell construction and a portion of each of the first and second major surfaces of the solar cell construction.

21. The photovoltaic cell of claim 20, wherein the backside layer is one of glass, quartz, and a backsheet.

22. The photovoltaic cell of claims 20 or 21, wherein the edge-protecting material is multilayer and includes a polymer layer and an adhesive layer.

23. The photovoltaic cell of claim 22, wherein the polymer layer includes a fluoropolymer.

24. The photovoltaic cell of claims 22 or 23, wherein the adhesive layer includes a pressure sensitive adhesive.

25. The photovoltaic cell of claims 22-24, wherein the adhesive layer includes a thermoset adhesive.

26. The photovoltaic cell of any of claims 20-25, further comprising:
an encapsulant layer adjacent to the solar cell layer.

27. The photovoltaic cell of claim 26, further comprising:
a backside layer adjacent to the encapsulant layer.

28. The photovoltaic cell of claim 27, further comprising:
an edge-protecting material that covers the edges of each of the layers in the photovoltaic cell.

29. The photovoltaic cell of any of claims 20-28, wherein the front-side layer is one of glass, quartz, and a multilayer film.

30. The photovoltaic cell of any of the preceding claims, wherein the edge-protecting material covers at least a portion of a major surface of at least one of the energy-generating layer, the solar cell, and the front-side layer.

31. A method of making a photovoltaic module, comprising:
positioning an energy-generating layer adjacent to a front-side layer to form an energy-generating layer -- front-side layer construction; and
applying an edge-protecting material to opposing edges of the energy-generating layer -- front-side layer construction
wherein the front-side layer has a first major surface and a second major surface,
wherein the electricity-generating layer has a first major surface and a second major surface, and

wherein the edge-protecting material is adjacent to a portion of a major surface of the front-side layer and is adjacent to a portion of a major surface of the electricity-generating layer.

32. The method of claim 31, wherein positioning an energy-generating layer involves depositing a semiconductive layer onto the front-side layer.

33. The method of claim 31 or 32, further comprising:
depositing an encapsulant material onto the energy-generating layer.

34. The method of claim 33, further comprising:
curing the encapsulant layer.

35. The method of any of claims 33 or 34, further comprising:
positioning a backside layer adjacent to the encapsulant layer.

36. The method of claim 35, further comprising:
applying an edge-protecting material to opposing edges of the photovoltaic module.

What is claimed is:

1. A photovoltaic cell, comprising:

a front-side layer having a first major surface that is exposed to sunlight and a second major surface that is adjacent to a first major surface of an electricity-generating layer; and

an edge-protecting material that covers substantially all of the edges of the front-side layer and the electricity-generating layer

wherein the electricity-generating layer has a first major surface and a second major surface, and

wherein the edge-protecting material is adjacent to a portion of a major surface of the front-side layer and is adjacent to a portion of a major surface of the electricity-generating layer.

2. The photovoltaic cell of claim 1, wherein the electricity-generating layer is a solar cell.

3. The photovoltaic cell of claims 1 or 2, wherein the edge-protecting material is a multilayer material that includes a polymer layer and an adhesive layer.

4. The photovoltaic cell of claim 3, wherein the polymer layer includes a fluoropolymer.

5. The photovoltaic cell of claims 3 or 4, wherein the adhesive layer includes a pressure sensitive adhesive.

6. The photovoltaic cell of any of claims 3-5, wherein the adhesive layer includes a thermoset adhesive.

7. The photovoltaic cell of any of claims 1-6, further comprising:

an encapsulant layer adjacent to the electricity-generating layer.

8. The photovoltaic cell of claim 7, further comprising:

a backside layer adjacent to the encapsulant layer.

9. The photovoltaic cell of claim 8, further comprising:

an edge-protecting material that covers the edges of each of the layers in the photovoltaic cell.

10. A photovoltaic cell, comprising:

a solar cell construction having first and second opposing major surfaces, first and second opposing minor surfaces, and first and second opposing edges, the solar cell construction including:

a front-side layer;

a solar cell adjacent to the front-side layer;

an edge-protecting material that covers substantially all of the first and second opposing edges of the solar cell construction and a portion of each of the first and second major surfaces of the solar cell construction.

11. The photovoltaic cell of claim 10, wherein the backside layer is one of glass, quartz, and a backsheet.

12. The photovoltaic cell of claims 10 or 11, wherein the edge-protecting material is multilayer and includes a polymer layer and an adhesive layer.

13. The photovoltaic cell of claim 12, wherein the polymer layer includes a fluoropolymer.

14. The photovoltaic cell of claims 12 or 13, wherein the adhesive layer includes a pressure sensitive adhesive.

15. The photovoltaic cell of claims 12-14, wherein the adhesive layer includes a thermoset adhesive.

16. The photovoltaic cell of any of claims 10-15, further comprising:

an encapsulant layer adjacent to the solar cell layer.

17. The photovoltaic cell of claim 16, further comprising:

a backside layer adjacent to the encapsulant layer.

18. The photovoltaic cell of claim 17, further comprising:

an edge-protecting material that covers the edges of each of the layers in the photovoltaic cell.

19. The photovoltaic cell of any of claims 10-18, wherein the front-side layer is one of glass, quartz, and a multilayer film.

20. The photovoltaic cell of any of the preceding claims, wherein the edge-protecting material covers at least a portion of a major surface of at least one of the energy-generating layer, the solar cell, and the front-side layer.

21. A method of making a photovoltaic module, comprising:

positioning an energy-generating layer adjacent to a front-side layer to form an energy-generating layer -- front-side layer construction; and

applying an edge-protecting material to opposing edges of the energy-generating layer -- front-side layer construction

wherein the front-side layer has a first major surface and a second major surface,

wherein the electricity-generating layer has a first major surface and a second major surface, and wherein the edge-protecting material is adjacent to a portion of a major surface of the front-side layer and is adjacent to a portion of a major surface of the electricity-generating layer.

22. The method of claim 21, wherein positioning an energy-generating layer involves depositing a semiconductive layer onto the front-side layer.

23. The method of claim 21 or 22, further comprising:

depositing an encapsulant material onto the energy-generating layer.

24. The method of claim 23, further comprising:

positioning a backside layer adjacent to the encapsulant layer.

25. The method of claim 24, further comprising:

applying an edge-protecting material to opposing edges of the photovoltaic module.