O*NET® Green Task Development Project

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This document describes the process for green task development for green enhanced skills and green new and emerging (N&E) occupations. The National Center for O*NET Development, as part of its efforts to keep up with the changing world of work, investigated the impact of green economy activities and technologies on occupational requirements and the development of new and emerging (N&E) occupations. Results of the research led to the identification of green economic sectors and green occupations. These occupations are now reflected in the O*NET-SOC system. To view our research on the green economy, read Greening of the World of Work: Implications for O*NET-SOC and New and Emerging Occupations.

Because the impact of the green economy resulted in changes to work and worker requirements and the generation of unique work and worker requirements for green enhanced skills and green new and emerging (N&E) occupations, it was necessary for the occupations to undergo a green task development process to reflect these changes. Green increased demand occupations were not included in the green task development process because, by definition, the work context of green increased demand occupations may change, but the tasks themselves do not. A total of 138 green enhanced skills and green new and emerging (N&E) occupations were included in the green task development process. As a result of the process, we identified a total of 1,369 green tasks to be included in the O*NET Green Task File (see Appendix A). It is important to note that our green task file includes the entire task lists for each of the 138 occupations that underwent green task development, with a description of which tasks are green and which tasks are non-green. For more detailed summary statistics, see the following sections and Table 1.

Task Development for Newly Identified Green New and Emerging (N&E) Occupations

The impact of green economy activities and technologies was sufficient to create the need for unique work and worker requirements for 33 newly identified green new and emerging (N&E) occupations generated from our green research. Because these occupations were newly identified from our research on the green economy, no tasks were yet developed for the occupations.

Task Development Process

- The 33 newly identified green new and emerging (N&E) occupations were organized into 12 green sectors prior to conducting task research to allow for more efficient and focused research.

- To generate tasks, occupational analysts researched numerous reputable books, reports, associations, websites, and webinars to build a thorough understanding of the broader work context of the target occupations and to gather information about tasks performed in these occupations.

- Once research was gathered, tasks were written for each occupation to most accurately and comprehensively reflect the work performed in the target occupations.

- Task statements were written following standardized rules and style guidelines (see Appendix B).

- All tasks that were generated for these 33 newly identified green new and emerging (N&E) occupations were flagged as "green" and labeled "new green task" in the green task file.

Results

As a result of our research, a total of 626 new green tasks were created for these 33 occupations, with an average of 19 tasks per occupation and a range of 13 to 38 tasks per occupation. See Table 1 for additional summary information.

Task Development for Existing Green O*NET-SOC Occupations

Existing green O*NET-SOC occupations can be categorized in two ways: previously identified green new and emerging (N&E) occupations (i.e., green N&E occupations that were identified from previous N&E industry research before the release of the green report) and green enhanced skills occupations. A total of 105 existing green O*NET-SOC occupations underwent green task development to identify existing green tasks and to generate new green tasks for these target occupations. There were a total of 45 previously identified green N&E occupations and 60 green enhanced skills occupations that underwent green task development.

Task Development Process

- First, occupations were sorted into 12 green sectors to allow for more efficient and focused research.

- Occupational analysts then researched numerous reputable books, reports, associations, websites, webinars, and existing O*NET reports on high-growth industries to develop an understanding of the work context of an occupation.
    - This review of the literature allowed analysts to determine the ways in which an occupational area is greening and to determine how the effects of green activities and technologies translate to changes in occupational tasks.

- Green task research and the subsequent writing of green tasks for these target occupations was completed without consideration of the existing task list for a given target occupation.
    - This was done so that the newly generated tasks could be written to most accurately and comprehensively reflect the changes occurring to the target occupation's activities without regard to potential overlap with existing tasks.

- Task statements were written following standardized rules and style guidelines (see Appendix B)

- After the new green task generation was completed, the new green tasks were compared with the existing task list of a target occupation to identify redundancies between the new green tasks and the existing occupational tasks.

- When redundancies were identified, they were evaluated to determine whether green task aspects could be better represented with a new green task being added to the existing task list or if flagging the existing task as green was more suitable.

- If a newly written green task did not overlap with an existing task, the newly generated green task was added to the occupation's existing task list, was flagged as "green" and was labeled "new green task" in the green task file.

- If a newly written green task and an existing task overlapped without a significant difference, the existing occupational task was flagged as "green" and labeled "existing green task" in the green task file.

- Lastly, occupational analysts reviewed the remaining existing task list of an occupation to determine if more of the occupation's existing tasks could be considered green because of their purpose or because of the technologies used.
    - For example, for Roofers, the task "Install vapor barriers or layers of insulation on the roof decks of flat roofs and seal the seams" can be considered green because increased energy efficiency is a direct purpose of this activity.

  In this final review, existing tasks that were considered green in nature were flagged as "green" and labeled "existing green task" in the green task file.

- Any tasks that were not flagged as green in some way were labeled as "non-green task."

Results

For the 45 previously identified green N&E occupations, we identified a total of 196 new green tasks, 113 existing green tasks, and 757 non-green tasks. There was an average of 4 green tasks added to each occupation and an average of 3 existing tasks identified per occupation. The number of new green tasks added to an occupation ranged from 1 to 11 tasks, while the number of existing tasks identified as green for an occupation ranged from 0 to 23.

For green enhanced skills occupations, we identified a total of 257 new green tasks, 177 existing green tasks, and 948 non-green tasks. There was an average of 4 green tasks added to each occupation and an average of 3 existing tasks identified per occupation. The number of new green tasks added to an occupation ranged from 1 to 12 tasks, while the number of existing tasks identified as green for an occupation ranged from 0 to 25.

Some existing green occupations had task lists where every existing task was flagged as green. This was done if the occupation and its tasks could be considered entirely green in nature. For example, the task list for Soil and Water Conservationists can be considered all green because the purpose of the tasks are focused on green activities and technologies (e.g., water conservation). As previously mentioned, all of the 33 newly identified green new and emerging (N&E) occupations that underwent task development were classified as having all green task lists. In addition, 10 existing green occupations were classified as having all green task lists. See Table 1 for additional summary information.

Table 1. Green Task Development Summary

Occupation Type	New Green Task	Existing Green Task	Non-Green Task
New N&E	626	0	0
Previously Identified N&E	196	113	757
Green Enhanced Skills	257	177	948
Total	1079	290	1705
Total Green Tasks	New Green + Existing Green = 1369		

Summary

As a result of our green task development process, we identified a total of 1,369 green tasks in our green task file. Across all occupations, we identified 1,079 newly generated green tasks and 290 existing green tasks. To keep up with the changing green economy, we will continually conduct research to identify additional green tasks that are a result of the changing nature of work.