

# Engineering ethics



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Perhaps one of the stickiest questions of engineering ethics is nuclear usage. Creating nuclear devices leads to nuclear waste and nuclear threats. Thus, design questions need to be carefully embraced. France has done so by using modular nuclear plants. “ The result? To the best of my knowledge, no one has stolen French nuclear fuel to make a weapon, no one has mounted a successful terrorist attack on a French nuclear plant, France is a leader in technology that actually recycles some nuclear waste, and most French citizens have a favorable or at least neutral view of nuclear power. Today, France generates about 70% of its electricity with an array of nuclear plants that come in only three sizes: small, medium, and large. In fact, their plants make so much electricity that France is the largest net exporter of electric power in the world. And modular, standardized construction practices are a large part of why the French nuclear effort has been such a success” (Kayde, 2011). Modular practices make it harder to produce dual-use materials or turn waste into weaponry. France's engineers created a moral result through engineering. Is smart nuclear power ethical? Some people think it isn't, no matter how smart. But it seems to really stretch believability that nuclear power is always by definition a bad thing. Is it really worse than coal? Is it so much worse that there is never a reason to use it over coal? Engineers working on smarter nuclear solutions is moral even when many activists are opposed to nuclear power as a matter of course. But there is another point to make. Morality must always be adjudicated based not just on consequences but on the innate character of the acts and the virtues of the person involved. One problem with consequentialist, utilitarian perspectives is that they tend to allow people to justify flawed solution A over B without ever trying to think of good solution C, something deontological ethics prevents

by favoring the status quo. In this case: Might it be best, even given the poor profit to be made in it, to focus on geothermal and other renewable resources? If an engineer were truly moral, wouldn't they be doing a type of renewable energy, a good, instead of favoring the better of two evils?