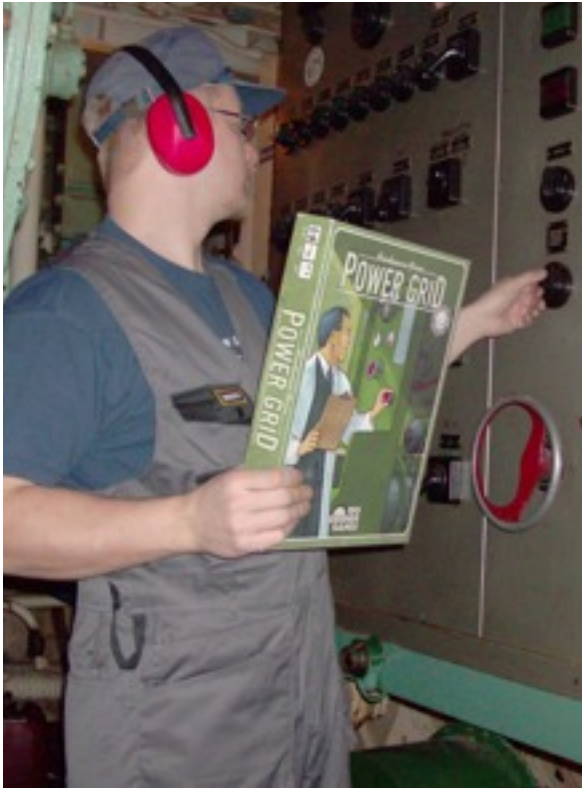# POWER GRID v1.4

Foreward

This is a reorganization of the rules of the game Power Grid by Friedemann Friese, published in the United States by Rio Grande Games. Jay at Rio Grande Games has given permission for this alternate manual, and Rio Grande Games maintains full copyright privileges over this work. The artwork can be found on http://boardgamegeek.com. The image to the left is by Teppo Saarinen and he reserves copyright to it. The resource cards at the end are courtesy of Krzysztof J., and there are cards for every expansion at (http://boardgamegeek.com/filepage/58309/resource-cards-all-expansions). Thank you, and enjoy your game. *Shawn Garbett 2011*

Concept

Each player represents a power company, which works to supply electricity to cities. During the game, each player buys power plants at auction, buys resources to produce electricity in those power plants, and builds a network of cities to supply with electricity from his power plants. In the end, the player who supplies the most cities with power wins the game.

Goal

The winner is the player who can **supply electricity to the most cities** at the end of game. The game ends immediately after **phase 4** when any player has built at least the target number of cities in his network (see table 1). If there is a tie, the player with the **most money** wins. If there is still a tie, the player with the **most cities** in his network is the winner.

Players	Cities Built
2	21
3 or 4	17
5	15
6	14

Important: No player can buy more resources or power plants at game end! The player with the most cities is not necessarily the winner, because the number of cities powered with electricity is the victory criteria. This could be due to lack of resources or power plant capacity. This reinforces the need for players to balance their power plants, resources, and networks.

Power Plant Cards

The number in the upper left corner is the number of the power plant. This number is also the minimum acceptable bid when the plant is auctioned. Fig. 1 shows Plant number 29 with a minimum bid of 29.The picture in the middle is decorative and has no game meaning.The symbols in the lower left corner and the color of the bar show the resources required to produce electricity with this plant (brown: coal, black: oil, brown/black: hybrid (see subsection below), yellow: garbage, red: uranium, green: ecological, blue: fusion. Fig. 1 shows a hybrid power plant.

The number of resource symbols shows exactly how many resource tokens and which resource(s) the power plant needs to produce electricity in a round. Fig.1 shows a power plant that requires 1 oil or 1 coal token to produce electricity. A plant never consumes more or fewer resource tokens when it is producing electricity. Every power plant can store **twice** as

many resources as it needs to produce. The power plant in Fig. 1 can store up to 2 tokens of coal, oil or one of each.

The number in the house symbol indicates how many cities a power plant can supply with electricity. In Fig 1. this power plant can supply up to 4 cities. In this example, that means the player uses exactly 1 tokens (oil or coal) to produce electricity with this power plant and it can supply up to 4 cities. A player must use the exact number of resource tokens to power the plant, although the number of cities powered can be less than the printed number. Although a power plant can store twice as many resources as needed, it cannot produce power for twice as many cities in a round.

Special Power Plants
Hybrid Power Plants: These power plants have a brown/ black bar and have both coal and oil symbols. The owner of such a power plant can choose to use coal and/or oil. Usually, players will choose the cheaper resource. For example, power plant number 5 (see the corresponding power plant card) can use 2 coal, 2 oil or 1 coal and 1 oil.

Figure 1. Example power plant, no 29.

Ecological and Fusion Power Plants: These power plants do not require any resources. They can supply up to the number of cities shown in the house symbol.

Preparation
Place the board in the middle of the table, choosing the side you wish to play on.
Each player choses one area to include in the game; all final selections must be adjacent. Players get to play in any selected area. In a 6 player game, only 5 areas are selected, and in a 2 player game 3 areas are selected.
Each player takes the wooden houses of one color.
Each player gets 50 Elektro.
Each player gets a summary card.
Each player places a house to the left of the 1 on the scoring track.
Each player draws a random power plant to determine player order, lower values first.[1]
Each player places a second house on the player order track as determined by draw.
Setup the Resource Market.
Setup the Power Plant Market.
Setup the Power Plant Deck.

Resource Market
The large spaces at the bottom of the board represent the resource market.
Place 3 coal on spaces 1 to 8.
Place 3 oil on spaces 3 to 8.
Place 3 garbage on space 7 to 8.
Place 1 uranium on spaces 14 and 16.
Place remaining resource tokens near the board.

Power Plant Market
Take the power plants 03 to 10 and place them near the board in numerical order in two horizontal rows with four columns forming the power plant market. In the upper row, power plants 03 to 06 in ascending order, left to right, represents the actual market. The lower row, power plants 07 to 10 in ascending order, left to right, represents the future market. When players add a new power plant to the power plant market, **all** power plants are rearranged in ascending order with the 4 cheapest plants in the actual market.

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[1] Not in original rules, feel free to use your own method. E.g., Somebody grabs one house from each player and puts them into their cupped hands, shakes them about and drops one at a time out forming player order. --Fraser Karisen

Power Plant Deck

From the remaining cards, remove the **Step 3** card, the ecological power plant number 13, and any remaining summary cards. Shuffle the remaining power plant cards. Remove the number of cards specified in table 2 based on the number of players and put these in the box without anyone looking at them. Place the **Step 3** card face down under the stack of shuffled cards and the ecological power plant number 13 face down on top of the stack.

Players	Cards Removed
2 or 3	8
4	4
5 or 6	0

Playing the Game

The game is played in 3 steps, starting with step 1, over several rounds. The number of rounds in a step varies with play. The game moves from step 1 to step 2 based on the number of cities and players, as shown in table 3. The game moves from step 2 to step 3 when the **Step 3** card is drawn from the power deck. The game may end in step 2.

Rounds

Each round of the game has five phases. In each phase, all players take their actions in the order specified for the phase before the game continues with the next phase. The five phases are:

1. Determine Player Order
2. Auction Power Plants: Several auctions may be held with each player buying at most one power plant from the actual market.
3. Buying Resources: The players may buy resources for their power plants from the resource market.
4. Building: The players expand their networks on the map to supply electricity to the cities.
5. Bureaucracy: Earn cash, place new power plants, and re-supply the resource market.

Phase 1: Determine Player Order *(on the first round it is played after phase 2)*

The player order track is rearranged to reflect the new order of players for this round. The first player is the player with the most cities in his network, i.e. first house on the scoring track. If two or more players are tied for the most cities, the first player is the player among them with the largest-numbered power plant. Place this player's house in the first position in the player order area. Determine the remaining player positions using the same rules: second most cities is second player, and so on. This ordering or its reverse is the player order of play in the remaining phases of this round.

Phase 2: Auction Power Plants

In player order, first player starts, each player may (must in first round) offer a power plant for sale at auction. During this phase a player can buy at most one power plant. To offer a plant for auction the player may choose one power plant from the actual market (top row) and then makes a bid to purchase it. A player must open with at least the minimum bid when offering a plant for auction but is free to bid higher. Continuing in clockwise order, the other players can make higher bids or pass. If a player passes, he may not re-enter the current auction. Players keep bidding or passing until one player remains. He pays his highest bid to the bank and takes the power plant. During the game, each player can have only 3 (4 in a 2 player game) power plants at any time. When a player exceeds this maximum, he must discard one of his other power plants. The player may move resources from the discarded power plant to his remaining power plants, if there is sufficient storage capacity of the matching resource type. If there is no storage capacity available, the resources return to the off board supply of tokens.

Players then immediately draw a new card to replace the card sold and place the new card in the market, rearranging as needed to maintain ascending order. The four lowest are always in the actual market, and the four highest are in the future market during **Step 1** and **Step 2**. During **Step 3** the actual market is 6 power plants and there is no future market.

Once a player has purchased a power plant in a round, he cannot bid in another auction in the same round, nor can he offer a plant at auction.

When a player other than the player who started the auction wins the auction, the auctioning player may (**must** in the first round[2]) choose a new plant to auction from the actual market. When the auctioning player wins the auction and gets the

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[2] This is implicit in the original rules.

power plant, the next player in turn order takes his turn at offering a power plant for auction, if he has not already purchased a power plant this round. If he has, the next player in turn order may start an auction, and so on.

When it is a player's turn to choose a power plant to auction, and he chooses to pass he cannot bid in any further auctions this round, and will not get a new power plant this round.

The last player to start an auction in a round can pay just the minimum bid to get the power plant, if he chooses to do so. This is an advantage to being last in this phase.

All Auctions Finished
In the first round played, after the auctions are finished, execute **Phase 1: Determine Player Order**.

If no power plant is sold in a round, remove the lowest numbered power plant from the market, placing it in the box, and replace it by drawing a power plant from the draw stack. Rearrange the Power Plant Market as usual.

Phase 3: Buying Resources
In reverse player order (the last player starts), the players buy resources from the resource market. A player can only buy resources for plants he owns. Each power plant can store twice as many resources of the same kind as it requires for production. For example a nuclear plant can never be used to store coal. Players may rearrange their resources between plants at any time.

Players purchase the resources from the spaces of the resource market. The printed numbers in the resource spaces show the price for one resource token. Naturally, the players usually buy the cheapest resources first. The players pay the amount owed for the resources they purchase to the bank. If one kind of resource is depleted, no more of this resource is available for purchase in the current round. Players may not sell or trade resources among themselves.

Phase 4: Building
In reverse player order (the last player starts), the players add as many cities as they can afford and desire to their network on the map. In **Step 1** each city can only have at maximum one house. In **Step 2** each city can at maximum two houses. In **Step 3** each city can have at maximum three houses. A individual player can only have one house in any given city.

A player purchases their first house for 10 Elektro and places it in any city not occupied by another player and in the selected areas of play. A player is not required to purchase any houses the first round.

The cost of a new house in a city is 10 for the first house, 15 for the second house and 20 for the third house plus the cheapest total connection costs to an existing house in the players network. Connection costs are shown on the map between cities. A player may build through a city without placing a house there. Connections may not pass through areas not in the game. Costs are paid to the bank.

After placing a new house in a city a player immediately moves his house on the scoring track to the appropriate number to indicate how many cities he has.

Important: If at any time during the game, there is a power plant in the actual market with a number equal to or lower than the number of cities any player has, players immediately remove it from the game. A new card is drawn to replace it and the **Power Plant Market** is updated appropriately.

Between Phase 4 and Phase 5
Check for Victory
If any player has added the required number of cities or more to his network, check to see who has won the game.

Check for Step 2
If it is still **Step 1**, check to see if the game proceeds into **Step 2** at this time. If any player has built the required number of cities or more **Step 2**

Players	City Threshold for Step 2
2	10
3, 4, 5	7
6	6

begins.

To start **Step 2**, remove the lowest numbered power plant from **Power Plant Market** and replace it with a new one from the draw stack, rearranging as always.

Phase 5: Bureaucracy

In player order, the players operate their power plants to earn cash. Then the resource market is resupplied, and a plant is removed from the power plant market during **Step 1** and **Step 2**.

Starting with the first player, every player indicates how many cities in his network his wishes and is able to supply with electricity. He earns cash based on the number of cities he powers as shown on the payment table. A player who does not supply any city gets 10 Elektro. The players remove the required resources from the power plants that produced electricity this round and place the used resources in the resource supply next to the board.

Consult the resource table for the number of players and current step, and resupply the market starting with the highest box, most expensive, first. If there are not enough resource left in the supply, that resource is not fully re-supplied!

During **Step 1** and **Step 2**, place the highest number power plant from the future market face down under the draw stack and draw a new one to replace it. Rearrange the market appropriately.

Phase 5 is now complete. Begin a new round in **Phase 1: Determine Player Order**.

Step 3

When the **Step 3** card is drawn from the draw stack, **Step 3** begins at the beginning of the next phase in the game. This can happen during three different phases:

Phase 2: If the **Step 3** card is drawn during auction, treat the card as the highest power plant and place it at the end of the future market. Immediately shuffle the draw stack with the remaining power plants (the power plants that were placed under the draw stack during steps 1 and 2 of the game), and place it face down next to the game board. Continue the auction of power plants and draw replacements as necessary until all players have their chance to buy a new power plant or pass. After finishing phase 2, remove the lowest numbered power plant and the **Step 3** card from the market and do not draw replacements! Step 3 starts in phase 3.[3]

Phase 4: When drawing for too small power plants, remove the **Step 3** card and the smallest numbered power plant from the game and do not draw replacements. **Step 3** starts in phase 5.

Phase 5: Remove the **Step 3** card and the smallest numbered power plant from the game and do not draw replacements. **Step 3** begins immediately.

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[3] One version of the rules had an error. Russ Williams points us to the publisher's statement here: http://www.boardgamegeek.com/thread/383964

2 players

Step 2 🏠10
End 🏠21

Usa, Germany, France, Italy

Resource table

coal	3	4	3
oil	2	2	4
garbage	1	2	3
uranium	1	1	1

3 players

Step 2 🏠7
End 🏠17

Usa, Germany, France, Italy

Resource table

coal	4	5	3
oil	2	3	4
garbage	1	2	3
uranium	1	1	1

4 players

Step 2 🏠7
End 🏠17

Usa, Germany, France, Italy

Resource table

coal	5	6	4
oil	3	4	5
garbage	2	3	4
uranium	1	2	2

5 players

Step 2 🏠7
End 🏠15

Usa, Germany, France, Italy

Resource table

coal	5	7	5
oil	4	5	6
garbage	3	3	5
uranium	2	3	2

6 players

Step 2 🏠6
End 🏠14

Usa, Germany, France, Italy

Resource table

coal	7	9	6
oil	5	6	7
garbage	3	5	6
uranium	2	3	3