WHAT IS CLAIMED IS:

1. A method for controlling an electrolysis system with a plurality of electrolysis cells, wherein the electrolysis system converts a fluidic flow containing $CO_x$ into at least one chemical, the method comprising:

monitoring, using at least one sensor, the plurality of electrolysis cells;

identifying, via the monitoring, a degrading cell in the plurality of electrolysis cells; and

modifying, upon the identifying of the degrading cell and while continuing to operate at least one other cell in the plurality of electrolysis cells, an operational state of the plurality of electrolysis cells.

2. The method of claim 1, wherein the degrading cell is a cell whose electrical resistance differs from a reference value.

3. The method of claim 2, wherein the reference value of the electrical resistance of the degrading cell is defined as an averaged electrical resistance of a sub-group of the plurality of electrolysis cells.

4. The method of claim 1, wherein the modifying of the operational state of the plurality of electrolysis cells comprises at least one of: (i) modifying an operational parameter of the degrading cell to prolong operation of the degrading cell; (ii) disabling the degrading cell; and (iii) replacing the degrading cell.

5. The method of claim 4, wherein the disabling of the degrading cell comprises:

electrically disabling the degrading cell.

6. The method of claim 4, wherein:

the degrading cell is in parallel with the at least one other cell in a power circuit of the electrolysis system; and

the disabling of the degrading cell comprises disconnecting the degrading cell from the power circuit of the electrolysis system.

7. The method of claim 4, further comprising:

identifying, via the monitoring, a set of degrading cells in the plurality of electrolysis cells prior to identifying the degrading cell;

wherein the degrading cell and the set of degrading cells are in a stack of electrolysis cells; and

wherein the disabling comprises disabling the stack of electrolysis cells.

8. The method of claim 1, wherein:

the degrading cell is in a stack of electrolysis cells; and

the at least one other cell is in the stack of electrolysis cells.

9. The method of claim 1, wherein the identifying of the degrading cell comprises one of:

comparing a cell resistance of the degrading cell with a reference value; and

predicting an evolution of the cell resistance of the degrading cell based on a plurality of past measures of said cell resistance and of operational parameters of the plurality of electrolysis cells.

10. The method of claim 9, wherein the predicting uses artificial intelligence models.

11. The method of claim 1, further comprising:

generating an alert signal that identifies the degrading cell.

12. The method of claim 1, further comprising replacing the degrading cell by:

moving a plate of the degrading cell, together with a first stack casing of a stack of electrolysis cells;

wherein the plurality of electrolysis cells are in the stack of electrolysis cells; and

wherein the at least one other cell in the plurality of electrolysis cells is in the stack of electrolysis cells between the plate of the degrading cell and the first stack casing.

13. An electrolysis system comprising:

a plurality of electrolysis cells configured to receive a fluidic flow containing $CO_x$ and convert the $CO_x$ into at least one chemical;

at least one sensor configured to monitor the plurality of electrolysis cells;

at least one processor; and

non-transitory computer-readable media accessible to the at least one processor and storing instructions which, when executed by the at least one processor, cause the system to:

monitor, using the at least one sensor, the plurality of electrolysis cells;

identify, via the monitoring, a degrading cell in the plurality of electrolysis cells; and

modify, upon the identifying of the degrading cell and while continuing to operate at least one other cell in the plurality of electrolysis cells, an operational state of the plurality of electrolysis cells.

14. The system of claim 13, wherein the degrading cell is a cell whose electrical resistance differs from a reference value.

15. The system of claim 14, wherein the reference value of the electrical resistance of the degrading cell is defined as an averaged electrical resistance of a group of cells within the plurality of electrolysis cells.

16. The system of claim 13, wherein the modifying of the operational state of the plurality of electrolysis cells comprises at least one of: (i) modifying an operational parameter of the degrading cell to prolong operation of the degrading cell; (ii) disabling the degrading cell; and (iii) facilitating replacement of the degrading cell using a helper mechanism.

17. The system of claim 16, wherein the disabling of the degrading cell comprises:

electrically disabling the degrading cell.

18. The system of claim 16, wherein:

the degrading cell is in parallel with the at least one other cell in a power circuit of the electrolysis system; and

the disabling of the degrading cell comprises disconnecting the degrading cell from the power circuit of the electrolysis system.

19. The system of claim 16, further comprising:

identifying, via the monitoring, a set of degrading cells in the plurality of electrolysis cells prior to identifying the degrading cell, wherein the degrading cell is not in the set of degrading cells;

wherein the degrading cell and the set of degrading cells are in a stack of electrolysis cells; and

wherein the disabling comprises disabling the stack of electrolysis cells.

20. The system of claim 13, wherein the identifying of the degrading cell comprises one of:

comparing a cell resistance of the degrading cell with a reference value; and

predicting an evolution of the cell resistance of the degrading cell based on a plurality of past measures of said cell resistance and of operational parameters of the plurality of electrolysis cells.

21. The system of claim 20, wherein the predicting uses artificial intelligence models.

22. The system of claim 13, further comprising:

a plate of the degrading cell;

a stack of electrolysis cells;

a first stack casing of the stack of electrolysis cells, located on a first end of the stack of electrolysis cells;

at least one locking mechanism for the plate and the first stack casing to move away, under a degree of compression, from a second end of the stack of electrolysis cells;

wherein the plurality of electrolysis cells are in the stack of electrolysis cells; and

wherein the at least one other cell in the plurality of electrolysis cells is in the stack of electrolysis cells between the plate of the degrading cell and the first stack casing.