Consider just the electromagnetic potential of *one* of the U(1) fields, say A_μ. Then the long-wave solution will look like

$$A_\lambda \quad \propto \quad \tau^n \,, \qquad\qquad n \;\neq\; 0 \tag{1}$$

with some n. Correspondingly,

$$A_\lambda' \quad \propto \quad \tau^{n-1}. \tag{2}$$

We have then,

$$\rho_E \quad \propto \quad \frac{\langle\, 0 \,|\, \vec{E}^2 \,|\, 0 \,\rangle}{2\, a^4} \quad \propto \quad \int k^2 \, dk \, \tau^{2n-2} \,, \tag{3}$$

$$\rho_B \quad \propto \quad \frac{\langle\, 0 \,|\, \vec{B}^2 \,|\, 0 \,\rangle}{2\, a^4} \quad \propto \quad \int k^4 \, dk \, \tau^{2n} \,, \tag{4}$$

where $k^2\, dk$ is basically the remnant of the Fourier integrals, and the extra factor of k^2 in ρ_B comes from the spatial derivative in $\vec{B} \;=\; [\vec{\nabla}\vec{A}]$.

The integral over k goes over all the inflation,

$$\rho_E \quad \propto \quad \int_{Ha_i}^{Ha_0} k^2 \, dk \, \tau^{2n-2} \quad \propto \quad (Ha_0)^3 \cdot \tau_0^{2n-2} \quad = \quad \tau_0^{2n-5} \,, \tag{5}$$

$$\rho_B \quad \propto \quad \int_{Ha_i}^{Ha_0} k^4 \, dk \, \tau^{2n} \quad \propto \quad (Ha_0)^5 \cdot \tau_0^{2n} \quad = \quad \tau_0^{2n-5} \,. \tag{6}$$

In this case we have that $\rho_E \;\to\; 0$ at the same rate as ρ_B