

Iraq electricity: the untold story

In this first of two analyses of the state of electricity production in Iraq, *Power Economics* assesses the impact of the war on an industry that must play an essential role in the country's reconstruction.

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For the last three years, Iraq has hardly been absent from the daily headlines. Since the official end of the war, much has been made of the continuing conflict. However, the story of electricity in Iraq has received less attention than it deserves. It is an instructive microcosm of the recent history and troubles of Iraq. For never has a nation's electricity supply been so politicized. Saddam Hussein used it alternatively as a tool of reward or of punishment. And today for the interim government and the coalition, it provides a useful benchmark of progress or the lack of it. For any nation, enduring security may be the first duty of government, but keeping the lights on runs a close second. And only in Iraq are the two so closely intertwined.

Background

The big picture of electricity consumption generally in Iraq tells us they just didn't use much at all. Pre-war, kilowatt-hour demand per capita in Iraq was very low, about 120 watts. That compares to 600 w for the average Briton and 1.2 kw for an American. What is not often understood though is that the electrical generating base of Iraq was low and deliberately kept so by Saddam Hussein. Electricity supply was one of those perks that could be rationed through load shedding, to reward his friends and penalize his opponents. This is because the base capacity, 4000 MW, was so inadequate.

Typically, parts of Baghdad, Fallujah and Tikrit (Saddam's home town) would receive electricity up to 24 hours a day. Everyone else was getting between 0 and 10 hours. Indeed since the early 1990s, the Kurdish Region to the North was entirely cut off from the central electricity grid. This was punishment for the uprising and the establishment of a near autonomous regime under the auspices of the UN.

So Iraqi Kurdistan quickly had to upgrade its hydro facilities to meet basic power requirements. One of the first steps of the Coalition Provisional Authority and the former Electricity Minister, Dr Ayham al-Samarrai, was, in July 2003, to equalize the distribution of electricity right across the country via the National Grid. Arguably, this may have played a part in stirring up discontent in these previously privileged and now hostile areas. Perhaps nowhere more so than in Fallujah, in the Sunni Triangle.

Today the person in charge of the very difficult and dangerous job of restoring electricity to Iraq is Dr Aiham Alsammarae – the Electricity Minister. Dr Alsammarae left Iraq in 1976 to study for his PhD in electrical engineering in Chicago and by 1979 it was clear that any return with Saddam still in power would result in his death, as had already happened to his two brothers in law. In Chicago though, he used his time fruitfully by setting up an electrical engineering consultancy that grew to have over 600 employees.

During this time, he also got involved with the Iraqi opposition, which is really how he came to be in the position he is in today. It takes a very rare sense of public duty, to forego half of his clients, lay off a third of his workforce and ultimately put his life at stake in order to help rebuild Iraq. But then you can't help but see that Alsammarae is driven by an unmistakable sense of destiny.

So just where is Iraq getting its power from?

That even after the Iran-Iraq war, Iraq was still receiving power from Iran and even after the American invasion is astonishing. Even Syria, which is continually on the verge of being named by the Americans as another pillar of the axis of evil profits from supplying electricity to Iraq.

The Surprising importance of Hydropower

To an outsider watching TV, Iraq looks like one big desert. Yet the mountains to the Kurdish North and two mighty rivers – the Tigris and the Euphrates – provide a tremendous hydro resource for Iraq. Almost all hydropower in Iraq was built in the 70s and 80s by foreign, usually Eastern block engineers, often in exchange for oil. And of the 10 major plants, 5 of them are very large hydro – over 200 MW. Technologically they were out of date when they were built and haven't been upgraded until now. So a massive refurbishment programme is currently under way. The most successful of these projects was the refurbishment of the Haditha Dam, which has been brought up to a full capacity of 600 MW from 130 MW. There remains one super dam project started in 1988 – the Bekma Dam, still uncompleted, that could provide up to 1600 MW.

The initial reconstruction plan

An early decision was taken to equalize load shedding across the country. As I mentioned earlier, it has been disputed whether this was a sensible decision as it immediately deprived the privileged pro-Saddam areas which today are some of the areas of greatest unrest. Nevertheless, the priority was to stabilize through emergency repairs the existing national grid. After this, the long-term project was to more or less replace the entire electrical infrastructure and quadruple capacity.

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