require direct interaction with the motion-powered machines. The vessel may include, for example, a smaller boat, e.g., 20-30 feet.

[0042] Motion-powered machines of various sizes may be used. In some implementations, large motion-powered machines **106** may be used for electrical generation, whereas small motion-powered machines **110** depicted closer to the boat may be used to pump cooling water to a data center. The generating capacity of a motion-powered machine may be increased by increasing the number of pontoons in a given motion-powered machine.

[0043] Configurations may involve motion-powered machines of different sizes. For example, different sized motion-powered machines may be available in the future. In some instances, the motion-powered machines may collect power for performing different functions. For example, some motion-powered machines may be used for generating electricity and other motion-powered machines may be used for pumping water. In some implementations, pumping may be performed by direct mechanical coupling, with pumps located in the motion-powered machines **106**, **110**. In other implementations, dedicated motion-powered machines generate electricity that is used solely for powering electric pumps.

[0044] The platform **102** can be anchored with the motion-powered machines, and/or can carry the machines into location. For example, the motion-powered machines **106**, **110** may be carried aboard or behind the platform or aboard or behind another platform **102** for long distance travel. Upon reaching the destination, the platform **102** may unload the motion-powered machines **106**, **110** and set up the array. Equipment, such as a tender or other equipment, may be present on board the platform **102** for unloading and setting up the motion-powered machines **106**, **110**. The platform **102** may alternatively unload the motion-powered machines **106**, **110** in a nearby port, and the assembled motion-powered machines **106**, **110** may be towed by the platform **102** or another vessel to their intended destination.

[0045] System **100** may provide for one or more various advantages. For example, much of the world's population lives near oceans, so system **100** could bring computing or telecommunication power close to them. Much of the world's communications infrastructure also runs through the oceans, so that system **100** could tap into existing infrastructure near shorelines. In addition, system **100** may be quickly deployed so as to be inserted in areas requiring quick computing or telecommunication power, such as areas of military conflict or disaster areas.

[0046] The data centers **104** may be employed with the computers inside standard shipping containers to make them more portable (e.g., capable of being hauled to the boat or by a truck). The data centers **104** may be constructed modularly in areas having low costs, and may be transported to locations needing communications support relatively quickly. The data centers **104** may be offloaded to areas where a more permanent presence is needed, and may also be connected to the motion-powered machines **106**, **110** after such offloading, freeing the ship to deploy to another area. Also, data centers **104**, when in the form of shipping containers, may be quickly traded out when technology changes. Modularization also makes maintenance simpler; hardware that is corroded or worn out from the harsh salt water environment can be easily replaced with fresh hardware by swapping containers.

[0047] Use of modules may also provide convenient access to subsystems. Modules may simply be moved to access support structures undergoing maintenance, such as cooling or electrical systems. The modules may be repositioned on the ship temporarily for repairs, or installed in a new location to facilitate continued operation.

[0048] The platform **102** may have amenities that support system operations. For instance, the platform **102** may include living accommodations for crew and operating staff. A helipad may also be provided to facilitate access for personnel and quick turn-around for activities such as replacing parts or for setting up new equipment. The platform **102** may, in addition, be able to accommodate a ship tender capable of re-supplying the platform **102** with items such as consumable supplies such as fuel oil and perishables for the crew, parts for maintenance, etc. In addition, out-board fuel tanks may be provided and connected to platform **102** when additional fuel supplies are needed.

[0049] The system **100** may include modules with an integral backup power supply and cooling system in the event the primary systems are unavailable. The backup system may be capable of using an alternate source of energy, such as a fuel-based power generation system. In some implementations, the system **100** may be able to store energy to form a reserve that can be drawn upon during periods with low wave activity. As one example, banks of batteries may be used to store electrical energy. As another example, fuel cells may be used with hydrogen kept in a reservoir, which is filled by electrolysis when wave energy is available. Solar power may be used to supplement power collected from the motion-powered machines; calm days where little wave energy may be available may also be cloudless, maximizing solar energy that is available. The system **100** may be implemented using existing equipment with some modifications. For example, a ship capable of hauling intermodal freight containers may be outfitted with electrical and cooling systems to support the functionality described above.

[0050] Electrical and pumping power may also come from devices powered directly by the wind. For example, wind turbines may be mounted or tethered to an ocean floor and provided to receive prevailing winds for power. Such power may be provided instead of, or in supplementation to, water-powered systems. A datacenter may be placed near such wind turbines, which may themselves be arranged in a line or grid arrangement, and be tied electrically to them. In one implementation, power from an array of wind turbines may be provided to a single point connection, and a data center may connect to the power there.

[0051] One or more wind turbines may be provided with mechanical linkages that permit them to also pump cooling water to a data center. Such turbines may be dedicated only to pumping, or may provide both electrical generation and pumping. Where pumping is provided, the data center would typically be near the turbine to minimize the length of piping required. In certain implementations, the data center or part of the data center may be attached directly to the turbine, including by being located in the upper head of the turbine that rotates with the turbine blades. In such situations, airflow and turbulence from the blades may be used to help cool the data center.

[0052] In addition, cooling may be supplemented by other mechanisms that draw little electricity, such as absorption chillers. Such chillers may be provided on platform **102**, and may be used during periods in which the data center needs to